

LOCAL TRANSPORTATION ANALYSIS
**MISSION SAN MARCOS INDUSTRIAL PROJECT
(SDP22-0009)**
San Marcos, California
May 1, 2024

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1.0 INTRODUCTION

Linscott, Law & Greenspan, Engineers (LLG) has prepared this Local Transportation Analysis (LTA) to assess the potential impacts to the street system as a result of the proposed San Marcos Industrial Park (hereafter referred to as “Project”). The Project proposes to redevelop the current site to construct 132,810 SF of warehouse use at 528 East Mission Road in the City of San Marcos.

Transportation impact analyses within the City of San Marcos includes two sets of requirements.

- **CEQA Analysis**, consisting of Vehicles Miles Traveled (VMT) analysis, is addressed in a report under separate cover.
- **Non-CEQA Local Transportation Analysis** to evaluate the effects of a development project on the circulation network.

The traffic analysis presented in this report includes the following:

- Project Description
- Existing Conditions
- Analysis Approach and Methodology
- Analysis of Existing Conditions
- Trip Generation, Distribution, and Assignment
- Analysis of Near-Term Cumulative
- Analysis of Long-Term (Horizon Year 2050)
- Site Access, On-Site Circulation and Parking Review
- Active Transportation Review
- Conclusions

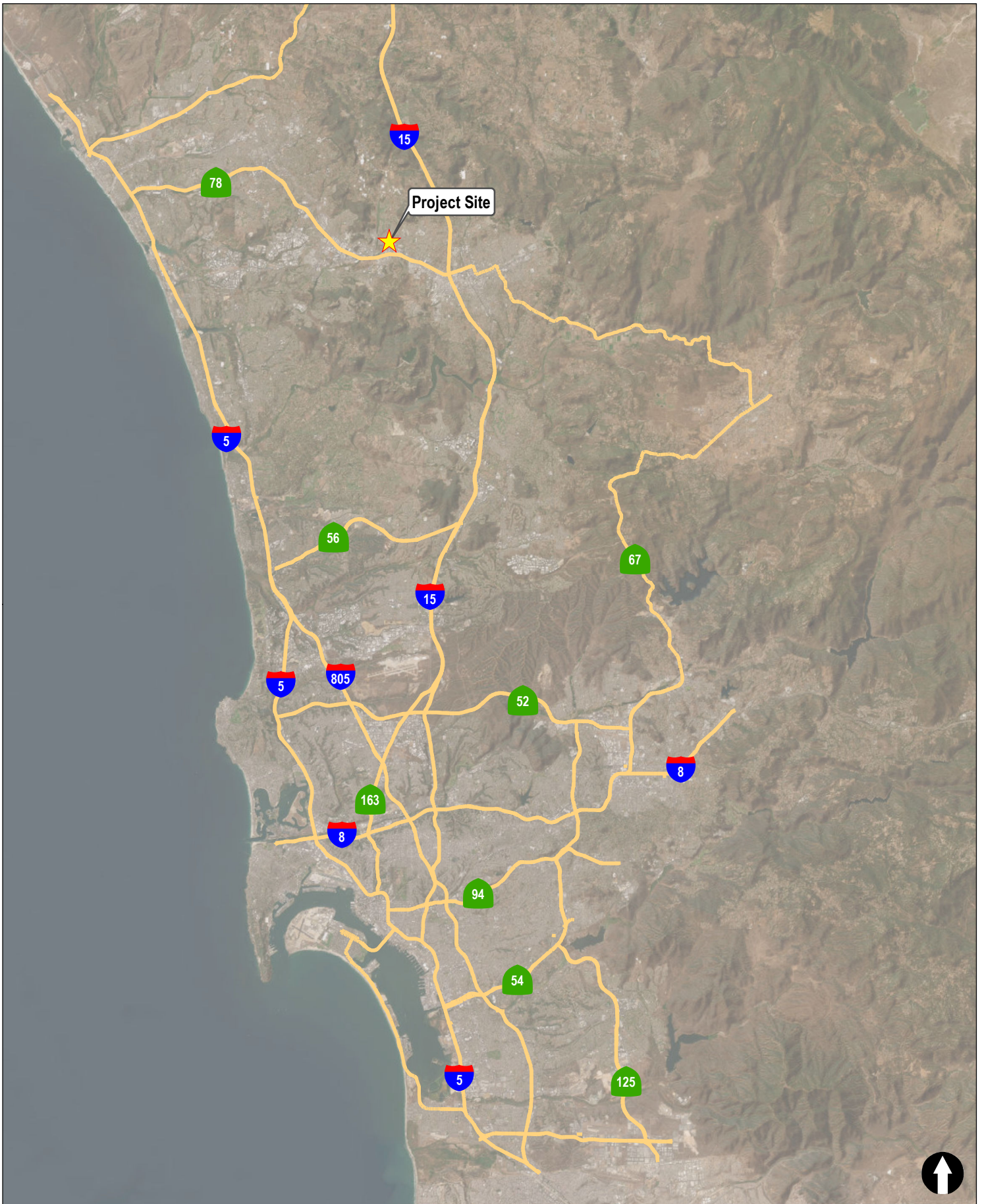
2.0 PROJECT DESCRIPTION

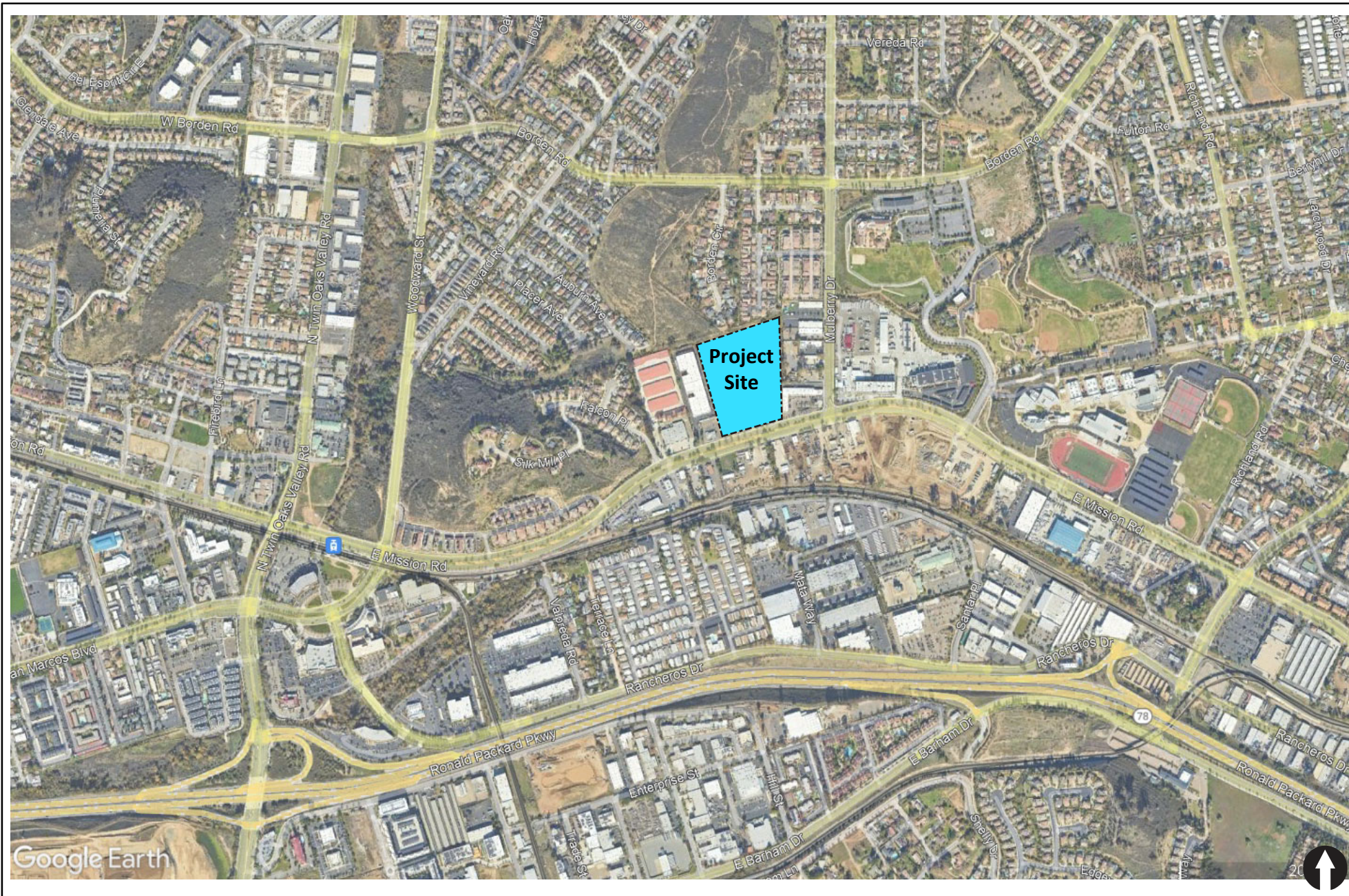
The Project is proposed on an approximately 10.8-acre site located at 528 East Mission Road in the eastern portion of the City of San Marcos on the northern side of East Mission Road between Falcon Place and Mulberry Drive. The Project site is currently developed with two buildings containing storage, workshop, and office space for a contractor business. Undeveloped open space remains in the northwestern portion of the site. The Project proposes the demolition of the two existing structures and their associated improvements and development of three warehouse buildings. The existing building to the west is approximately 55,765 SF and the building to the east is 46,529 SF, totaling 102,294 SF. The three proposed warehouse buildings would total approximately 132,810 SF and would include a total of 14 loading docks.

Vehicular circulation to and from the Project site would be provided via two driveways on East Mission Road, one at the eastern edge of this frontage and one in the central portion of the frontage. The central driveway would provide the only ingress to the Project site and would be divided with a median for ingress and egress. This driveway would be restricted to right-in, right-out only access given the existing median within East Mission Road in front of the Project site. The eastern driveway would be egress, right-out only and would terminate from a drive aisle along the entire eastern boundary of the Project site primarily providing access from Building 3. Parking for the Project would be provided in 141 parking stalls surrounding each of the three buildings.

The existing General Plan land use designation for the Project site is Neighborhood Commercial on the southeastern corner and Light Industrial across the remainder of the site. The site is zoned within the transitional zone for Light Industrial to Light Industrial and Neighborhood Commercial on the majority of the site and the transitional zone for Light Industrial to Neighborhood Commercial within the southeastern corner. No change to the existing land use or zoning designations for the site is proposed.

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







MISSION SAN MARCOS INDUSTRIAL PROJECT

3.0 EXISTING CONDITIONS

Effective evaluation of the traffic impacts associated with the proposed Project requires an understanding of the existing transportation system within the project 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.

INTERSECTIONS

1. Borden Road / Mulberry Drive
2. San Marcos Boulevard / Twin Oaks Valley Road
3. East Mission Road / San Marcos Boulevard
4. East Mission Road / Project Driveway
5. East Mission Road / Mulberry Drive
6. East Mission Road / Woodland Parkway
7. Woodland Parkway / Rancheros Drive
8. Woodland Parkway / Barham Drive

STREET SEGMENTS

Mulberry Drive

1. North of East Mission Road

East Mission Road

2. San Marcos Boulevard to Project Driveway
3. Project Driveway to Mulberry Drive
4. Mulberry Drive to Woodland Parkway

Woodland Parkway

5. East Mission Road to Rancheros Drive
6. Rancheros Drive to Barham Drive

3.1 Existing Street Network

The following is a description of the existing street network in the study area.

Borden Road is currently constructed as a 2-lane divided roadway. Within the study area, the posted speed limit is 35 miles per hour (mph). On-street parking is prohibited. Sidewalks are provided on both sides of the roadway. Class II bike lanes are provided on both sides of the roadway east of Mulberry Drive.

East Mission Road is currently constructed as a 4-lane divided roadway west of Woodward Street, a 6-lane divided roadway between Woodward Street and Woodland Parkway and a 4-lane divided roadway east of Woodland Parkway. Within the study area, the posted speed limit is 45 mph. On-street parking is prohibited. Sidewalks and Class II bike lanes are provided on both sides of the roadway.

Twin Oaks Valley Road is currently constructed as a 4-lane divided roadway north of San Marcos Boulevard and a 6-lane divided roadway south of San Marcos Boulevard. Within the study area, the posted speed limit is 45 mph. On-street parking is prohibited. Sidewalks and Class II bike lanes are provided on both sides of the roadway.

San Marcos Boulevard is currently constructed as a 4-lane divided roadway. Within the study area, the posted speed limit is 40 mph. On-street parking is prohibited. Sidewalks and Class II bike lanes are provided on both sides of the roadway.

Woodward Street is currently constructed as a 4-lane divided roadway. Within the study area, the posted speed limit is 40 mph. On-street parking is prohibited. Sidewalks are provided on both sides of the roadway. Class II bike lanes are provided on both sides of the roadway.

Mulberry Drive is currently constructed as a 4-lane undivided roadway with a two-way left-turn lane between Borden Road and East Mission Road. Within the study area, the posted speed limit is 45 mph. On-street parking is prohibited. Sidewalks and Class II bike lanes are provided on both sides of the roadway.

Woodland Parkway is currently constructed as a 4-lane divided roadway with intermittent left-turn lanes. The posted speed limit is 35 mph south of East Mission Road and 40 mph north of East Mission Road. On-street parking is prohibited. Sidewalks are provided on both sides of the roadway. Class II bike lanes are provided on both sides of the roadway north of East Mission Road.

3.2 Existing Traffic Volumes

Peak hour intersection turning movement volume and street segment average daily traffic (ADT) volume counts were conducted at the study area intersections on Thursday, August 31, 2023 and Tuesday, January 9, 2024, when area schools were in session.

Figure 3–2 shows the Existing Traffic Volumes. *Appendix A* contains the existing count sheets.

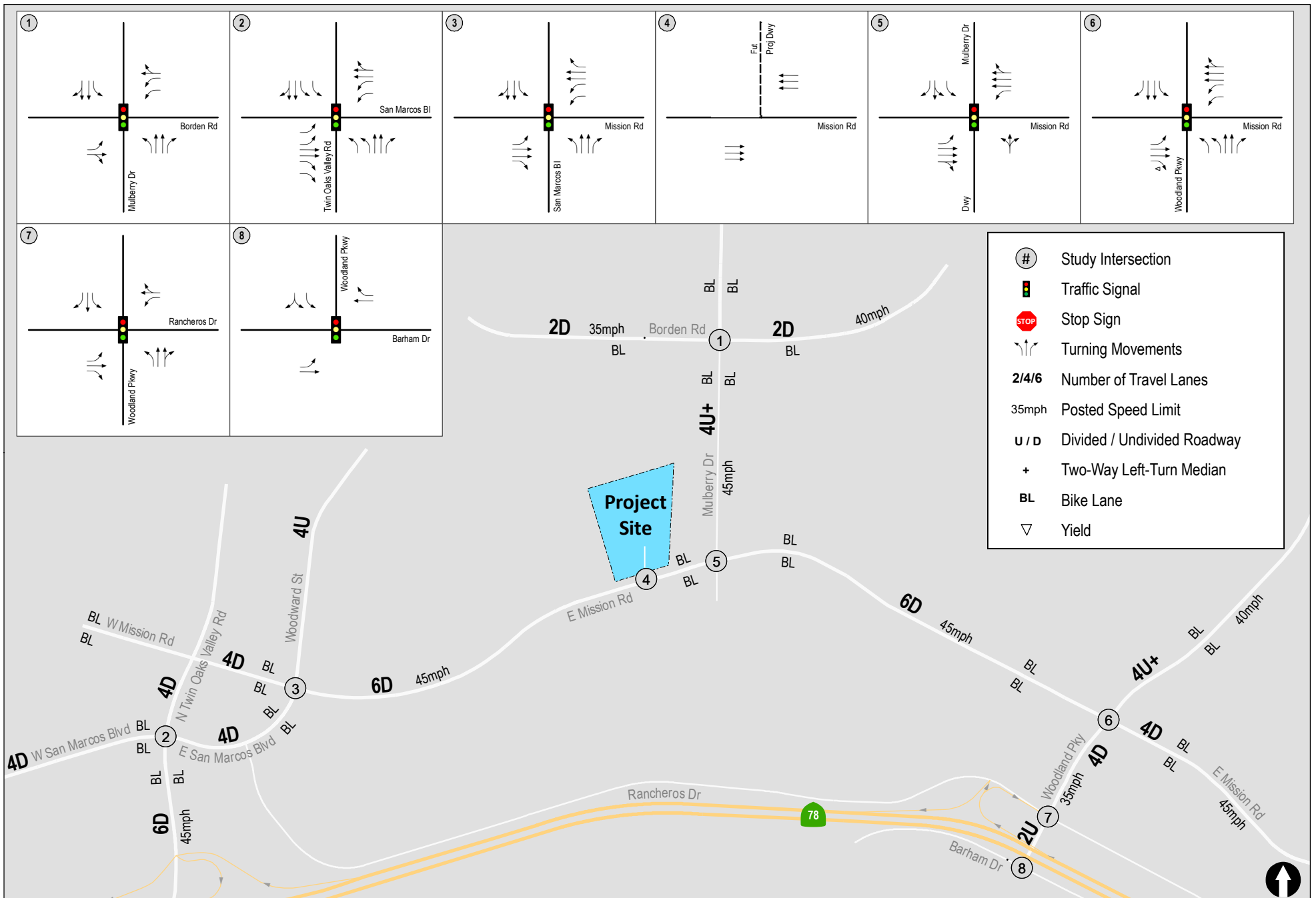


Figure 3-1

Existing Conditions Diagram

Mission San Marcos Industrial Project

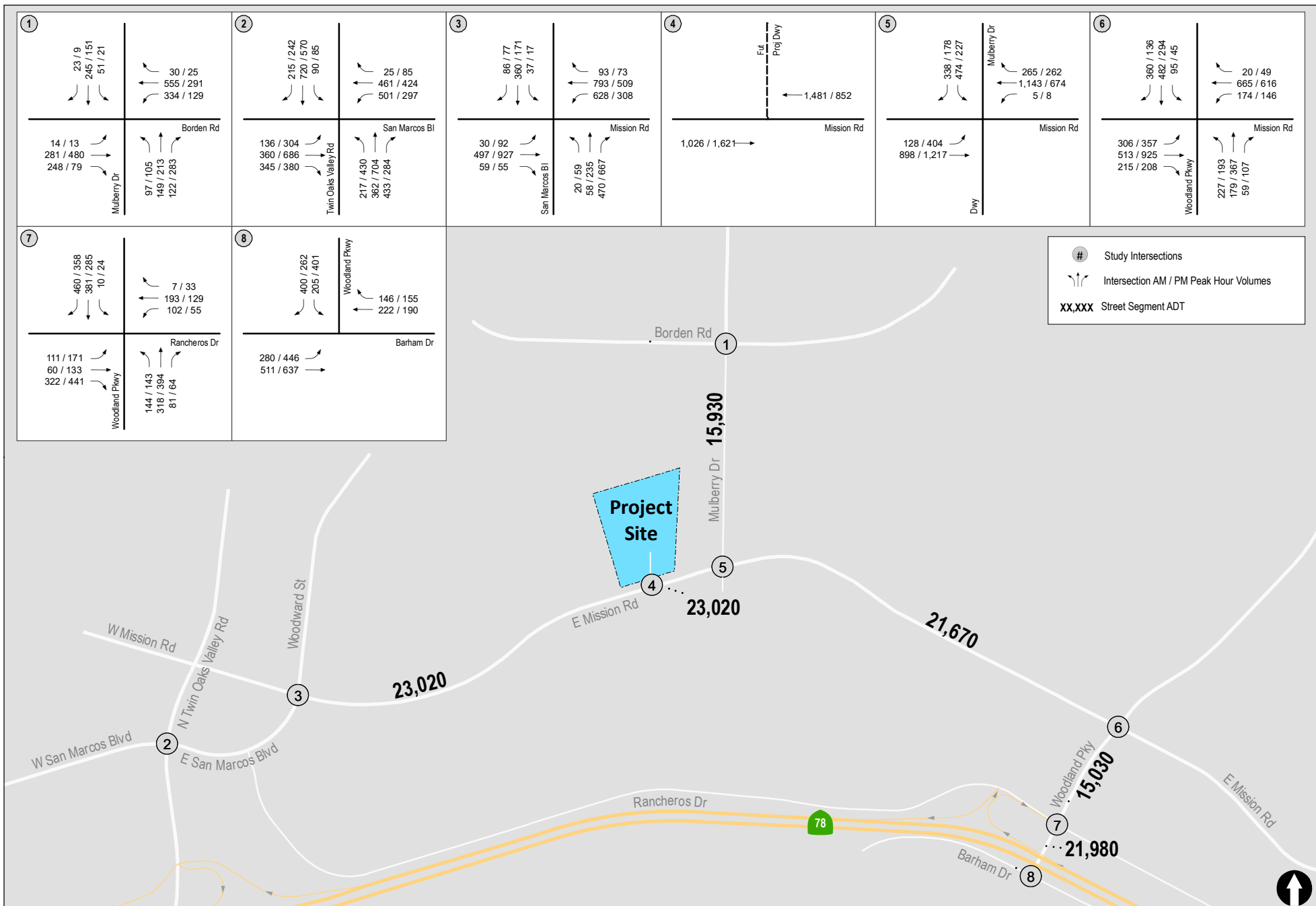


Figure 3-2

Existing Traffic Volumes

4.0 ANALYSIS APPROACH AND METHODOLOGY

4.1 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. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

4.1.1 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 (HCM) 6th Edition, with the assistance of the Synchro (version 11) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection LOS.

Unsignalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS was determined based upon the procedures found in Chapters 20 and 21 of the HCM 6th Edition, with the assistance of the Synchro (version 11) computer software.

4.1.2 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**.

4.2 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.

5.0 ANALYSIS OF EXISTING CONDITIONS

5.1 Peak Hour Intersection Levels of Service

Table 5–1 summarizes the intersection operations under Existing conditions. As shown in *Table 5–1*, all the study area intersections are calculated to operate at LOS D or better during both the AM and PM peak hours with the exception of the following intersections:

- San Marcos Boulevard / Twin Oaks Valley Road – LOS E during the AM and PM peak hours
- East Mission Road / San Marcos Boulevard – LOS E during the AM and LOS F during the PM peak hour
- East Mission Road / Woodland Parkway – LOS E during the AM peak hour

Appendix C contains the Existing intersection analysis worksheets.

**TABLE 5-1
EXISTING INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Existing	
			Delay ^a	LOS ^b
1. Borden Rd / Mulberry Dr	Signal	AM PM	48.4 41.6	D D
2. San Marcos Blvd / Twin Oaks Valley Rd	Signal	AM PM	67.8 64.0	E E
3. E. Mission Rd / San Marcos Blvd	Signal	AM PM	71.4 83.3	E F
4. E. Mission Rd / Project Drwy	DNE	AM PM	— —	— —
5. E. Mission Rd / Mulberry Dr	Signal	AM PM	38.8 32.9	D C
6. E. Mission Rd / Woodland Pkwy	Signal	AM PM	57.7 38.9	E D
7. Woodland Pkwy / Rancheros Dr	Signal	AM PM	48.8 45.6	D D
8. Woodland Pkwy / Barham Dr	Signal	AM PM	49.8 47.3	D D

Footnotes:

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.

General Note:

- 1. DNE – does not exist.

SIGNALIZED

DELAY/LOS THRESHOLDS

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
≥ 80.1	F

5.2 Daily Street Segment Levels of Service

Table 5–2 summarizes the street segment operations under Existing conditions. As shown in **Table 5–2**, all segments are calculated to currently operate at LOS C or better with the exception of the following street segment:

- Woodland Parkway between Rancheros Drive and Barham Drive (LOS F)

TABLE 5–2
EXISTING STREET SEGMENT OPERATIONS

Street Segment	Classification	Capacity (LOS E) ^a	ADT ^b	LOS ^c	V/C ^d
Mulberry Dr North of E. Mission Rd	4-Lane Collector	30,000	15,930	C	0.531
E. Mission Rd San Marcos Blvd to Project Drwy	6-Lane Prime Arterial with Enhanced Class II Bike Lanes	60,000	23,020	A	0.384
Project Drwy to Mulberry Dr	6-Lane Prime Arterial with Enhanced Class II Bike Lanes	60,000	23,020	A	0.384
Mulberry Dr to Woodland Pkwy	6-Lane Prime Arterial with Enhanced Class II Bike Lanes	60,000	21,670	A	0.361
Woodland Pkwy E. Mission Rd to Rancheros Dr	4-Lane Collector	30,000	15,030	C	0.501
Rancheros Dr to Barham Dr	2-Lane Collector No Fronting Property	10,000	21,980	F	2.198

Footnotes:

- Capacities based on City of San Marcos Circulation Element Roadway Classification Table (see *Appendix B*).
- Average Daily Traffic Volumes.
- Level of Service.
- Volume to Capacity Ratio.

6.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

6.1 Trip Generation

6.1.1 Trip Rates

The Project traffic generation calculations were conducted using the trip generation rates published in *SANDAG's (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002*. Based on the Project description, the warehousing trip rate of 5/1,000 SF was used.

The analysis applies “credit” for the existing two buildings totaling 102,294 SF containing storage, workshop, and office space for a contractor business that the Project proposes to demolish for the development of three warehouse buildings.

In order to determine the trips that the existing two buildings are generating, traffic counts were conducted during the AM (7:30 – 8:30 AM) and PM (4:45 – 5:45 PM) peak hours at the existing driveway on Tuesday, December 5, 2023. The ADT was calculated assuming the average AM + PM peak hour percent of ADT is 26% per the SANDAG trip generation manual for industrial land use.

6.1.2 Project Trips

Table 6–1 shows the Project trip generation. As shown in *Table 6–1*, the Project is calculated to generate 664 ADT, with 86 trips during the AM peak hour (60 inbound and 26 outbound), and 100 trips during the PM peak hour (40 inbound and 60 outbound). With the credits applied, the Project site is calculated to generate 626 net ADT, with 77 net trips during the AM peak hour (55 inbound and 22 outbound), and 99 net trips during the PM peak hour (40 inbound and 59 outbound).

**TABLE 6–1
PROJECT TRIP GENERATION**

Land Use	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate ^a	Volume	% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Proposed													
Warehousing	132,810 SF	5/KSF ^b	664	13%	70:30	60	26	86	15%	40:60	40	60	100
Existing (to be demolished)													
Industrial / Warehousing	102,294 SF	— ^c	38	— ^c		5	4	9	— ^c		0	1	1
Net Total			626			55	22	77			40	59	99

Footnotes:

- Rate is based on *SANDAG's (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002*
- Based on warehousing rate of 5/1,000 SF
- Conducted AM (7:30 – 8:30 AM) and PM (4:45 – 5:45 PM) peak hour counts at the existing driveway on Tuesday, December 5, 2023. ADT was calculated assuming the average AM and PM peak hour percent for industrial land use of 13%.

6.2 Trip Distribution and Assignment

The Project traffic was distributed based on the site location, access to SR-78, existing traffic patterns in the area and anticipated traffic routes to and from the site. The Project's local distributions assumes 30% of trips oriented to/from the west, 53% oriented to/from the east, and 17% to/from the north.

As described in *Section 2.0*, vehicular circulation to and from the Project site would be provided via two driveways on East Mission Road, one at the eastern edge of this frontage and one in the central portion of the frontage. The central driveway would provide the only ingress to the Project site and would be divided with a median for ingress and egress, and the eastern driveway would be egress only. Since egress splits between the two driveways are unknown at this time, it is deemed reasonable to analyze the access as one driveway with all Project trips using that driveway. This would provide a conservative approach. In addition, the Project site is currently fronting a six-lane divided roadway which would only allow for right-in, right-out at the central driveway and right-out at the eastern driveway. Therefore, inbound vehicles coming from the west were assumed to make an eastbound to westbound U-turn at the East Mission Road / Mulberry Drive intersection, and outbound vehicles heading east were assumed to make a westbound to eastbound U-turn at the median break located just east of the East Mission Road / Falcon Place unsignalized intersection.

Figure 6–1 shows the Project traffic distribution. **Figure 6–2** shows the Project traffic volumes.

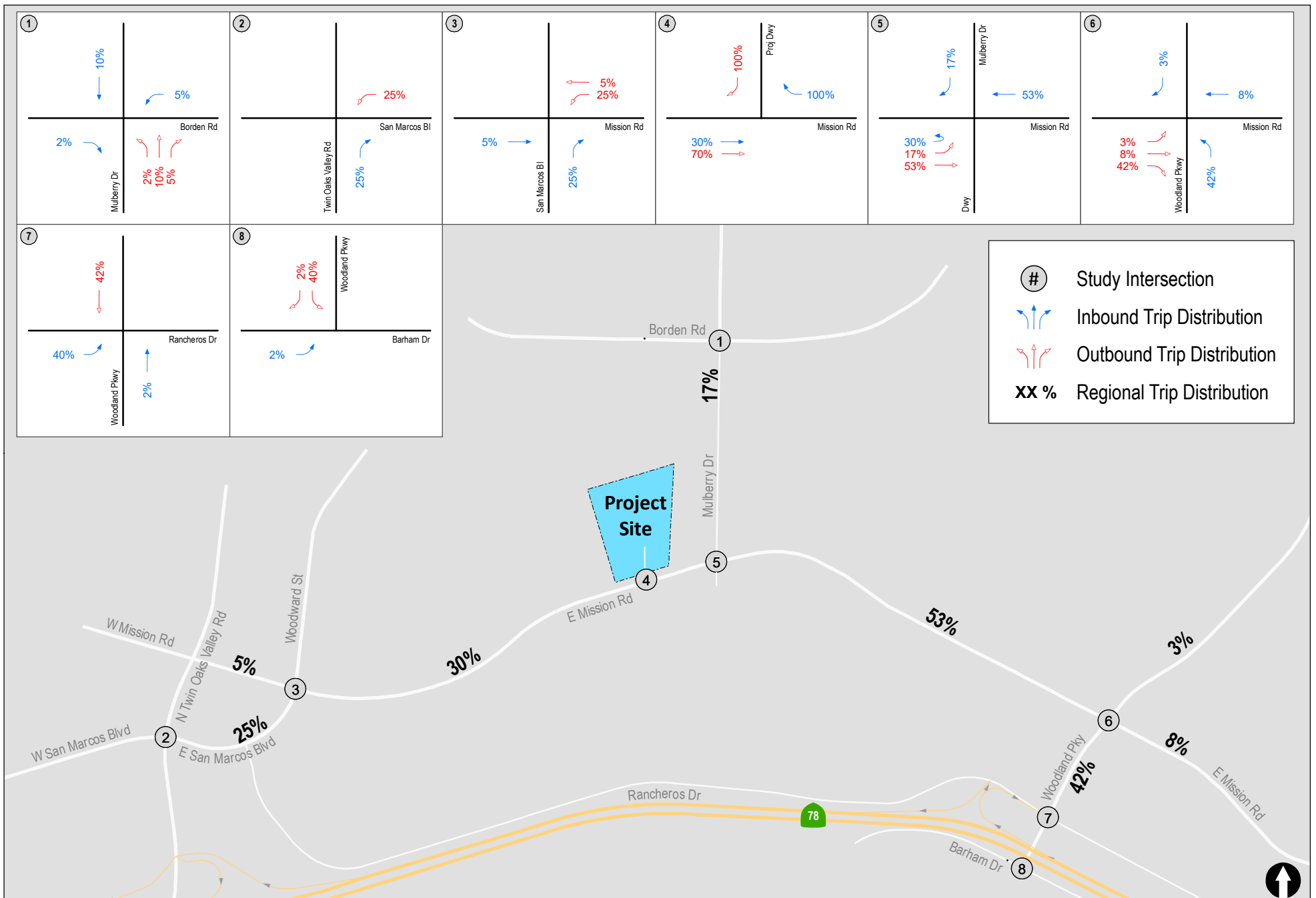


Figure 6-1

Project Traffic Distribution

Mission San Marcos Industrial Project



Figure 6-2

Project Traffic Volumes

MISSION SAN MARCOS INDUSTRIAL PROJECT

7.0 ANALYSIS OF NEAR-TERM CUMULATIVE SCENARIOS

The following section presents the analysis of study area intersections and street segments under Near-Term Cumulative conditions without and with the Project.

Based on the *City of San Marcos Transportation Analysis Guidelines (dated November 16, 2020)*, the Interim Year conditions for a transportation analysis is based on one of SANDAG's pre-established interim year scenario models, depending on whichever is closest to the project's anticipated opening year. The Project is anticipated to conclude construction in September 2027.

7.1 Near-Term Cumulative Traffic Volumes

To forecast future traffic volumes for Near-Term Cumulative conditions, the SANDAG ABM2+ Year 2016 and Year 2025 models were utilized to obtain the growth per year percent. Near-Term Cumulative traffic volumes were then developed based on an extrapolation using the calculated growth per year percent and applying it to the existing traffic volume counts for 2 years. In addition, traffic volumes from potential Cumulative projects provided by City of San Marcos staff were manually added onto the study area intersections and street segments. These Cumulative projects are listed in **Table 7-1** below. Cumulative projects are other projects in the study area that will add traffic to the local circulation system by the Interim Year.

Figure 7-1 shows the Near-Term Cumulative traffic volumes. **Figure 7-2** shows the Near-Term Cumulative + Project traffic volumes.

**TABLE 7-1
CUMULATIVE PROJECTS INFORMATION**

Name	Description	Location
California All Stars	Construct two separate industrial buildings: one 19,305 SF and one 8,832 SF.	Northeast corner of Twin Oaks Valley Road and Christen Way San Marcos, CA 92069
National Community Renaissance (Villa Serena)	Construct a three-story affordable apartment complex that would provide 148 units and a community center.	339 Marcos Street San Marcos, CA 92069
Hollandia Dairy	Demolish existing building and reconstruct approximately 100,000 SF portion of an existing dairy.	620 E. Mission Road San Marcos, CA 92069
Hollandia Farms, Inc.	Develop and establish a 12.45-acre outdoor construction contractor storage yard.	641 E. Mission Road San Marcos, CA 92069
Mission 316 West	Develop a 3.71-acre site with 67 multi-family dwelling units.	Northeast corner of E. Mission Road and Woodward Street San Marcos, CA 92069
Lanikai Senior Residential Facility	Develop 115 age-restricted residential apartment units.	Northwest corner of E. Mission Road and Woodward Street San Marcos, CA 92069
Cornerstone Communities	Develop an 8.6-acre site with 46 condominium units.	274 E. Mission Road San Marcos, CA 92069
Anthony Sfreddo for Pico Investments 7, LLC	Develop 16 condominium units.	236 Pico Avenue San Marcos, CA 92078
University District Holdings II, LLC	Develop 5 condominium units within two approved commercial buildings.	158 North Twin Oaks Valley Road San Marcos, CA 92069
Creekside Assisted Living Project	Construct a 138-room assisted living facility.	1 Civic Center Drive San Marcos, CA 92069

7.2 Near-Term Cumulative Without Project

7.2.1 Intersection Analysis

Table 7-2 summarizes the intersection operations under Near-Term Cumulative without Project conditions. As shown in *Table 7-2*, all the study area intersections are calculated to operate at LOS D or better during both the AM and PM peak hours with the exception of the following intersections:

- San Marcos Boulevard / Twin Oaks Valley Road – LOS F during AM and LOS E during the PM peak hour
- East Mission Road / San Marcos Boulevard – LOS F during the AM and PM peak hours
- East Mission Road / Woodland Parkway – LOS E during the AM peak hour

Appendix D contains the Near-Term Cumulative intersection analysis worksheets.

7.2.2 Segment Operations

Table 7–3 summarizes the street segment operations under Near-Term Cumulative without Project conditions. As shown in *Table 7–3*, all street segments are calculated to operate at LOS C or better with the exception of the following street segment:

- Woodland Parkway between Rancheros Drive and Barham Drive (LOS F)

7.3 Near-Term Cumulative + Project

7.3.1 Intersection Analysis

Table 7–2 summarizes the intersection operations under Near-Term Cumulative + Project conditions. As shown in *Table 7–2*, with the addition of project traffic, all the study area intersections are calculated to operate at LOS D or better during both the AM and PM peak hours with the exception of the following intersections:

- San Marcos Boulevard / Twin Oaks Valley Road – LOS F during AM and PM peak hours
- East Mission Road / San Marcos Boulevard – LOS F during the AM and PM peak hours
- East Mission Road / Woodland Parkway – LOS E during the AM peak hour

Based on the established Level of Service Standards outlined in *Section 4.2*, no substantial effects are identified as the Project adds less than 2 seconds of average vehicle delay. Therefore, improvements are not required under this analysis.

Appendix E contains the Near-Term Cumulative + Projects intersection analysis worksheets.

7.3.2 Segment Operations

Table 7–3 summarizes the street segment operations under Near-Term Cumulative + Project conditions. As shown in *Table 7–3*, with the addition of project traffic, all street segments are calculated to operate at LOS C or better with the exception of the following street segment:

- Woodland Parkway between Rancheros Drive and Barham Drive (LOS F)

Based on the established Level of Service Standards outlined in *Section 4.2*, no substantial effects are identified as the Project adds less than 0.02 V/C ratio. Therefore, improvements are not required under this analysis.

**TABLE 7-2
NEAR-TERM CUMULATIVE INTERSECTION OPERATIONS**

Intersection	Control Type	Peak Hour	Near-Term Cumulative without Project		Near-Term Cumulative + Project		Δ^c	Substantial Effect?
			Delay ^a	LOS ^b	Delay	LOS		
1. Borden Rd / Mulberry Dr	Signal	AM	51.6	D	52.0	D	0.4	No
		PM	44.0	D	44.5	D	0.5	No
2. San Marcos Blvd / Twin Oaks Valley Rd	Signal	AM	80.4	F	81.7	F	1.3	No
		PM	79.2	E	80.6	F	1.4	No
3. E. Mission Rd / San Marcos Blvd	Signal	AM	82.5	F	83.4	F	0.9	No
		PM	92.1	F	93.9	F	1.8	No
4. E. Mission Rd / Project Drwy	DNE/ TWSC ^d	AM	–	–	21.5	C	–	No
		PM	–	–	15.5	C	–	No
5. E. Mission Rd / Mulberry Dr	Signal	AM	40.1	D	42.2	D	2.1	No
		PM	34.3	C	35.6	D	1.3	No
6. E. Mission Rd / Woodland Pkwy	Signal	AM	72.2	E	73.0	E	0.8	No
		PM	41.8	D	43.1	D	1.3	No
7. Woodland Pkwy / Rancheros Dr	Signal	AM	51.7	D	53.5	D	1.8	No
		PM	47.3	D	48.5	D	1.2	No
8. Woodland Pkwy / Barham Dr	Signal	AM	52.0	D	52.1	D	0.1	No
		PM	49.2	D	50.2	D	1.0	No

Footnotes:

- Average delay expressed in seconds per vehicle.
- Level of Service.
- Δ denotes an increase in delay due to project.
- TWSC – Two-Way Stop Controlled intersection. Worst-case minor street movement delay is reported.

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 7-3
NEAR-TERM CUMULATIVE STREET SEGMENT OPERATIONS

Street Segment	Capacity (LOS E) ^a	Near-Term Cumulative without Project			Near-Term Cumulative + Project			Δ^e	Substantial Effect?
		ADT ^b	LOS ^c	V/C ^d	ADT	LOS	V/C		
Mulberry Dr									
North of E. Mission Rd	30,000	16,505	C	0.550	16,615	C	0.554	0.004	No
E. Mission Rd									
San Marcos Blvd to Project Drwy	60,000	24,195	A	0.403	24,605	A	0.410	0.007	No
Project Drwy to Mulberry Dr	60,000	24,195	A	0.403	24,725	A	0.412	0.009	No
Mulberry Dr to Woodland Pkwy	60,000	22,968	A	0.383	23,298	A	0.388	0.005	No
Woodland Pkwy									
E. Mission Rd to Rancheros Dr	30,000	15,801	C	0.527	16,061	C	0.535	0.008	No
Rancheros Dr to Barham Dr	10,000	22,694	F	2.269	22,834	F	2.283	0.014	No

Footnotes:

- a. Capacities based on San Marcos Roadway Classification & LOS table (See *Appendix B*).
- b. Average Daily Traffic
- c. Level of Service
- d. Volume to Capacity ratio
- e. Δ denotes a project-induced increase in the Volume to Capacity ratio

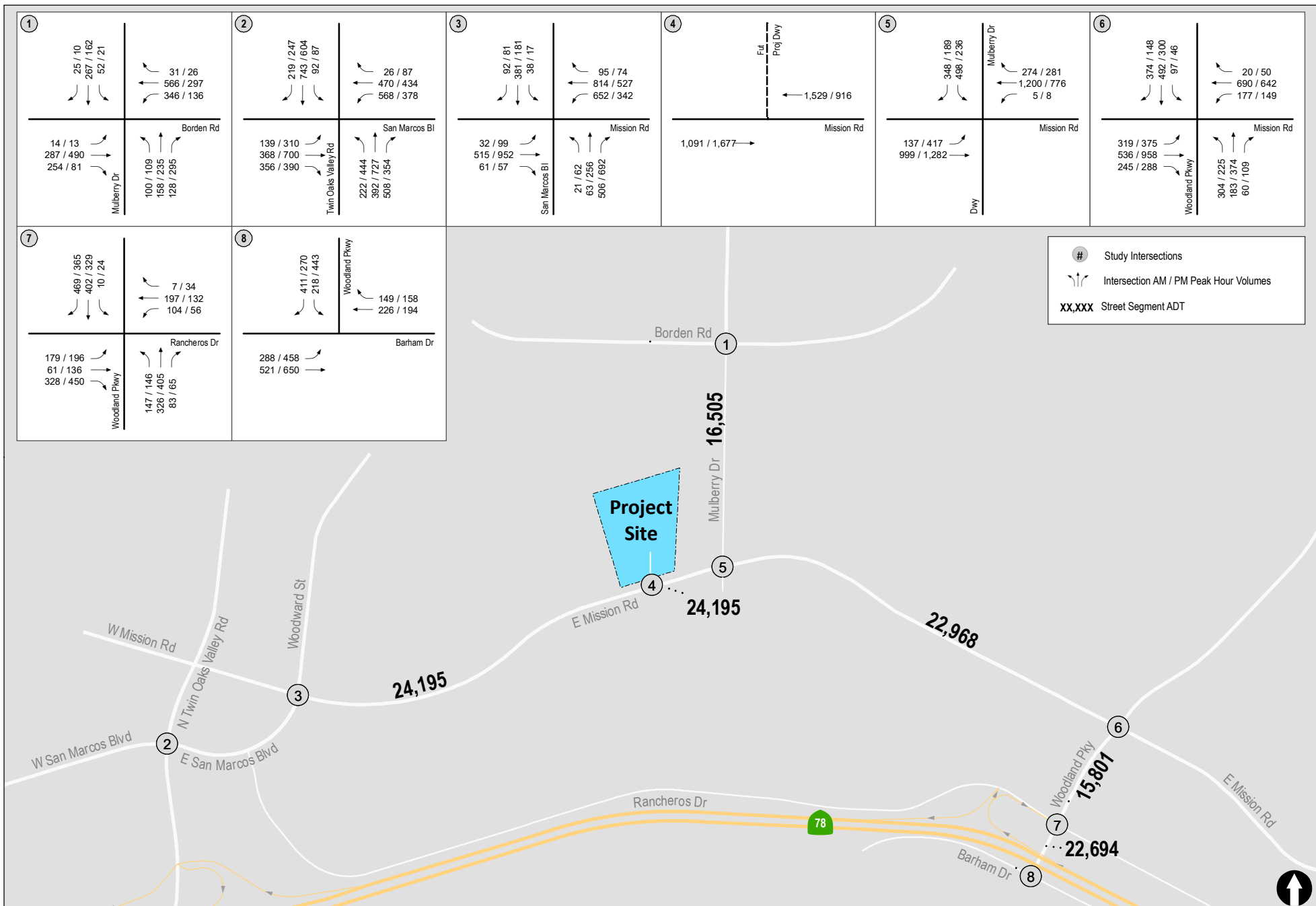


Figure 7-1

Near-Term Cumulative Without Project Traffic Volumes

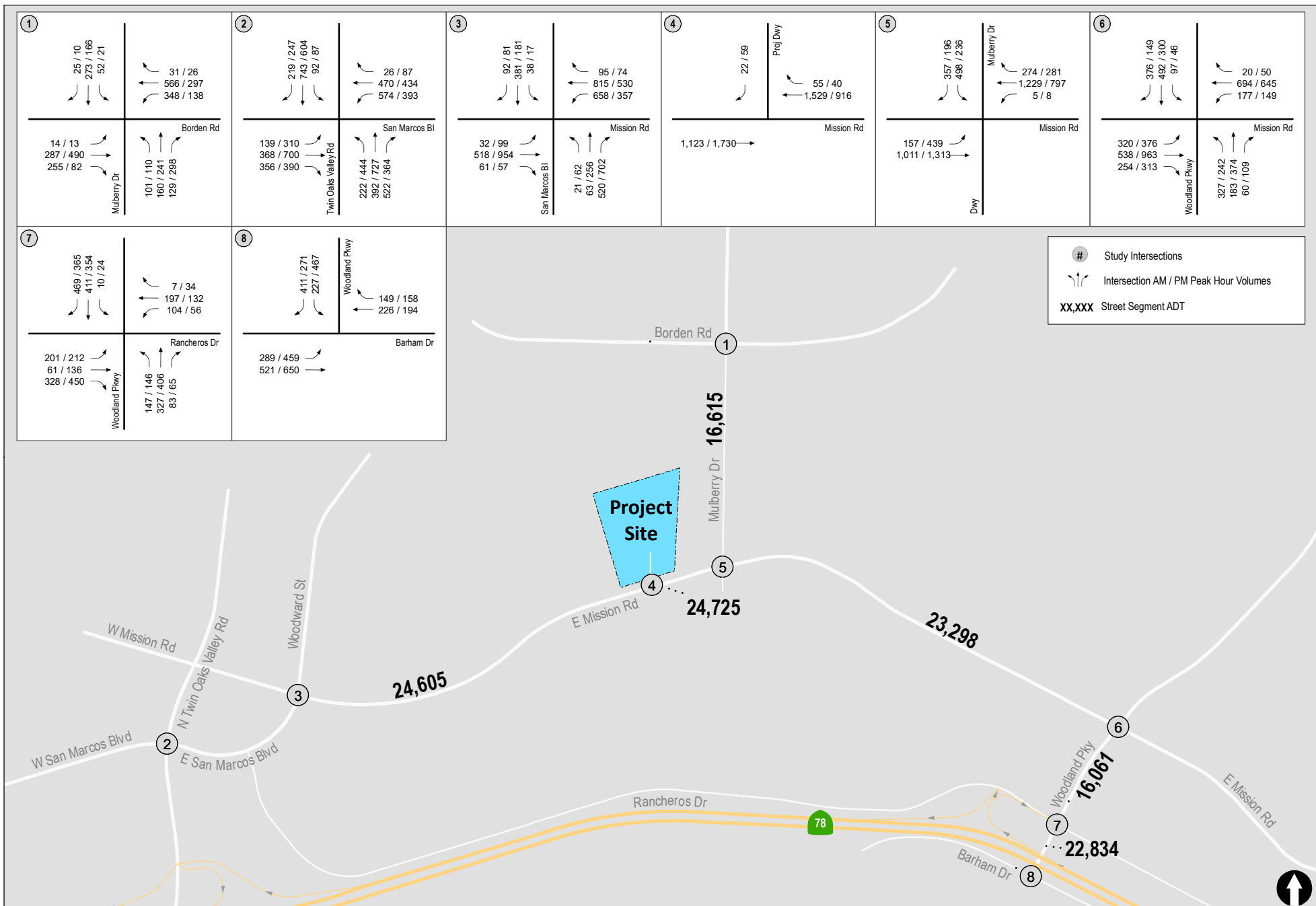


Figure 7-2

Near-Term Cumulative + Project Traffic Volumes

MISSION SAN MARCOS INDUSTRIAL PROJECT

8.0 ANALYSIS OF LONG-TERM (HORIZON YEAR 2050) SCENARIOS

The following section presents the analysis of study area intersections and street segments under Long-Term (Horizon Year 2050) conditions without and with the Project.

8.1 Long-Term (Horizon Year 2050) Traffic Volumes

The Long-Term (Horizon Year 2050) street network in the SANDAG ABM2+ Year 2050 model includes the roadways built to their City Mobility Element Classification. For the Year 2050 analysis, no changes to the study area roadway geometry or intersection control shown in *Figure 3-1* were assumed.

To obtain future ADTs for Long-Term (Horizon Year 2050) conditions, the SANDAG ABM2+ Model was utilized. The forecasted ADT volumes were then used to calculate peak hour volumes based partially on the existing relationship between ADT and peak hour volumes.

Figure 8-1 shows the Long-Term (Horizon Year 2050) traffic volumes. *Figure 8-2* shows the Long-Term (Horizon Year 2050) + Project traffic volumes.

8.2 Long-Term (Horizon Year 2050) Without Project

8.2.1 Intersection Analysis

Table 8-1 summarizes the intersection operations under Long-Term (Horizon Year 2050) without Project conditions. As shown in *Table 8-1*, the following study area intersections are calculated to operate at LOS E or worse during the following peak hours:

- Borden Road / Mulberry Drive – LOS E during the AM peak hour
- San Marcos Boulevard / Twin Oaks Valley Road – LOS F during AM and PM peak hours
- East Mission Road / San Marcos Boulevard – LOS F during the AM and PM peak hours
- East Mission Road / Woodland Parkway – LOS E during the AM peak hour
- Woodland Parkway / Rancheros Drive – LOS E during the AM peak hour
- Woodland Parkway / Barham Drive – LOS E during the AM peak hour

Appendix F contains the Long-Term (Horizon Year 2050) intersection analysis worksheets.

8.2.2 Segment Operations

Table 8-2 summarizes the street segment operations under Long-Term (Horizon Year 2050) without Project conditions. As shown in *Table 8-2*, all street segments are calculated to operate at LOS C or better with the exception of the following street segment:

- Woodland Parkway between Rancheros Drive and Barham Drive (LOS F)

8.3 Long-Term (Horizon Year 2050) + Projects

8.3.1 Intersection Analysis

Table 8–1 summarizes the Long-Term (Horizon Year 2050) + Project intersection operations. As shown in *Table 8–1*, with the addition of project traffic, the following study area intersections are calculated to operate at LOS E or worse during the following peak hours:

- Borden Road / Mulberry Drive – LOS E during the AM peak hour
- San Marcos Boulevard / Twin Oaks Valley Road – LOS F during AM and PM peak hours
- East Mission Road / San Marcos Boulevard – LOS F during the AM and PM peak hours
- East Mission Road / Woodland Parkway – LOS E during the AM peak hour
- Woodland Parkway / Rancheros Drive – LOS E during the AM peak hour
- Woodland Parkway / Barham Drive – LOS E during the AM peak hour

Based on the established Level of Service Standards outlined in *Section 4.2*, no substantial effects are identified as the Project adds less than 2 seconds of average vehicle delay. Therefore, improvements are not required under this analysis.

Appendix G contains the Long-Term (Horizon Year 2050) + Projects intersection analysis worksheets.

8.3.2 Segment Operations

Table 8–2 summarizes the street segment operations under Long-Term (Horizon Year 2050) + Project conditions. As shown in *Table 8–2*, with the addition of project traffic, all street segments are calculated to continue to operate at LOS C or better with the exception of the following street segment:

- Woodland Parkway between Rancheros Drive and Barham Drive (LOS F)

Based on the established Level of Service Standards outlined in *Section 4.2*, no substantial effects are identified as the Project adds less than 0.02 V/C ratio. Therefore, improvements are not required under this analysis.

TABLE 8-1
LONG-TERM (HORIZON YEAR 2050) INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Long-Term (Horizon Year 2050) without Project		Long-Term (Horizon Year 2050) + Project		Δ^c	Substantial Effect?
			Delay ^a	LOS ^b	Delay	LOS		
1. Borden Rd / Mulberry Dr	Signal	AM	60.7	E	61.3	E	0.6	No
		PM	50.3	D	51.0	D	0.7	No
2. San Marcos Blvd / Twin Oaks Valley Rd	Signal	AM	84.3	F	85.5	F	1.2	No
		PM	86.2	F	87.6	F	1.4	No
3. E. Mission Rd / San Marcos Blvd	Signal	AM	88.4	F	89.0	F	0.6	No
		PM	100.6	F	102.4	F	1.8	No
4. E. Mission Rd / Project Drwy	DNE/ TWSC ^d	AM	–	–	21.8	C	–	No
		PM	–	–	15.6	C	–	No
5. E. Mission Rd / Mulberry Dr	Signal	AM	41.9	D	44.1	D	2.2	No
		PM	35.7	D	37.1	D	1.4	No
6. E. Mission Rd / Woodland Pkwy	Signal	AM	78.8	E	79.3	E	0.5	No
		PM	45.8	D	47.6	D	1.8	No
7. Woodland Pkwy / Rancheros Dr	Signal	AM	63.7	E	65.0	E	1.3	No
		PM	52.2	D	53.9	D	1.7	No
8. Woodland Pkwy / Barham Dr	Signal	AM	61.4	E	61.5	E	0.1	No
		PM	52.4	D	54.6	D	2.2	No

Footnotes:

- a. Average delay expressed in seconds per vehicle.
- b. Level of Service.
- c. Δ denotes an increase in delay due to project.
- d. TWSC – Two-Way Stop Controlled intersection.

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 8-2
LONG-TERM (HORIZON YEAR 2050) STREET SEGMENT OPERATIONS

Street Segment	Capacity (LOS E) ^a	Long-Term (Horizon Year 2050) without Project			Long-Term (Horizon Year 2050) + Project			Δ^e	Substantial Effect
		ADT ^b	LOS ^c	V/C ^d	ADT	LOS	V/C		
Mulberry Dr									
North of E. Mission Rd	30,000	17,330	C	0.578	17,440	C	0.581	0.003	No
E. Mission Road									
San Marcos Blvd to Project Drwy	60,000	25,400	B	0.423	25,810	B	0.430	0.007	No
Project Drwy to Mulberry Dr	60,000	25,400	B	0.423	25,930	B	0.432	0.009	No
Mulberry Dr to Woodland Pkwy	60,000	24,120	A	0.402	24,450	A	0.408	0.006	No
Woodland Pkwy									
E. Mission Rd to Rancheros Dr	30,000	16,590	C	0.553	16,850	C	0.562	0.009	No
Rancheros Dr to Barham Dr	10,000	23,830	F	2.383	23,970	F	2.397	0.014	No

Footnotes:

- a. Capacities based on San Marcos Roadway Classification & LOS table (See *Appendix B*).
- b. Average Daily Traffic
- c. Level of Service
- d. Volume to Capacity ratio
- e. Δ denotes a project-induced increase in the Volume to Capacity ratio

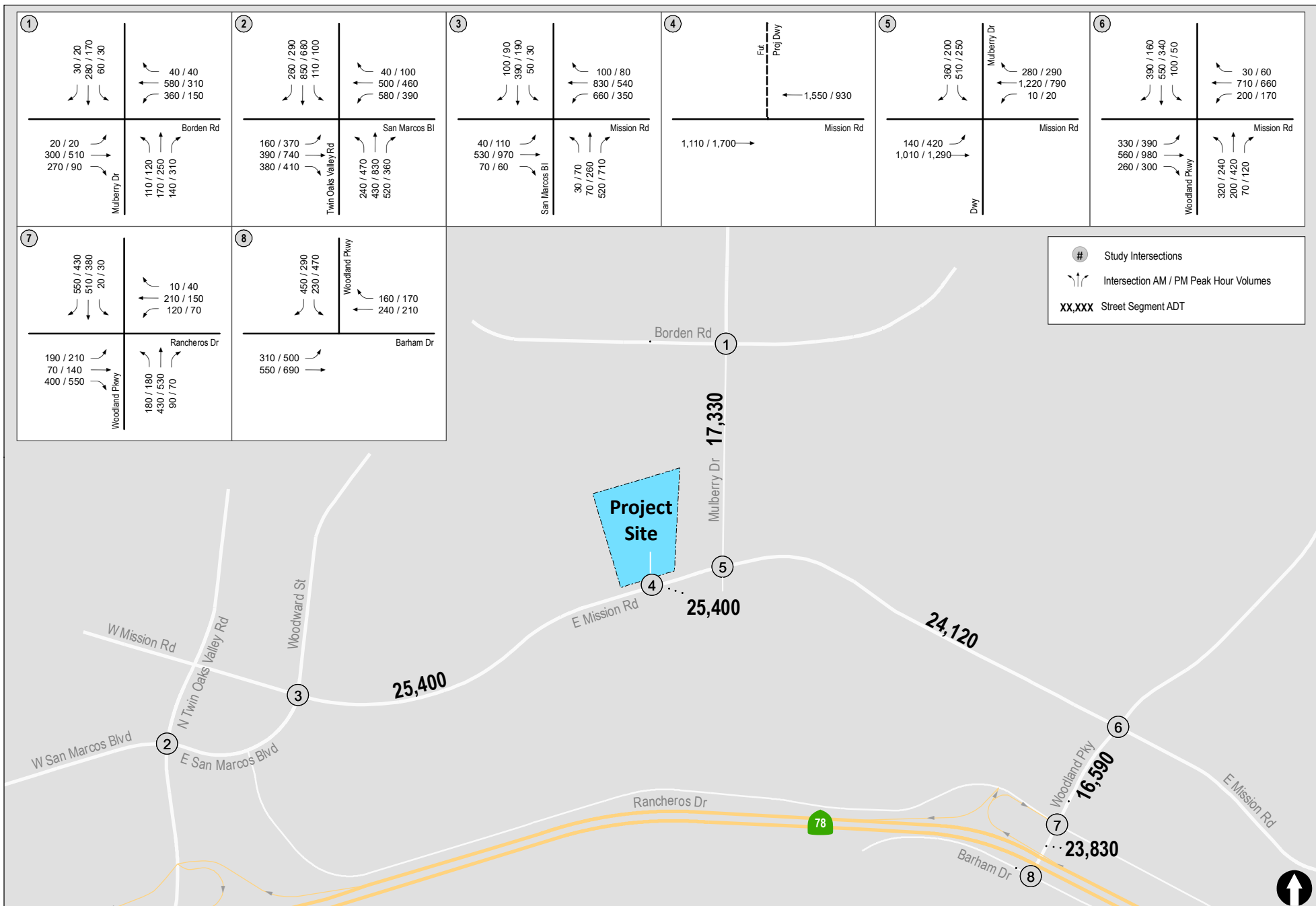


Figure 8-1

Long-Term (Horizon Year 2050) Without Project Traffic Volumes

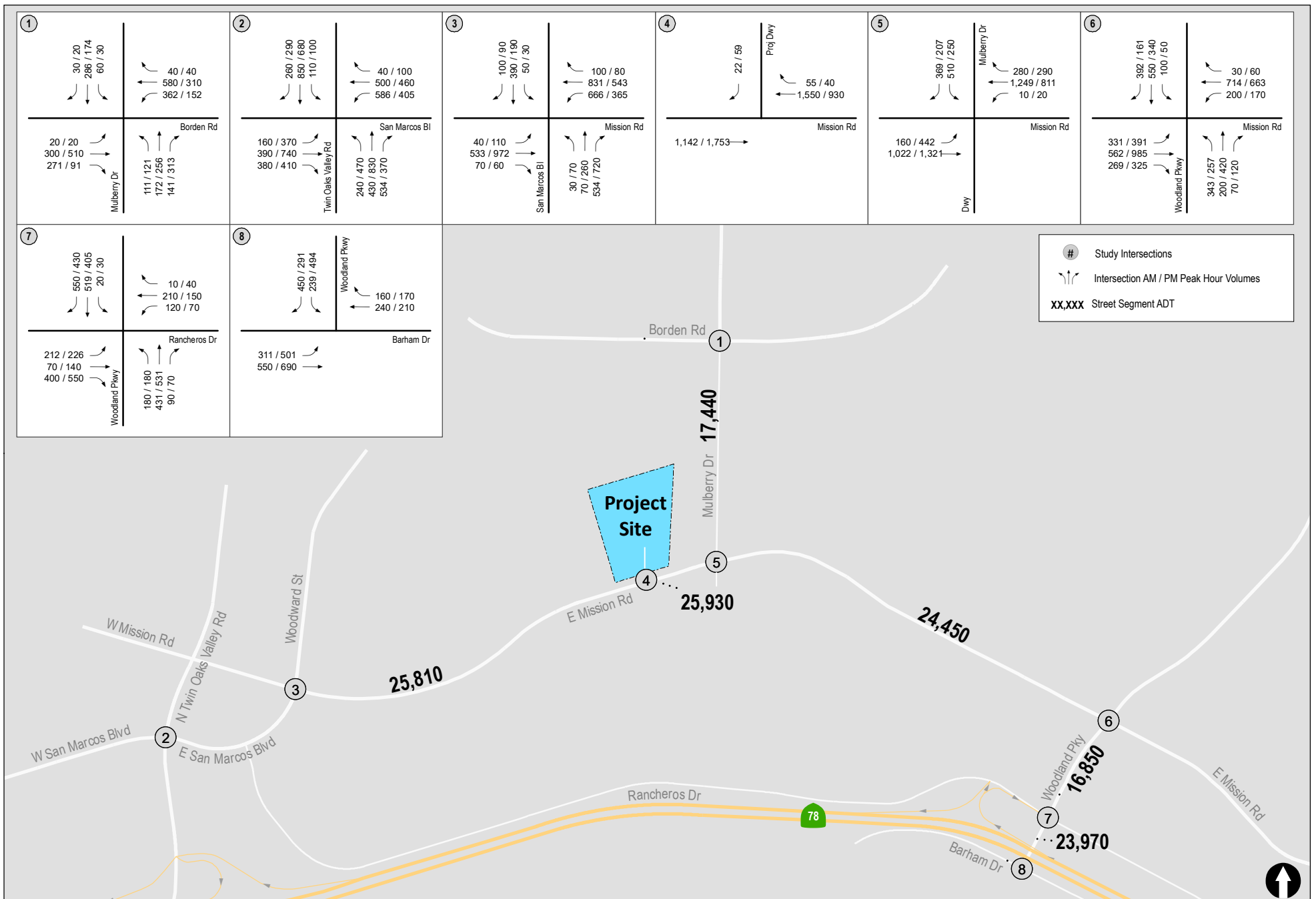


Figure 8-2

Long-Term (Horizon Year 2050) + Project Traffic Volumes

9.0 SITE ACCESS, ON-SITE CIRCULATION, AND PARKING

As described in *Section 2.0*, vehicular circulation to and from the Project site would be provided via two driveways on East Mission Road, one at the eastern edge of this frontage and one in the central portion of the frontage. The central driveway would provide the only ingress to the Project site and would be divided with a median for ingress and egress. This driveway would be restricted to right-in, right-out only access given the existing median within East Mission Road in front of the Project site. The eastern driveway would be egress, right-out only and would terminate from a drive aisle along the entire eastern boundary of the Project site primarily providing access from Building 3. Parking for the Project would be provided in 141 parking stalls surrounding each of the three buildings.

As mentioned in *Section 6.2*, ingress and egress splits between the two driveways are unknown at this time. Therefore, it is deemed reasonable to analyze the access as one driveway with all Project trips using that driveway. This would provide a conservative approach. As shown in *Tables 7-1* and *8-1*, the analyzed Project driveway is calculated to operate at LOS C during the AM and PM peak hours. Therefore, no improvements are necessary.

The site plan has been designed to provide adequate on-site circulation for passenger vehicles, heavy vehicles, bicyclists and pedestrians, accounting for the large trucks that will circulate through the site.

10.0 ACTIVE TRANSPORTATION REVIEW

10.1 Bicycle Network

Currently, the City of San Marcos provides Class I bike lanes via the Inland Rail Trail which runs on the north side of East Mission Road west of Pacific Street, and on the south side of East Mission Road east of Pacific Street. Class II bike lanes are provided on Borden Road, East Mission Road, Twin Oaks Valley Road, San Marcos Boulevard, Woodward Street, Mulberry Drive and Woodland Parkway. Per the *City of San Marcos Bicycle and Pedestrian Master Plan*, Class I bike lanes are planned along Twin Oaks Valley Road and Woodland Parkway within the Project vicinity.

In addition, the *draft City of San Marcos Active Transportation Plan* has been prepared to further encourage non-motorized modes of transportation, which includes biking, by providing recommendations that enhance the active transportation experience in the community. Per the Active Transportation Plan, a Class IV bikeway is recommended on Mulberry Drive just north of East Mission Road, and on East Mission Road within the Project vicinity. It should be noted that this plan has not been adopted at the time of preparation of this report, and the Project is not required to implement the bicycle lane improvements because the Project does not directly front onto the segments where the improvements are proposed.

10.2 Pedestrian Network

The Project would renovate the sidewalk along East Mission Road to maintain an accessible pedestrian path of travel along this frontage. Sidewalks are provided on both sides of the roadway within the Project vicinity. In addition, sidewalk connection is provided between the Project site and the San Marcos Civic Center Station and nearby bus stops. Per the *City of San Marcos Bicycle and Pedestrian Master Plan*, there are no plans to add or alter sidewalks within the Project vicinity.

10.3 Transit Network

Transit service in the area is provided by the North County Transit District (NCTD). The nearest bus stop, located on the northwest corner of the East Mission Road / Mulberry Drive intersection along East Mission Road, will be moved further west fronting the Project site. The San Marcos Civic Center Station, which serves the Sprinter, is located on the southwest corner of the East Mission Road / Woodward Street intersection. A description of the nearest transit service is shown below:

Bus Route 305 provides bus service to the area via East Mission Road and South Santa Fe Avenue, connecting Escondido to Vista. During weekdays, headways are 30 minutes for the duration of the day. During weekends, headways are 30 minutes for the duration of the day. Route 305 has one bus stop near the project site located just west of the East Mission Road / Mulberry Drive intersection.

The **SPRINTER** runs between Escondido and Oceanside. There are fifteen (15) stops along this route. SPRINTER service provides thirty-four (34) daily trips on the weekdays with an additional six (6) trips on Friday nights. It also provides twenty-five (25) daily weekend trips with an additional three (3) trips on Saturday nights.

Appendix H contains the bus route schedule and map.

11.0 CONCLUSIONS

The Project is proposed on an approximately 10.8-acre site located at 528 East Mission Road in the eastern portion of the City of San Marcos on the northern side of East Mission Road between Falcon Place and Mulberry Drive. The Project proposes the demolition of the two existing structures and their associated improvements and development of three warehouse buildings. The three proposed warehouse buildings would total approximately 132,810 SF and would include a total of 14 loading docks.

LOCAL TRANSPORTATION ANALYSIS

The study area intersections were analyzed under the Existing, Near-Term Cumulative without and with Project, and Long-Term (Horizon Year 2050) without and with Project scenarios. Based on the established Level of Service Standards outlined in *Section 4.2*, no substantial effects are identified as the Project adds less than 2 seconds of average vehicle delay at study area intersections calculated to operate at LOS E or F. Therefore, improvements are not required under these analyses.

The study area street segments were analyzed under the Existing, Near-Term Cumulative without and with Project, and Long-Term (Horizon Year 2050) without and with Project scenarios. Based on the established Level of Service Standards outlined in *Section 4.2*, no substantial effects are identified as the Project adds less than 0.02 V/C ratio at Woodland Parkway between Rancheros Drive and Barham Drive, which is calculated to operate at LOS F under all scenarios. Therefore, improvements are not required under these analyses.

Both Project driveways should be limited to right-turns only. No median break within East Mission Road should be allowed.

TECHNICAL APPENDICES
MISSION SAN MARCOS INDUSTRIAL PROJECT
(SDP22-0009)
San Marcos, California
May 1, 2024

LLG Ref. 3-23-3760

APPENDICES

APPENDIX

- A. Intersection and Street Segment Manual Count Sheets
- B. City of San Marcos Roadway Classification Table
- C. Existing Intersection Analysis Worksheets
- D. Near-Term Cumulative Intersection Analysis Worksheets
- E. Near-Term Cumulative + Projects Intersection Analysis Worksheets
- F. Long-Term (Horizon Year 2050) Intersection Analysis Worksheets
- G. Long-Term (Horizon Year 2050) + Project Intersection Analysis Worksheets
- H. Bus Route Schedule and Map

APPENDIX A

**INTERSECTION AND STREET SEGMENT MANUAL COUNT
SHEETS**

City of San Marcos
N/S: Mulberry Drive
E/W: Borden Road
Weather: Clear

File Name : 03_SNM_Mul_Bor AM
Site Code : 05723782
Start Date : 8/31/2023
Page No : 1

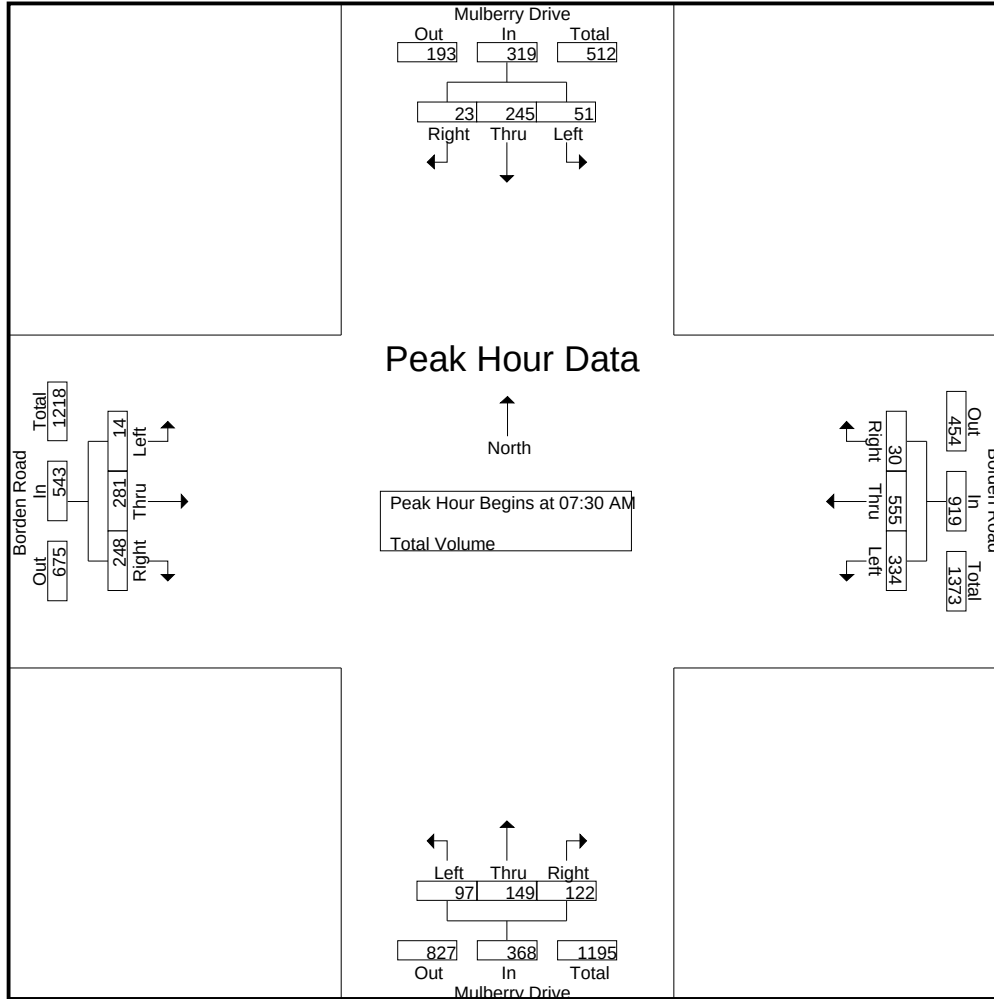
Groups Printed- Total Volume

	Mulberry Drive Southbound				Borden Road Westbound				Mulberry Drive Northbound				Borden Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	5	60	1	66	45	75	1	121	10	27	8	45	1	26	38	65	297
07:15 AM	9	58	0	67	62	109	5	176	14	25	16	55	2	65	37	104	402
07:30 AM	16	53	4	73	73	169	5	247	13	14	23	50	2	101	48	151	521
07:45 AM	10	60	7	77	88	161	4	253	23	31	28	82	1	66	84	151	563
Total	40	231	12	283	268	514	15	797	60	97	75	232	6	258	207	471	1783
08:00 AM	18	80	8	106	89	115	10	214	20	50	21	91	7	53	83	143	554
08:15 AM	7	52	4	63	84	110	11	205	41	54	50	145	4	61	33	98	511
08:30 AM	8	43	3	54	64	80	4	148	16	25	30	71	1	64	24	89	362
08:45 AM	3	49	2	54	71	95	3	169	6	26	18	50	1	34	19	54	327
Total	36	224	17	277	308	400	28	736	83	155	119	357	13	212	159	384	1754
Grand Total	76	455	29	560	576	914	43	1533	143	252	194	589	19	470	366	855	3537
Apprch %	13.6	81.2	5.2		37.6	59.6	2.8		24.3	42.8	32.9		2.2	55	42.8		
Total %	2.1	12.9	0.8	15.8	16.3	25.8	1.2	43.3	4	7.1	5.5	16.7	0.5	13.3	10.3	24.2	

	Mulberry Drive Southbound				Borden Road Westbound				Mulberry Drive Northbound				Borden Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	16	53	4	73	73	169	5	247	13	14	23	50	2	101	48	151	521
07:45 AM	10	60	7	77	88	161	4	253	23	31	28	82	1	66	84	151	563
08:00 AM	18	80	8	106	89	115	10	214	20	50	21	91	7	53	83	143	554
08:15 AM	7	52	4	63	84	110	11	205	41	54	50	145	4	61	33	98	511
Total Volume	51	245	23	319	334	555	30	919	97	149	122	368	14	281	248	543	2149
% App. Total	16	76.8	7.2		36.3	60.4	3.3		26.4	40.5	33.2		2.6	51.7	45.7		
PHF	.708	.766	.719	.752	.938	.821	.682	.908	.591	.690	.610	.634	.500	.696	.738	.899	.954

City of San Marcos
N/S: Mulberry Drive
E/W: Borden Road
Weather: Clear

File Name : 03_SNM_Mul_Bor AM
Site Code : 05723782
Start Date : 8/31/2023
Page No : 2



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

	07:15 AM				07:30 AM				07:45 AM				07:15 AM			
+0 mins.	9	58	0	67	73	169	5	247	23	31	28	82	2	65	37	104
+15 mins.	16	53	4	73	88	161	4	253	20	50	21	91	2	101	48	151
+30 mins.	10	60	7	77	89	115	10	214	41	54	50	145	1	66	84	151
+45 mins.	18	80	8	106	84	110	11	205	16	25	30	71	7	53	83	143
Total Volume	53	251	19	323	334	555	30	919	100	160	129	389	12	285	252	549
% App. Total	16.4	77.7	5.9		36.3	60.4	3.3		25.7	41.1	33.2		2.2	51.9	45.9	
PHF	.736	.784	.594	.762	.938	.821	.682	.908	.610	.741	.645	.671	.429	.705	.750	.909

City of San Marcos
N/S: Mulberry Drive
E/W: Borden Road
Weather: Clear

File Name : 03_SNM_Mul_Bor PM
Site Code : 05723782
Start Date : 8/31/2023
Page No : 1

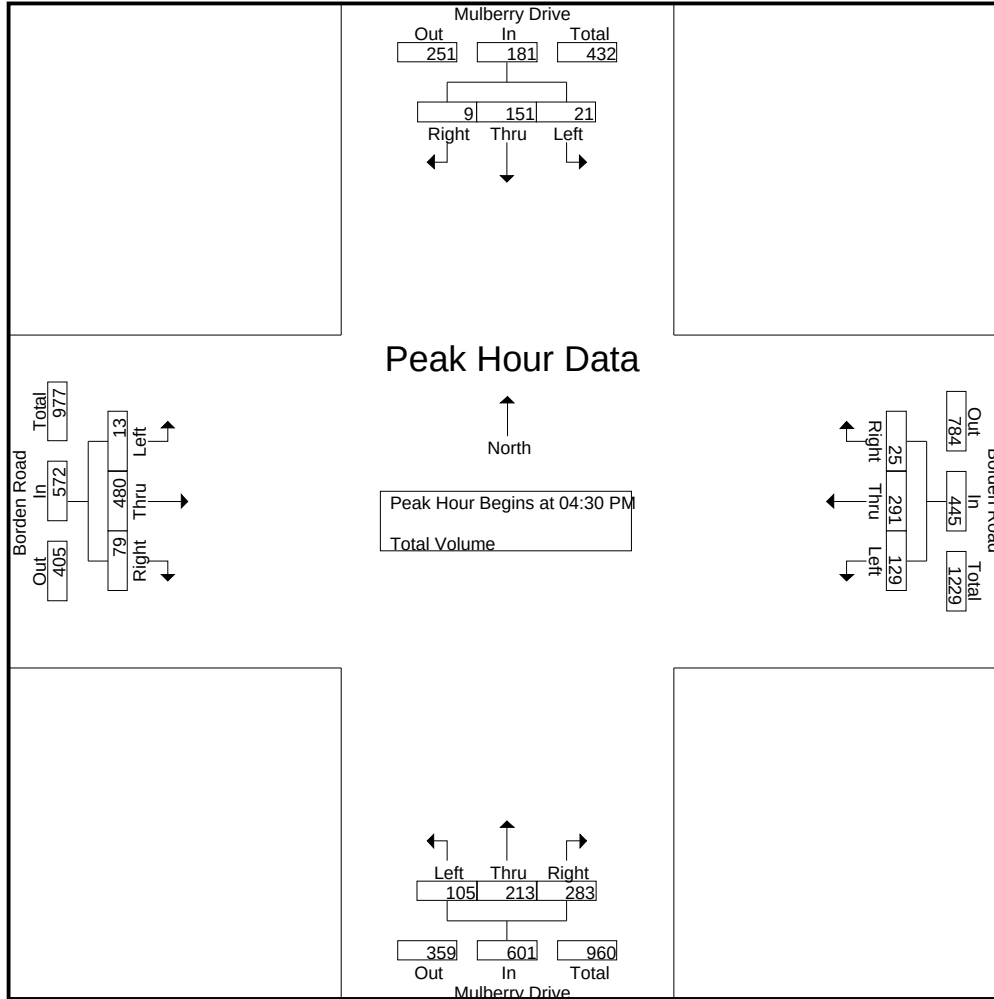
Groups Printed- Total Volume

	Mulberry Drive Southbound				Borden Road Westbound				Mulberry Drive Northbound				Borden Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	7	29	3	39	29	74	4	107	19	48	88	155	4	106	13	123	424
04:15 PM	5	33	3	41	26	66	1	93	12	38	57	107	1	120	28	149	390
04:30 PM	6	42	1	49	28	70	6	104	24	64	66	154	2	115	24	141	448
04:45 PM	4	38	4	46	43	78	10	131	25	50	56	131	6	137	20	163	471
Total	22	142	11	175	126	288	21	435	80	200	267	547	13	478	85	576	1733
05:00 PM	6	36	2	44	32	74	6	112	24	48	83	155	1	123	18	142	453
05:15 PM	5	35	2	42	26	69	3	98	32	51	78	161	4	105	17	126	427
05:30 PM	5	35	1	41	35	59	5	99	23	44	92	159	2	89	31	122	421
05:45 PM	2	26	2	30	36	61	11	108	27	56	81	164	3	80	24	107	409
Total	18	132	7	157	129	263	25	417	106	199	334	639	10	397	90	497	1710
Grand Total	40	274	18	332	255	551	46	852	186	399	601	1186	23	875	175	1073	3443
Apprch %	12	82.5	5.4		29.9	64.7	5.4		15.7	33.6	50.7		2.1	81.5	16.3		
Total %	1.2	8	0.5	9.6	7.4	16	1.3	24.7	5.4	11.6	17.5	34.4	0.7	25.4	5.1	31.2	

	Mulberry Drive Southbound				Borden Road Westbound				Mulberry Drive Northbound				Borden Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	6	42	1	49	28	70	6	104	24	64	66	154	2	115	24	141	448
04:45 PM	4	38	4	46	43	78	10	131	25	50	56	131	6	137	20	163	471
05:00 PM	6	36	2	44	32	74	6	112	24	48	83	155	1	123	18	142	453
05:15 PM	5	35	2	42	26	69	3	98	32	51	78	161	4	105	17	126	427
Total Volume	21	151	9	181	129	291	25	445	105	213	283	601	13	480	79	572	1799
% App. Total	11.6	83.4	5		29	65.4	5.6		17.5	35.4	47.1		2.3	83.9	13.8		
PHF	.875	.899	.563	.923	.750	.933	.625	.849	.820	.832	.852	.933	.542	.876	.823	.877	.955

City of San Marcos
N/S: Mulberry Drive
E/W: Borden Road
Weather: Clear

File Name : 03_SNM_Mul_Bor PM
Site Code : 05723782
Start Date : 8/31/2023
Page No : 2



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

	04:30 PM				04:30 PM				05:00 PM				04:15 PM			
+0 mins.	6	42	1	49	28	70	6	104	24	48	83	155	1	120	28	149
+15 mins.	4	38	4	46	43	78	10	131	32	51	78	161	2	115	24	141
+30 mins.	6	36	2	44	32	74	6	112	23	44	92	159	6	137	20	163
+45 mins.	5	35	2	42	26	69	3	98	27	56	81	164	1	123	18	142
Total Volume	21	151	9	181	129	291	25	445	106	199	334	639	10	495	90	595
% App. Total	11.6	83.4	5		29	65.4	5.6		16.6	31.1	52.3		1.7	83.2	15.1	
PHF	.875	.899	.563	.923	.750	.933	.625	.849	.828	.888	.908	.974	.417	.903	.804	.913

City of San Marcos
N/S: Twin Oaks Valley Road
E/W: San Marcos Boulevard
Weather: Clear

File Name : 01_SNM_Twin_San M AM
Site Code : 05723782
Start Date : 8/31/2023
Page No : 1

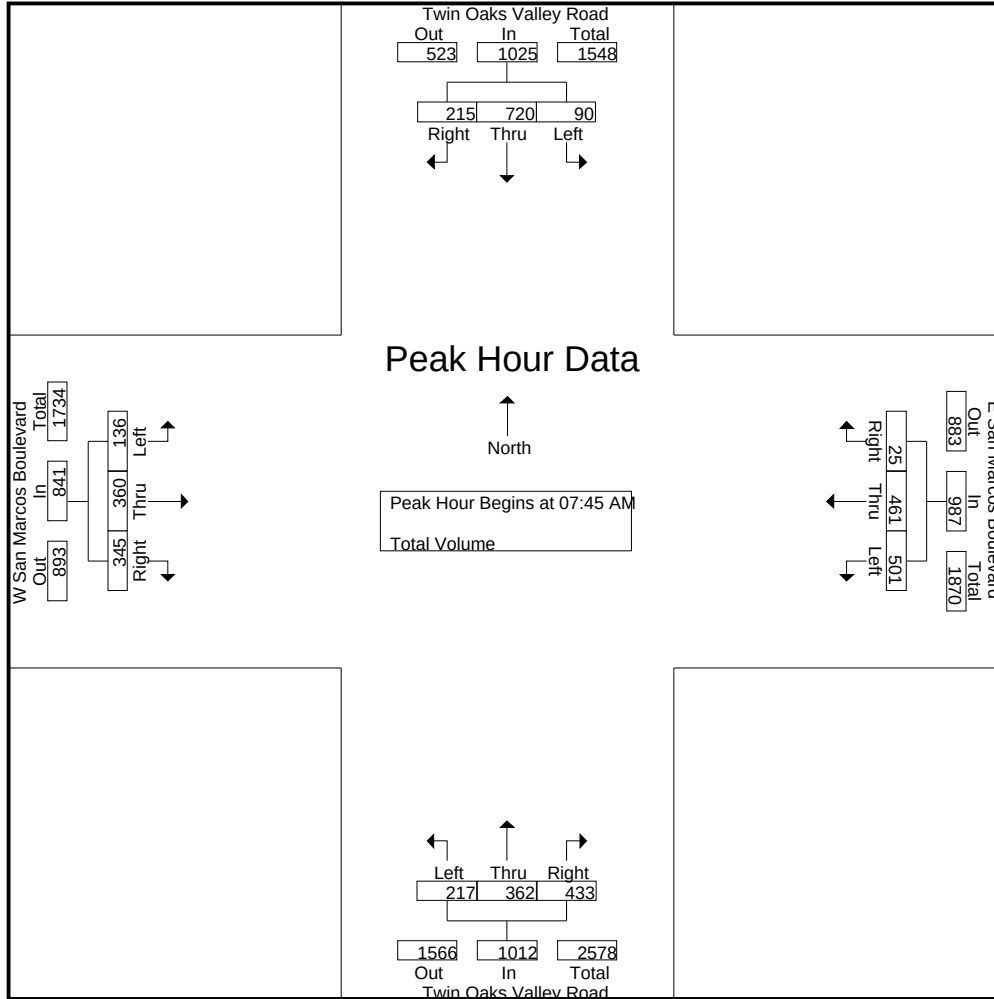
Groups Printed- Total Volume

	Twin Oaks Valley Road Southbound				E San Marcos Boulevard Westbound				Twin Oaks Valley Road Northbound				W San Marcos Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	18	225	59	302	82	67	3	152	30	81	60	171	18	48	64	130	755
07:15 AM	17	194	30	241	72	103	7	182	39	62	62	163	35	69	59	163	749
07:30 AM	21	184	63	268	118	110	4	232	41	89	91	221	23	79	83	185	906
07:45 AM	21	184	58	263	112	109	2	223	47	81	128	256	33	96	85	214	956
Total	77	787	210	1074	384	389	16	789	157	313	341	811	109	292	291	692	3366
08:00 AM	30	177	62	269	129	137	5	271	55	90	150	295	29	105	69	203	1038
08:15 AM	26	184	55	265	116	102	8	226	62	101	94	257	30	66	90	186	934
08:30 AM	13	175	40	228	144	113	10	267	53	90	61	204	44	93	101	238	937
08:45 AM	40	197	67	304	89	102	10	201	50	91	75	216	29	91	62	182	903
Total	109	733	224	1066	478	454	33	965	220	372	380	972	132	355	322	809	3812
Grand Total	186	1520	434	2140	862	843	49	1754	377	685	721	1783	241	647	613	1501	7178
Apprch %	8.7	71	20.3		49.1	48.1	2.8		21.1	38.4	40.4		16.1	43.1	40.8		
Total %	2.6	21.2	6	29.8	12	11.7	0.7	24.4	5.3	9.5	10	24.8	3.4	9	8.5	20.9	

	Twin Oaks Valley Road Southbound				E San Marcos Boulevard Westbound				Twin Oaks Valley Road Northbound				W San Marcos Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	21	184	58	263	112	109	2	223	47	81	128	256	33	96	85	214	956
08:00 AM	30	177	62	269	129	137	5	271	55	90	150	295	29	105	69	203	1038
08:15 AM	26	184	55	265	116	102	8	226	62	101	94	257	30	66	90	186	934
08:30 AM	13	175	40	228	144	113	10	267	53	90	61	204	44	93	101	238	937
Total Volume	90	720	215	1025	501	461	25	987	217	362	433	1012	136	360	345	841	3865
% App. Total	8.8	70.2	21		50.8	46.7	2.5		21.4	35.8	42.8		16.2	42.8	41		
PHF	.750	.978	.867	.953	.870	.841	.625	.911	.875	.896	.722	.858	.773	.857	.854	.883	.931

City of San Marcos
N/S: Twin Oaks Valley Road
E/W: San Marcos Boulevard
Weather: Clear

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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:45 AM				07:30 AM				07:45 AM			
+0 mins.	18	225	59	302	112	109	2	223	41	89	91	221	33	96	85	214
+15 mins.	17	194	30	241	129	137	5	271	47	81	128	256	29	105	69	203
+30 mins.	21	184	63	268	116	102	8	226	55	90	150	295	30	66	90	186
+45 mins.	21	184	58	263	144	113	10	267	62	101	94	257	44	93	101	238
Total Volume	77	787	210	1074	501	461	25	987	205	361	463	1029	136	360	345	841
% App. Total	7.2	73.3	19.6		50.8	46.7	2.5		19.9	35.1	45		16.2	42.8	41	
PHF	.917	.874	.833	.889	.870	.841	.625	.911	.827	.894	.772	.872	.773	.857	.854	.883

City of San Marcos
N/S: Twin Oaks Valley Road
E/W: San Marcos Boulevard
Weather: Clear

File Name : 01_SNM_Twin_San M PM
Site Code : 05723782
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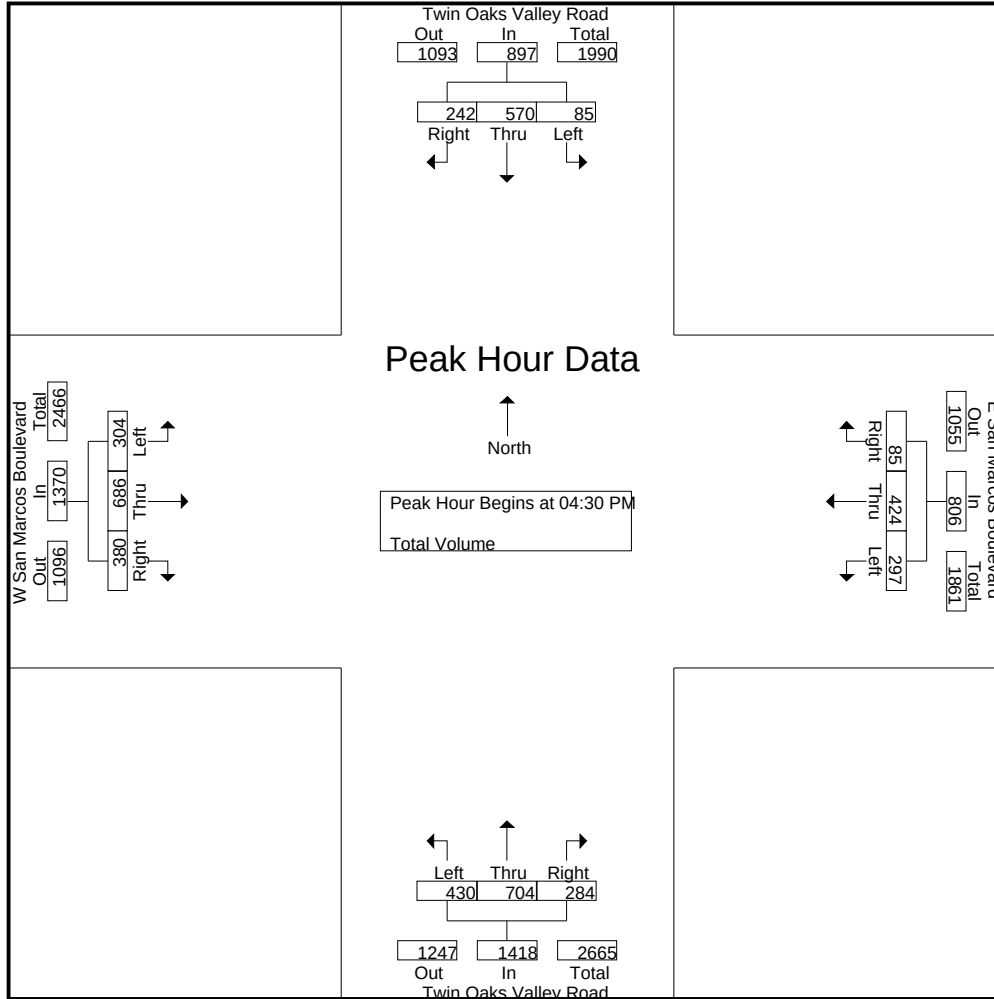
Groups Printed- Total Volume

	Twin Oaks Valley Road Southbound				E San Marcos Boulevard Westbound				Twin Oaks Valley Road Northbound				W San Marcos Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	38	139	67	244	86	107	23	216	87	166	75	328	62	144	105	311	1099
04:15 PM	15	121	68	204	60	93	17	170	95	176	71	342	79	171	93	343	1059
04:30 PM	26	133	60	219	67	108	24	199	115	156	84	355	83	159	107	349	1122
04:45 PM	21	130	68	219	72	103	24	199	107	186	71	364	72	178	96	346	1128
Total	100	523	263	886	285	411	88	784	404	684	301	1389	296	652	401	1349	4408
05:00 PM	17	162	58	237	78	102	19	199	97	195	60	352	71	157	85	313	1101
05:15 PM	21	145	56	222	80	111	18	209	111	167	69	347	78	192	92	362	1140
05:30 PM	20	159	60	239	65	72	19	156	109	171	73	353	94	150	102	346	1094
05:45 PM	13	127	62	202	71	84	7	162	110	157	83	350	74	137	72	283	997
Total	71	593	236	900	294	369	63	726	427	690	285	1402	317	636	351	1304	4332
Grand Total	171	1116	499	1786	579	780	151	1510	831	1374	586	2791	613	1288	752	2653	8740
Apprch %	9.6	62.5	27.9		38.3	51.7	10		29.8	49.2	21		23.1	48.5	28.3		
Total %	2	12.8	5.7	20.4	6.6	8.9	1.7	17.3	9.5	15.7	6.7	31.9	7	14.7	8.6	30.4	

	Twin Oaks Valley Road Southbound				E San Marcos Boulevard Westbound				Twin Oaks Valley Road Northbound				W San Marcos Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	26	133	60	219	67	108	24	199	115	156	84	355	83	159	107	349	1122
04:45 PM	21	130	68	219	72	103	24	199	107	186	71	364	72	178	96	346	1128
05:00 PM	17	162	58	237	78	102	19	199	97	195	60	352	71	157	85	313	1101
05:15 PM	21	145	56	222	80	111	18	209	111	167	69	347	78	192	92	362	1140
Total Volume	85	570	242	897	297	424	85	806	430	704	284	1418	304	686	380	1370	4491
% App. Total	9.5	63.5	27		36.8	52.6	10.5		30.3	49.6	20		22.2	50.1	27.7		
PHF	.817	.880	.890	.946	.928	.955	.885	.964	.935	.903	.845	.974	.916	.893	.888	.946	.985

City of San Marcos
N/S: Twin Oaks Valley Road
E/W: San Marcos Boulevard
Weather: Clear

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

	04:45 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	21	130	68	219	67	108	24	199	115	156	84	355	83	159	107	349
+15 mins.	17	162	58	237	72	103	24	199	107	186	71	364	72	178	96	346
+30 mins.	21	145	56	222	78	102	19	199	97	195	60	352	71	157	85	313
+45 mins.	20	159	60	239	80	111	18	209	111	167	69	347	78	192	92	362
Total Volume	79	596	242	917	297	424	85	806	430	704	284	1418	304	686	380	1370
% App. Total	8.6	65	26.4		36.8	52.6	10.5		30.3	49.6	20		22.2	50.1	27.7	
PHF	.940	.920	.890	.959	.928	.955	.885	.964	.935	.903	.845	.974	.916	.893	.888	.946

City of San Marcos
N/S: Woodward St/E San Marcos Boulevard
E/W: Mission Road
Weather: Clear

File Name : 02_SNM_San M_Miss AM
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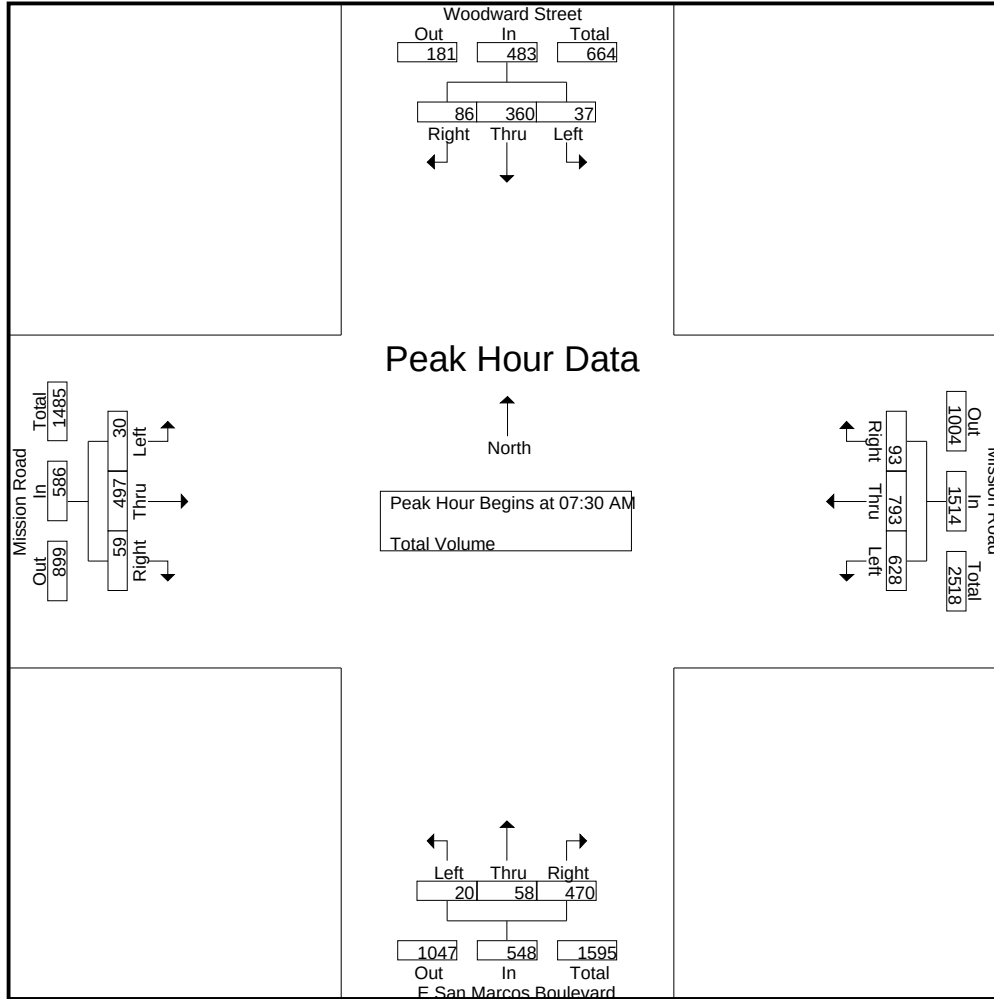
Groups Printed- Total Volume

	Woodward Street Southbound				Mission Road Westbound				E San Marcos Boulevard Northbound				Mission Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	5	69	8	82	77	103	4	184	7	16	69	92	3	63	10	76	434
07:15 AM	7	64	18	89	97	128	6	231	7	12	65	84	7	86	12	105	509
07:30 AM	7	90	16	113	122	158	9	289	5	13	83	101	6	101	8	115	618
07:45 AM	14	106	27	147	158	192	19	369	3	13	134	150	6	163	14	183	849
Total	33	329	69	431	454	581	38	1073	22	54	351	427	22	413	44	479	2410
08:00 AM	10	67	30	107	175	221	34	430	5	16	154	175	14	156	21	191	903
08:15 AM	6	97	13	116	173	222	31	426	7	16	99	122	4	77	16	97	761
08:30 AM	4	73	16	93	145	176	16	337	5	23	59	87	7	50	6	63	580
08:45 AM	7	91	12	110	118	144	5	267	9	27	60	96	5	64	20	89	562
Total	27	328	71	426	611	763	86	1460	26	82	372	480	30	347	63	440	2806
Grand Total	60	657	140	857	1065	1344	124	2533	48	136	723	907	52	760	107	919	5216
Apprch %	7	76.7	16.3		42	53.1	4.9		5.3	15	79.7		5.7	82.7	11.6		
Total %	1.2	12.6	2.7	16.4	20.4	25.8	2.4	48.6	0.9	2.6	13.9	17.4	1	14.6	2.1	17.6	

	Woodward Street Southbound				Mission Road Westbound				E San Marcos Boulevard Northbound				Mission Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	7	90	16	113	122	158	9	289	5	13	83	101	6	101	8	115	618
07:45 AM	14	106	27	147	158	192	19	369	3	13	134	150	6	163	14	183	849
08:00 AM	10	67	30	107	175	221	34	430	5	16	154	175	14	156	21	191	903
08:15 AM	6	97	13	116	173	222	31	426	7	16	99	122	4	77	16	97	761
Total Volume	37	360	86	483	628	793	93	1514	20	58	470	548	30	497	59	586	3131
% App. Total	7.7	74.5	17.8		41.5	52.4	6.1		3.6	10.6	85.8		5.1	84.8	10.1		
PHF	.661	.849	.717	.821	.897	.893	.684	.880	.714	.906	.763	.783	.536	.762	.702	.767	.867

City of San Marcos
N/S: Woodward St/E San Marcos Boulevard
E/W: Mission Road
Weather: Clear

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

	07:30 AM				07:45 AM				07:30 AM				07:15 AM			
+0 mins.	7	90	16	113	158	192	19	369	5	13	83	101	7	86	12	105
+15 mins.	14	106	27	147	175	221	34	430	3	13	134	150	6	101	8	115
+30 mins.	10	67	30	107	173	222	31	426	5	16	154	175	6	163	14	183
+45 mins.	6	97	13	116	145	176	16	337	7	16	99	122	14	156	21	191
Total Volume	37	360	86	483	651	811	100	1562	20	58	470	548	33	506	55	594
% App. Total	7.7	74.5	17.8		41.7	51.9	6.4		3.6	10.6	85.8		5.6	85.2	9.3	
PHF	.661	.849	.717	.821	.930	.913	.735	.908	.714	.906	.763	.783	.589	.776	.655	.777

City of San Marcos
N/S: Woodward St/E San Marcos Boulevard
E/W: Mission Road
Weather: Clear

File Name : 02_SNM_San M_Miss PM
Site Code : 05723782
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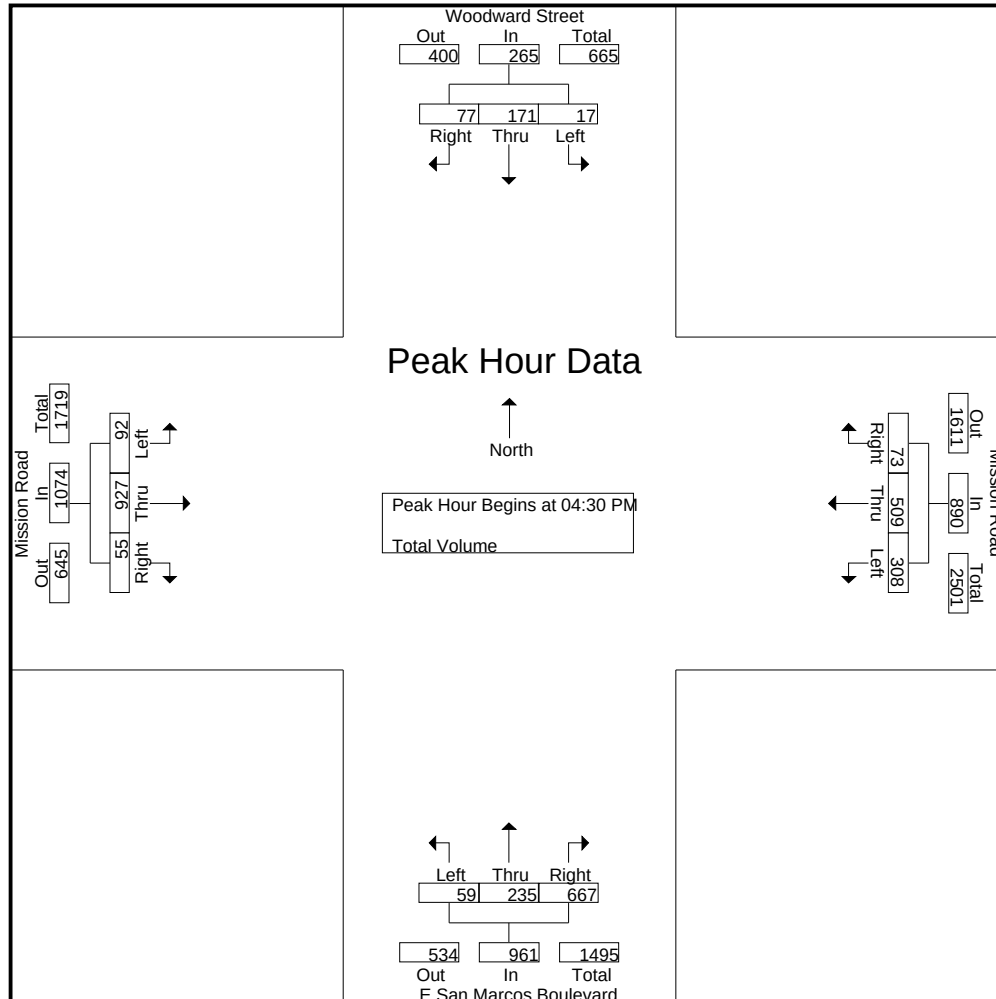
Groups Printed- Total Volume

	Woodward Street Southbound				Mission Road Westbound				E San Marcos Boulevard Northbound				Mission Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	34	10	47	82	120	13	215	17	53	140	210	16	221	19	256	728
04:15 PM	4	45	15	64	59	115	19	193	14	39	147	200	21	224	10	255	712
04:30 PM	2	32	17	51	69	115	15	199	14	62	166	242	21	247	17	285	777
04:45 PM	4	59	27	90	82	146	13	241	16	66	183	265	22	208	10	240	836
Total	13	170	69	252	292	496	60	848	61	220	636	917	80	900	56	1036	3053
05:00 PM	7	32	11	50	62	116	15	193	20	49	131	200	24	242	14	280	723
05:15 PM	4	48	22	74	95	132	30	257	9	58	187	254	25	230	14	269	854
05:30 PM	7	38	13	58	63	133	18	214	10	66	121	197	27	197	11	235	704
05:45 PM	8	44	10	62	51	128	11	190	13	47	155	215	27	182	15	224	691
Total	26	162	56	244	271	509	74	854	52	220	594	866	103	851	54	1008	2972
Grand Total	39	332	125	496	563	1005	134	1702	113	440	1230	1783	183	1751	110	2044	6025
Apprch %	7.9	66.9	25.2		33.1	59	7.9		6.3	24.7	69		9	85.7	5.4		
Total %	0.6	5.5	2.1	8.2	9.3	16.7	2.2	28.2	1.9	7.3	20.4	29.6	3	29.1	1.8	33.9	

	Woodward Street Southbound				Mission Road Westbound				E San Marcos Boulevard Northbound				Mission Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	32	17	51	69	115	15	199	14	62	166	242	21	247	17	285	777
04:45 PM	4	59	27	90	82	146	13	241	16	66	183	265	22	208	10	240	836
05:00 PM	7	32	11	50	62	116	15	193	20	49	131	200	24	242	14	280	723
05:15 PM	4	48	22	74	95	132	30	257	9	58	187	254	25	230	14	269	854
Total Volume	17	171	77	265	308	509	73	890	59	235	667	961	92	927	55	1074	3190
% App. Total	6.4	64.5	29.1		34.6	57.2	8.2		6.1	24.5	69.4		8.6	86.3	5.1		
PHF	.607	.725	.713	.736	.811	.872	.608	.866	.738	.890	.892	.907	.920	.938	.809	.942	.934

City of San Marcos
N/S: Woodward St/E San Marcos Boulevard
E/W: Mission Road
Weather: Clear

File Name : 02_SNM_San M_Miss PM
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:30 PM				04:30 PM			
+0 mins.	4	59	27	90	82	146	13	241	14	62	166	242	21	247	17	285
+15 mins.	7	32	11	50	62	116	15	193	16	66	183	265	22	208	10	240
+30 mins.	4	48	22	74	95	132	30	257	20	49	131	200	24	242	14	280
+45 mins.	7	38	13	58	63	133	18	214	9	58	187	254	25	230	14	269
Total Volume	22	177	73	272	302	527	76	905	59	235	667	961	92	927	55	1074
% App. Total	8.1	65.1	26.8		33.4	58.2	8.4		6.1	24.5	69.4		8.6	86.3	5.1	
PHF	.786	.750	.676	.756	.795	.902	.633	.880	.738	.890	.892	.907	.920	.938	.809	.942

City of San Marcos
N/S: Mulberry Drive
E/W: Mission Road
Weather: Clear

File Name : 04_SNM_Mul_Miss AM
Site Code : 05723782
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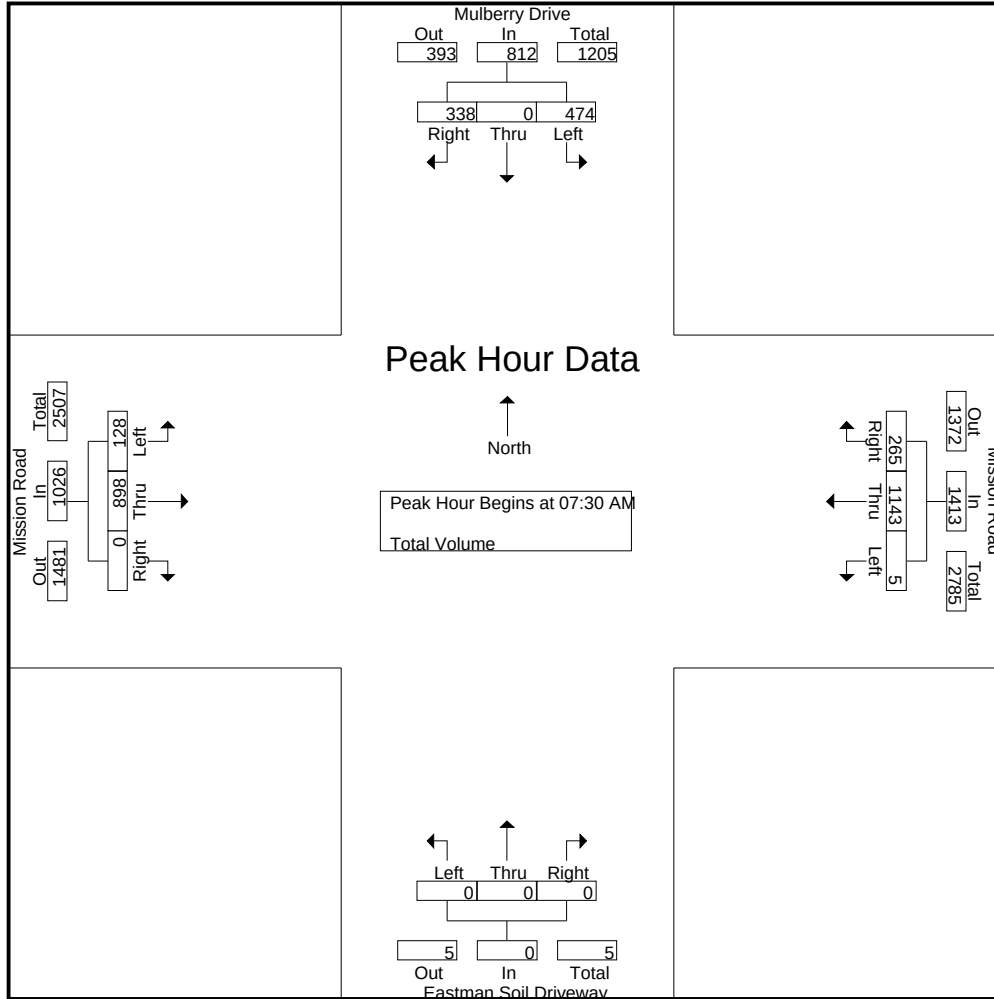
Groups Printed- Total Volume

	Mulberry Drive Southbound				Mission Road Westbound				Eastman Soil Driveway Northbound				Mission Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	100	0	59	159	1	106	29	136	0	0	0	0	28	105	0	133	428
07:15 AM	85	0	81	166	4	164	39	207	0	0	0	0	22	120	0	142	515
07:30 AM	91	0	81	172	0	223	33	256	0	0	0	0	26	182	0	208	636
07:45 AM	133	0	94	227	1	236	54	291	0	0	0	0	33	275	0	308	826
Total	409	0	315	724	6	729	155	890	0	0	0	0	109	682	0	791	2405
08:00 AM	153	0	89	242	3	354	81	438	0	0	0	0	33	285	0	318	998
08:15 AM	97	0	74	171	1	330	97	428	0	0	0	0	36	156	0	192	791
08:30 AM	56	0	66	122	1	229	35	265	0	0	0	0	42	77	0	119	506
08:45 AM	52	0	80	132	2	160	24	186	0	0	0	0	47	83	0	130	448
Total	358	0	309	667	7	1073	237	1317	0	0	0	0	158	601	0	759	2743
Grand Total	767	0	624	1391	13	1802	392	2207	0	0	0	0	267	1283	0	1550	5148
Apprch %	55.1	0	44.9		0.6	81.6	17.8		0	0	0		17.2	82.8	0		
Total %	14.9	0	12.1	27	0.3	35	7.6	42.9	0	0	0	0	5.2	24.9	0	30.1	

	Mulberry Drive Southbound				Mission Road Westbound				Eastman Soil Driveway Northbound				Mission Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	91	0	81	172	0	223	33	256	0	0	0	0	26	182	0	208	636
07:45 AM	133	0	94	227	1	236	54	291	0	0	0	0	33	275	0	308	826
08:00 AM	153	0	89	242	3	354	81	438	0	0	0	0	33	285	0	318	998
08:15 AM	97	0	74	171	1	330	97	428	0	0	0	0	36	156	0	192	791
Total Volume	474	0	338	812	5	1143	265	1413	0	0	0	0	128	898	0	1026	3251
% App. Total	58.4	0	41.6		0.4	80.9	18.8		0	0	0		12.5	87.5	0		
PHF	.775	.000	.899	.839	.417	.807	.683	.807	.000	.000	.000	.000	.889	.788	.000	.807	.814

City of San Marcos
N/S: Mulberry Drive
E/W: Mission Road
Weather: Clear

File Name : 04_SNM_Mul_Miss AM
Site Code : 05723782
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				07:00 AM				07:30 AM			
+0 mins.	91	0	81	172	1	236	54	291	0	0	0	0	26	182	0	208
+15 mins.	133	0	94	227	3	354	81	438	0	0	0	0	33	275	0	308
+30 mins.	153	0	89	242	1	330	97	428	0	0	0	0	33	285	0	318
+45 mins.	97	0	74	171	1	229	35	265	0	0	0	0	36	156	0	192
Total Volume	474	0	338	812	6	1149	267	1422	0	0	0	0	128	898	0	1026
% App. Total	58.4	0	41.6		0.4	80.8	18.8		0	0	0		12.5	87.5	0	
PHF	.775	.000	.899	.839	.500	.811	.688	.812	.000	.000	.000	.000	.889	.788	.000	.807

City of San Marcos
N/S: Mulberry Drive
E/W: Mission Road
Weather: Clear

File Name : 04_SNM_Mul_Miss PM
Site Code : 05723782
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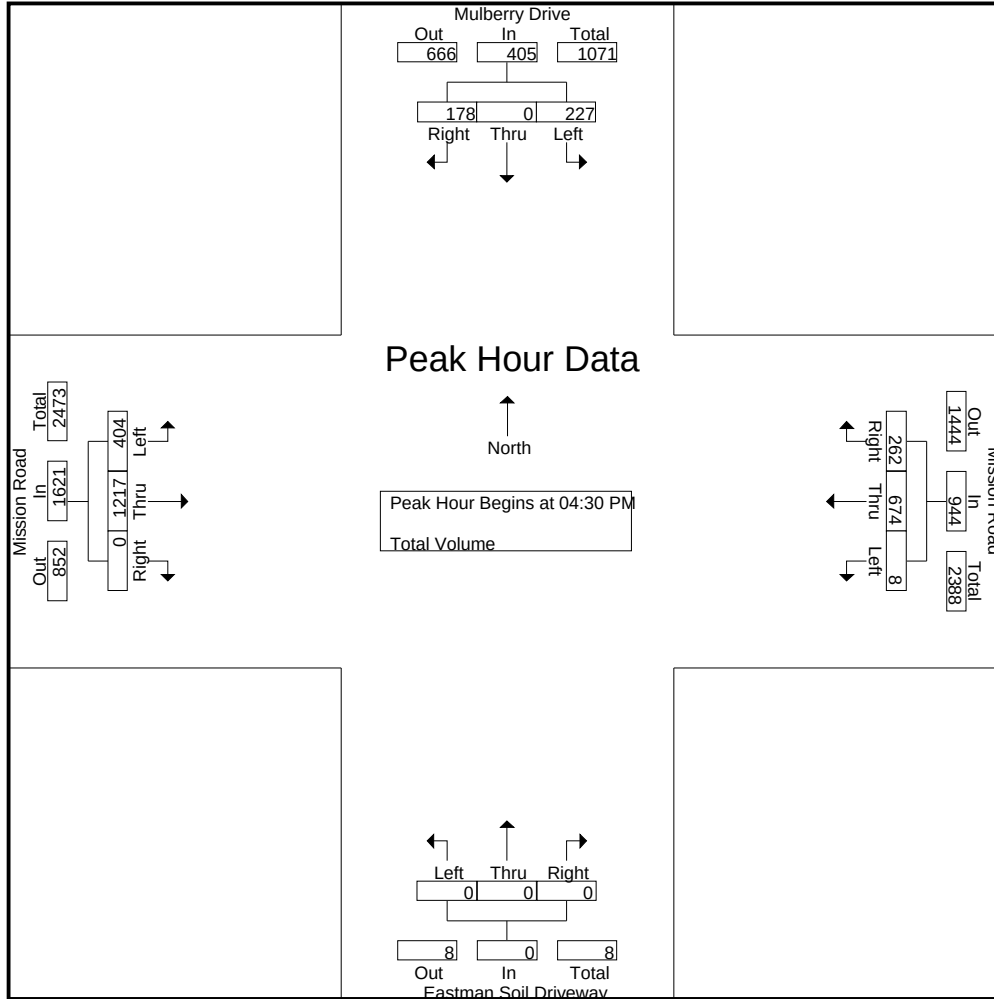
Groups Printed- Total Volume

	Mulberry Drive Southbound				Mission Road Westbound				Eastman Soil Driveway Northbound				Mission Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	32	0	38	70	4	152	46	202	0	0	0	0	109	268	0	377	649
04:15 PM	55	0	41	96	3	147	53	203	0	0	0	0	85	278	0	363	662
04:30 PM	63	0	39	102	2	158	66	226	0	0	0	0	102	306	0	408	736
04:45 PM	64	0	57	121	2	176	66	244	0	0	0	0	89	322	0	411	776
Total	214	0	175	389	11	633	231	875	0	0	0	0	385	1174	0	1559	2823
05:00 PM	50	0	41	91	2	170	59	231	0	0	0	0	100	280	0	380	702
05:15 PM	50	0	41	91	2	170	71	243	0	0	0	0	113	309	0	422	756
05:30 PM	48	0	46	94	0	192	58	250	0	0	0	0	103	240	0	343	687
05:45 PM	62	0	40	102	1	171	63	235	0	0	0	0	110	223	0	333	670
Total	210	0	168	378	5	703	251	959	0	0	0	0	426	1052	0	1478	2815
Grand Total	424	0	343	767	16	1336	482	1834	0	0	0	0	811	2226	0	3037	5638
Apprch %	55.3	0	44.7		0.9	72.8	26.3		0	0	0		26.7	73.3	0		
Total %	7.5	0	6.1	13.6	0.3	23.7	8.5	32.5	0	0	0	0	14.4	39.5	0	53.9	

	Mulberry Drive Southbound				Mission Road Westbound				Eastman Soil Driveway Northbound				Mission Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	63	0	39	102	2	158	66	226	0	0	0	0	102	306	0	408	736
04:45 PM	64	0	57	121	2	176	66	244	0	0	0	0	89	322	0	411	776
05:00 PM	50	0	41	91	2	170	59	231	0	0	0	0	100	280	0	380	702
05:15 PM	50	0	41	91	2	170	71	243	0	0	0	0	113	309	0	422	756
Total Volume	227	0	178	405	8	674	262	944	0	0	0	0	404	1217	0	1621	2970
% App. Total	56	0	44		0.8	71.4	27.8		0	0	0		24.9	75.1	0		
PHF	.887	.000	.781	.837	1.00	.957	.923	.967	.000	.000	.000	.000	.894	.945	.000	.960	.957

City of San Marcos
N/S: Mulberry Drive
E/W: Mission Road
Weather: Clear

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

	04:15 PM				04:45 PM				04:00 PM				04:30 PM			
+0 mins.	55	0	41	96	2	176	66	244	0	0	0	0	102	306	0	408
+15 mins.	63	0	39	102	2	170	59	231	0	0	0	0	89	322	0	411
+30 mins.	64	0	57	121	2	170	71	243	0	0	0	0	100	280	0	380
+45 mins.	50	0	41	91	0	192	58	250	0	0	0	0	113	309	0	422
Total Volume	232	0	178	410	6	708	254	968	0	0	0	0	404	1217	0	1621
% App. Total	56.6	0	43.4		0.6	73.1	26.2		0	0	0		24.9	75.1	0	
PHF	.906	.000	.781	.847	.750	.922	.894	.968	.000	.000	.000	.000	.894	.945	.000	.960

City of San Marcos
N/S: Woodland Parkway
E/W: Mission Road
Weather: Clear

File Name : 05_SNM_WL_Miss AM
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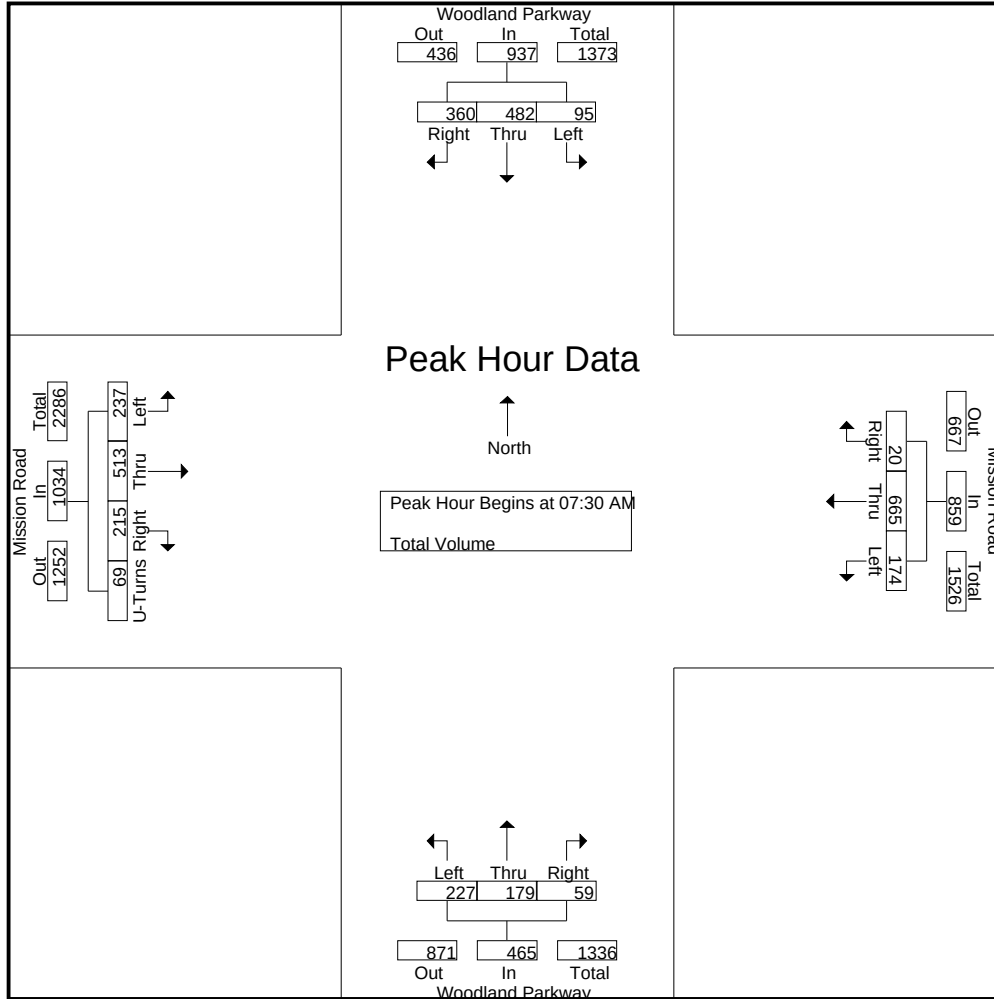
Groups Printed- Total Volume

	Woodland Parkway Southbound				Mission Road Westbound				Woodland Parkway Northbound				Mission Road Eastbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Int. Total
07:00 AM	11	152	38	201	34	74	3	111	29	39	16	84	26	69	46	1	142	538
07:15 AM	14	146	54	214	39	115	5	159	24	56	12	92	30	103	55	3	191	656
07:30 AM	23	155	65	243	45	117	4	166	33	64	12	109	65	88	44	7	204	722
07:45 AM	23	125	75	223	48	161	6	215	52	56	18	126	56	133	45	7	241	805
Total	71	578	232	881	166	467	18	651	138	215	58	411	177	393	190	18	778	2721
08:00 AM	30	101	129	260	44	198	5	247	78	28	13	119	57	107	62	35	261	887
08:15 AM	19	101	91	211	37	189	5	231	64	31	16	111	59	185	64	20	328	881
08:30 AM	23	108	57	188	40	112	10	162	19	34	9	62	18	108	36	2	164	576
08:45 AM	17	80	43	140	32	146	9	187	32	40	24	96	25	99	21	3	148	571
Total	89	390	320	799	153	645	29	827	193	133	62	388	159	499	183	60	901	2915
Grand Total	160	968	552	1680	319	1112	47	1478	331	348	120	799	336	892	373	78	1679	5636
Apprch %	9.5	57.6	32.9		21.6	75.2	3.2		41.4	43.6	15		20	53.1	22.2	4.6		
Total %	2.8	17.2	9.8	29.8	5.7	19.7	0.8	26.2	5.9	6.2	2.1	14.2	6	15.8	6.6	1.4	29.8	

	Woodland Parkway Southbound				Mission Road Westbound				Woodland Parkway Northbound				Mission Road Eastbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:30 AM																		
07:30 AM	23	155	65	243	45	117	4	166	33	64	12	109	65	88	44	7	204	722
07:45 AM	23	125	75	223	48	161	6	215	52	56	18	126	56	133	45	7	241	805
08:00 AM	30	101	129	260	44	198	5	247	78	28	13	119	57	107	62	35	261	887
08:15 AM	19	101	91	211	37	189	5	231	64	31	16	111	59	185	64	20	328	881
Total Volume	95	482	360	937	174	665	20	859	227	179	59	465	237	513	215	69	1034	3295
% App. Total	10.1	51.4	38.4		20.3	77.4	2.3		48.8	38.5	12.7		22.9	49.6	20.8	6.7		
PHF	.792	.777	.698	.901	.906	.840	.833	.869	.728	.699	.819	.923	.912	.693	.840	.493	.788	.929

City of San Marcos
N/S: Woodland Parkway
E/W: Mission Road
Weather: Clear

File Name : 05_SNM_WL_Miss AM
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	14	146	54	214	45	117	4	166	33	64	12	109	65	88	44	7	204
+15 mins.	23	155	65	243	48	161	6	215	52	56	18	126	56	133	45	7	241
+30 mins.	23	125	75	223	44	198	5	247	78	28	13	119	57	107	62	35	261
+45 mins.	30	101	129	260	37	189	5	231	64	31	16	111	59	185	64	20	328
Total Volume	90	527	323	940	174	665	20	859	227	179	59	465	237	513	215	69	1034
% App. Total	9.6	56.1	34.4		20.3	77.4	2.3		48.8	38.5	12.7		22.9	49.6	20.8	6.7	
PHF	.750	.850	.626	.904	.906	.840	.833	.869	.728	.699	.819	.923	.912	.693	.840	.493	.788

City of San Marcos
N/S: Woodland Parkway
E/W: Mission Road
Weather: Clear

File Name : 05_SNM_WL_Miss PM
Site Code : 05723782
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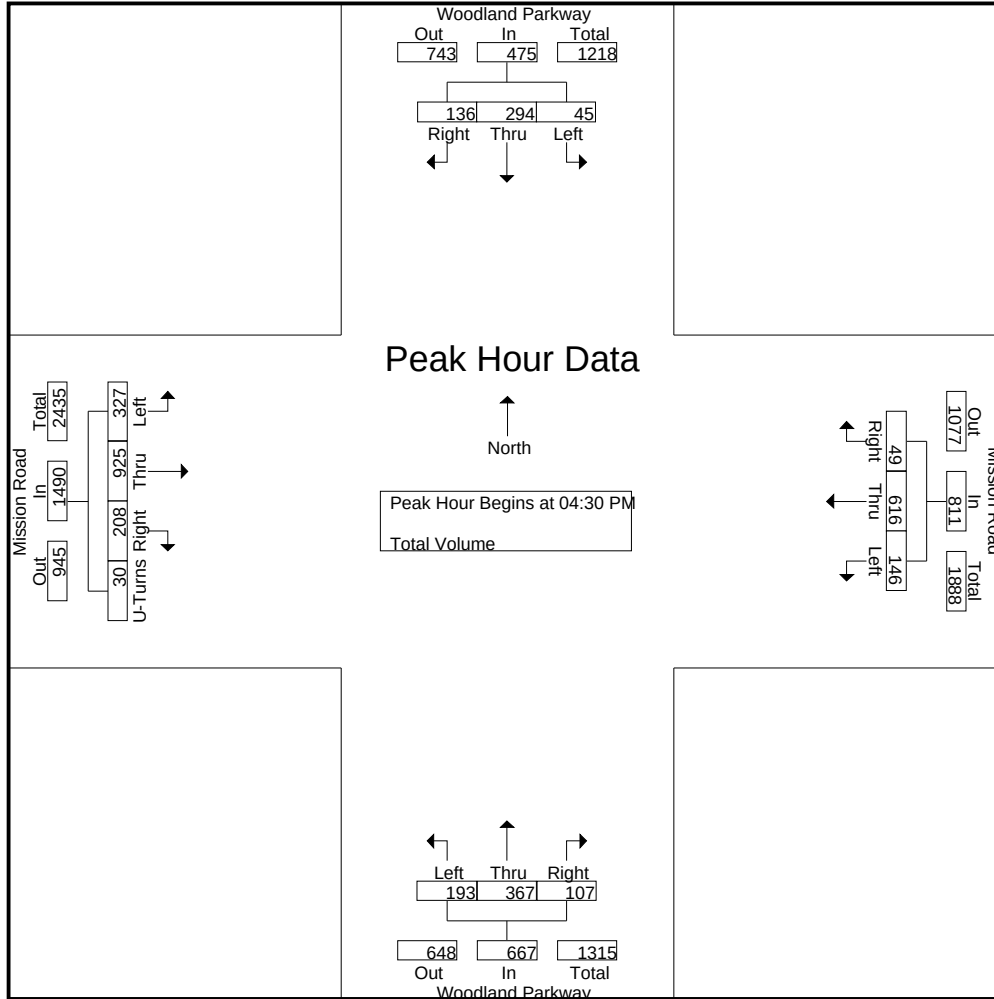
Groups Printed- Total Volume

	Woodland Parkway Southbound				Mission Road Westbound				Woodland Parkway Northbound				Mission Road Eastbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Int. Total
04:00 PM	13	53	20	86	38	136	13	187	40	84	30	154	78	194	52	5	329	756
04:15 PM	18	58	28	104	29	147	10	186	51	77	36	164	77	209	55	15	356	810
04:30 PM	13	80	28	121	28	156	11	195	43	89	25	157	80	230	58	8	376	849
04:45 PM	14	68	40	122	42	139	14	195	50	82	27	159	83	220	55	3	361	837
Total	58	259	116	433	137	578	48	763	184	332	118	634	318	853	220	31	1422	3252
05:00 PM	7	79	35	121	44	158	12	214	57	108	23	188	77	239	58	12	386	909
05:15 PM	11	67	33	111	32	163	12	207	43	88	32	163	87	236	37	7	367	848
05:30 PM	18	90	27	135	36	156	11	203	37	98	27	162	62	190	58	2	312	812
05:45 PM	10	69	24	103	37	129	14	180	45	91	33	169	67	175	52	4	298	750
Total	46	305	119	470	149	606	49	804	182	385	115	682	293	840	205	25	1363	3319
Grand Total	104	564	235	903	286	1184	97	1567	366	717	233	1316	611	1693	425	56	2785	6571
Apprch %	11.5	62.5	26		18.3	75.6	6.2		27.8	54.5	17.7		21.9	60.8	15.3	2		
Total %	1.6	8.6	3.6	13.7	4.4	18	1.5	23.8	5.6	10.9	3.5	20	9.3	25.8	6.5	0.9	42.4	

	Woodland Parkway Southbound				Mission Road Westbound				Woodland Parkway Northbound				Mission Road Eastbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:30 PM																		
04:30 PM	13	80	28	121	28	156	11	195	43	89	25	157	80	230	58	8	376	849
04:45 PM	14	68	40	122	42	139	14	195	50	82	27	159	83	220	55	3	361	837
05:00 PM	7	79	35	121	44	158	12	214	57	108	23	188	77	239	58	12	386	909
05:15 PM	11	67	33	111	32	163	12	207	43	88	32	163	87	236	37	7	367	848
Total Volume	45	294	136	475	146	616	49	811	193	367	107	667	327	925	208	30	1490	3443
% App. Total	9.5	61.9	28.6		18	76	6		28.9	55	16		21.9	62.1	14	2		
PHF	.804	.919	.850	.973	.830	.945	.875	.947	.846	.850	.836	.887	.940	.968	.897	.625	.965	.947

City of San Marcos
N/S: Woodland Parkway
E/W: Mission Road
Weather: Clear

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

	04:45 PM				04:45 PM				05:00 PM				04:30 PM				
+0 mins.	14	68	40	122	42	139	14	195	57	108	23	188	80	230	58	8	376
+15 mins.	7	79	35	121	44	158	12	214	43	88	32	163	83	220	55	3	361
+30 mins.	11	67	33	111	32	163	12	207	37	98	27	162	77	239	58	12	386
+45 mins.	18	90	27	135	36	156	11	203	45	91	33	169	87	236	37	7	367
Total Volume	50	304	135	489	154	616	49	819	182	385	115	682	327	925	208	30	1490
% App. Total	10.2	62.2	27.6		18.8	75.2	6		26.7	56.5	16.9		21.9	62.1	14	2	
PHF	.694	.844	.844	.906	.875	.945	.875	.957	.798	.891	.871	.907	.940	.968	.897	.625	.965

City of San Marcos
N/S: Woodland Parkway
E/W: Rancheros Drive
Weather: Clear

File Name : 06_SNM_WL_Ranch AM
Site Code : 05723782
Start Date : 8/31/2023
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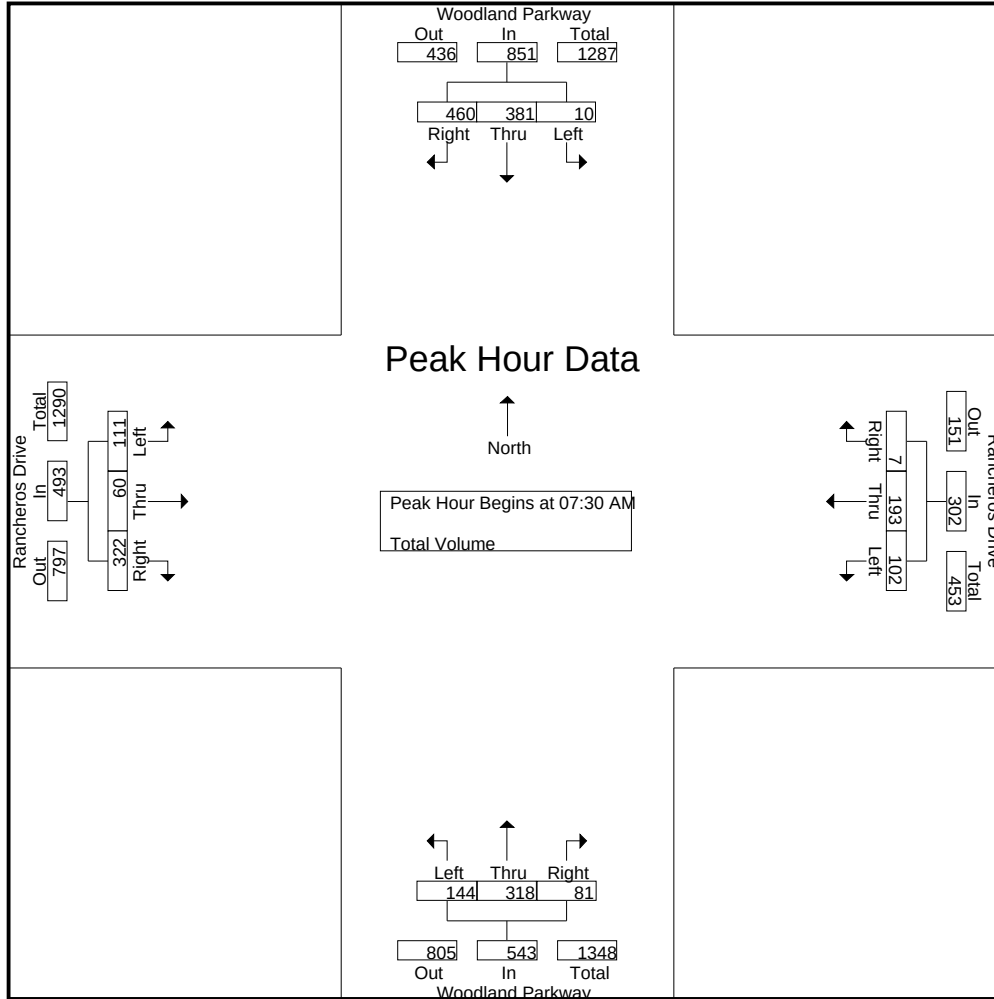
Groups Printed- Total Volume

	Woodland Parkway Southbound				Rancheros Drive Westbound				Woodland Parkway Northbound				Rancheros Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	97	132	231	10	20	1	31	19	67	13	99	18	7	76	101	462
07:15 AM	5	128	125	258	20	35	1	56	34	67	9	110	17	9	89	115	539
07:30 AM	5	91	107	203	22	53	1	76	35	84	21	140	24	10	93	127	546
07:45 AM	1	124	134	259	13	41	2	56	31	87	13	131	27	14	64	105	551
Total	13	440	498	951	65	149	5	219	119	305	56	480	86	40	322	448	2098
08:00 AM	0	75	111	186	40	54	3	97	37	82	17	136	33	18	72	123	542
08:15 AM	4	91	108	203	27	45	1	73	41	65	30	136	27	18	93	138	550
08:30 AM	1	82	112	195	29	53	3	85	34	30	7	71	16	26	84	126	477
08:45 AM	6	79	86	171	25	32	3	60	48	68	12	128	19	22	96	137	496
Total	11	327	417	755	121	184	10	315	160	245	66	471	95	84	345	524	2065
Grand Total	24	767	915	1706	186	333	15	534	279	550	122	951	181	124	667	972	4163
Apprch %	1.4	45	53.6		34.8	62.4	2.8		29.3	57.8	12.8		18.6	12.8	68.6		
Total %	0.6	18.4	22	41	4.5	8	0.4	12.8	6.7	13.2	2.9	22.8	4.3	3	16	23.3	

	Woodland Parkway Southbound				Rancheros Drive Westbound				Woodland Parkway Northbound				Rancheros Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	5	91	107	203	22	53	1	76	35	84	21	140	24	10	93	127	546
07:45 AM	1	124	134	259	13	41	2	56	31	87	13	131	27	14	64	105	551
08:00 AM	0	75	111	186	40	54	3	97	37	82	17	136	33	18	72	123	542
08:15 AM	4	91	108	203	27	45	1	73	41	65	30	136	27	18	93	138	550
Total Volume	10	381	460	851	102	193	7	302	144	318	81	543	111	60	322	493	2189
% App. Total	1.2	44.8	54.1		33.8	63.9	2.3		26.5	58.6	14.9		22.5	12.2	65.3		
PHF	.500	.768	.858	.821	.638	.894	.583	.778	.878	.914	.675	.970	.841	.833	.866	.893	.993

City of San Marcos
N/S: Woodland Parkway
E/W: Rancheros Drive
Weather: Clear

File Name : 06_SNM_WL_Ranch AM
Site Code : 05723782
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				07:30 AM				08:00 AM			
+0 mins.	2	97	132	231	40	54	3	97	35	84	21	140	33	18	72	123
+15 mins.	5	128	125	258	27	45	1	73	31	87	13	131	27	18	93	138
+30 mins.	5	91	107	203	29	53	3	85	37	82	17	136	16	26	84	126
+45 mins.	1	124	134	259	25	32	3	60	41	65	30	136	19	22	96	137
Total Volume	13	440	498	951	121	184	10	315	144	318	81	543	95	84	345	524
% App. Total	1.4	46.3	52.4		38.4	58.4	3.2		26.5	58.6	14.9		18.1	16	65.8	
PHF	.650	.859	.929	.918	.756	.852	.833	.812	.878	.914	.675	.970	.720	.808	.898	.949

City of San Marcos
N/S: Woodland Parkway
E/W: Rancheros Drive
Weather: Clear

File Name : 06_SNM_WL_Ranch PM
Site Code : 05723782
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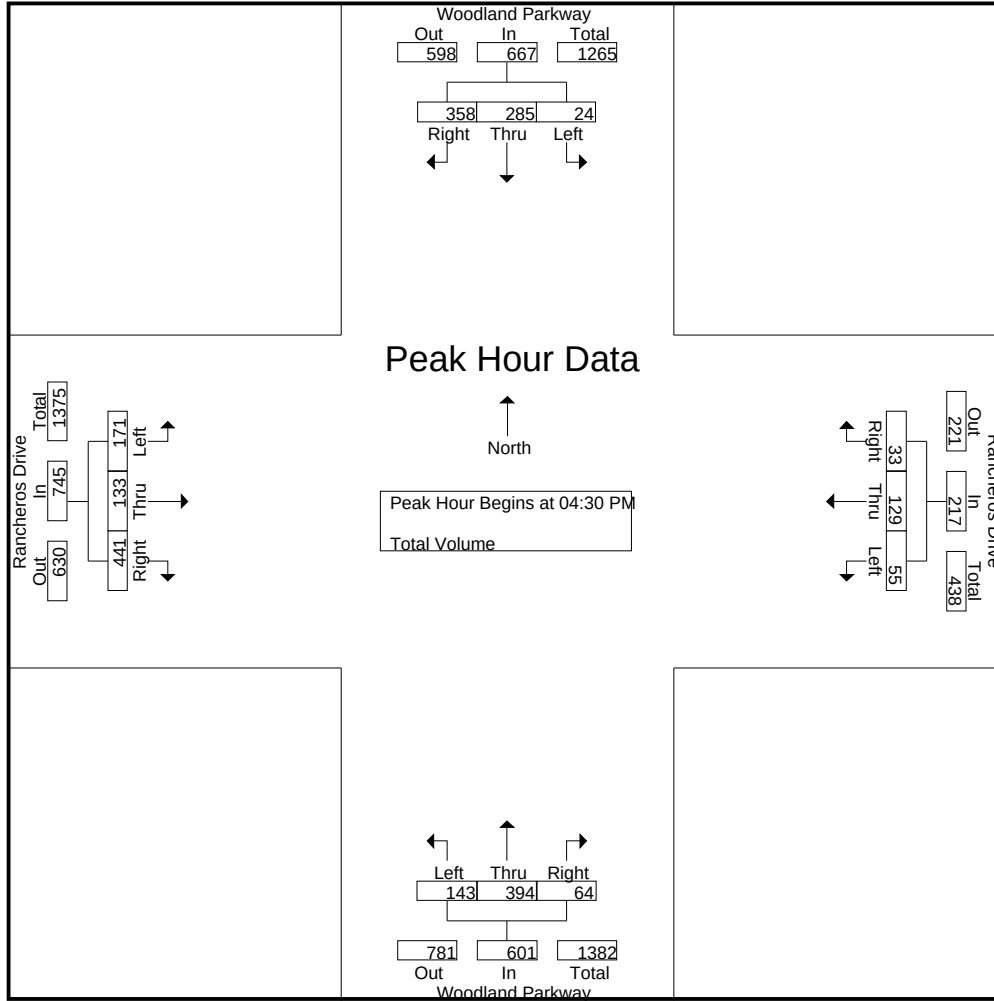
Groups Printed- Total Volume

	Woodland Parkway Southbound				Rancheros Drive Westbound				Woodland Parkway Northbound				Rancheros Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	5	56	77	138	10	42	5	57	48	91	17	156	43	33	82	158	509
04:15 PM	7	62	84	153	14	33	6	53	40	94	21	155	50	33	97	180	541
04:30 PM	5	60	93	158	12	33	4	49	39	92	16	147	42	35	102	179	533
04:45 PM	5	73	84	162	15	25	7	47	33	96	21	150	48	33	110	191	550
Total	22	251	338	611	51	133	22	206	160	373	75	608	183	134	391	708	2133
05:00 PM	9	81	93	183	12	35	15	62	36	102	14	152	40	34	128	202	599
05:15 PM	5	71	88	164	16	36	7	59	35	104	13	152	41	31	101	173	548
05:30 PM	2	87	89	178	11	32	8	51	29	108	17	154	31	21	78	130	513
05:45 PM	10	72	92	174	7	28	9	44	32	109	24	165	40	21	82	143	526
Total	26	311	362	699	46	131	39	216	132	423	68	623	152	107	389	648	2186
Grand Total	48	562	700	1310	97	264	61	422	292	796	143	1231	335	241	780	1356	4319
Apprch %	3.7	42.9	53.4		23	62.6	14.5		23.7	64.7	11.6		24.7	17.8	57.5		
Total %	1.1	13	16.2	30.3	2.2	6.1	1.4	9.8	6.8	18.4	3.3	28.5	7.8	5.6	18.1	31.4	

	Woodland Parkway Southbound				Rancheros Drive Westbound				Woodland Parkway Northbound				Rancheros Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	5	60	93	158	12	33	4	49	39	92	16	147	42	35	102	179	533
04:45 PM	5	73	84	162	15	25	7	47	33	96	21	150	48	33	110	191	550
05:00 PM	9	81	93	183	12	35	15	62	36	102	14	152	40	34	128	202	599
05:15 PM	5	71	88	164	16	36	7	59	35	104	13	152	41	31	101	173	548
Total Volume	24	285	358	667	55	129	33	217	143	394	64	601	171	133	441	745	2230
% App. Total	3.6	42.7	53.7		25.3	59.4	15.2		23.8	65.6	10.6		23	17.9	59.2		
PHF	.667	.880	.962	.911	.859	.896	.550	.875	.917	.947	.762	.988	.891	.950	.861	.922	.931

City of San Marcos
N/S: Woodland Parkway
E/W: Rancheros Drive
Weather: Clear

File Name : 06_SNM_WL_Ranch PM
Site Code : 05723782
Start Date : 8/31/2023
Page No : 2



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

	05:00 PM				04:45 PM				05:00 PM				04:15 PM			
+0 mins.	9	81	93	183	15	25	7	47	36	102	14	152	50	33	97	180
+15 mins.	5	71	88	164	12	35	15	62	35	104	13	152	42	35	102	179
+30 mins.	2	87	89	178	16	36	7	59	29	108	17	154	48	33	110	191
+45 mins.	10	72	92	174	11	32	8	51	32	109	24	165	40	34	128	202
Total Volume	26	311	362	699	54	128	37	219	132	423	68	623	180	135	437	752
% App. Total	3.7	44.5	51.8		24.7	58.4	16.9		21.2	67.9	10.9		23.9	18	58.1	
PHF	.650	.894	.973	.955	.844	.889	.617	.883	.917	.970	.708	.944	.900	.964	.854	.931

Intersection Turning Movement - Peak Hour Vehicle Count



Location: #01	File Name: ITM-24-001-01
Intersection: Woodland Parkway and E. Barham Drive	Project: LLG Ref. 3-23-3760
Date of Count: Tuesday January 09, 2024	San Marcos Industrial

AM	Woodland Parkway Southbound			E. Barham Drive Westbound			- Northbound			E. Barham Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	49	0	69	0	28	30	0	0	0	55	99	0	330
7:15	67	0	76	0	41	34	0	0	0	49	121	0	388
7:30	64	0	105	0	59	42	0	0	0	68	139	0	477
7:45	61	0	124	0	58	36	0	0	0	72	138	0	489
8:00	34	0	72	0	48	26	0	0	0	64	118	0	362
8:15	46	0	99	0	57	42	0	0	0	76	116	0	436
8:30	53	0	79	0	49	32	0	0	0	94	123	0	430
8:45	88	0	77	0	34	50	0	0	0	80	112	0	441
Total	462	0	701	0	374	292	0	0	0	558	966	0	3353
Approach%	39.7	-	60.3	-	56.2	43.8	-	-	-	36.6	63.4	-	
Total%	13.8	-	20.9	-	11.2	8.7	-	-	-	16.6	28.8	-	

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

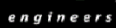
Volume	205	-	400	-	222	146	-	-	-	280	511	-	1,764
Approach%	33.9	-	66.1	-	60.3	39.7	-	-	-	35.4	64.6	-	
Total%	11.6	-	22.7	-	12.6	8.3	-	-	-	15.9	29.0	-	
PHF			0.82			0.91			#DIV/0!			0.94	0.90

PM	Woodland Parkway Southbound			E. Barham Drive Westbound			- Northbound			E. Barham Drive Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	129	0	71	0	45	60	0	0	0	93	138	0	536
16:15	90	0	62	0	44	49	0	0	0	107	143	0	495
16:30	88	0	67	0	41	42	0	0	0	105	125	0	468
16:45	115	0	64	0	46	40	0	0	0	123	151	0	539
17:00	95	0	63	0	56	44	0	0	0	99	179	0	536
17:15	103	0	68	0	47	29	0	0	0	119	182	0	548
17:30	84	0	48	0	57	37	0	0	0	110	127	0	463
17:45	82	0	74	0	47	21	0	0	0	99	111	0	434
Total	786	0	517	0	383	322	0	0	0	855	1156	0	4019
Approach%	60.3	-	39.7	-	54.3	45.7	-	-	-	42.5	57.5	-	
Total%	19.6	-	12.9	-	9.5	8.0	-	-	-	21.3	28.8	-	

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

Volume	401	-	262	-	190	155	-	-	-	446	637	-	2,091
Approach%	60.5	-	39.5	-	55.1	44.9	-	-	-	41.2	58.8	-	
Total%	19.2	-	12.5	-	9.1	7.4	-	-	-	21.3	30.5	-	
PHF			0.93			0.86			#DIV/0!			0.90	0.95

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN 	Location: #01	File Name: ITM-24-001-01
	Intersection: Woodland Parkway and E. Barham Drive	Project: LLG Ref. 3-23-3760
	Date of Count: Tuesday January 09, 2024	San Marcos Industrial

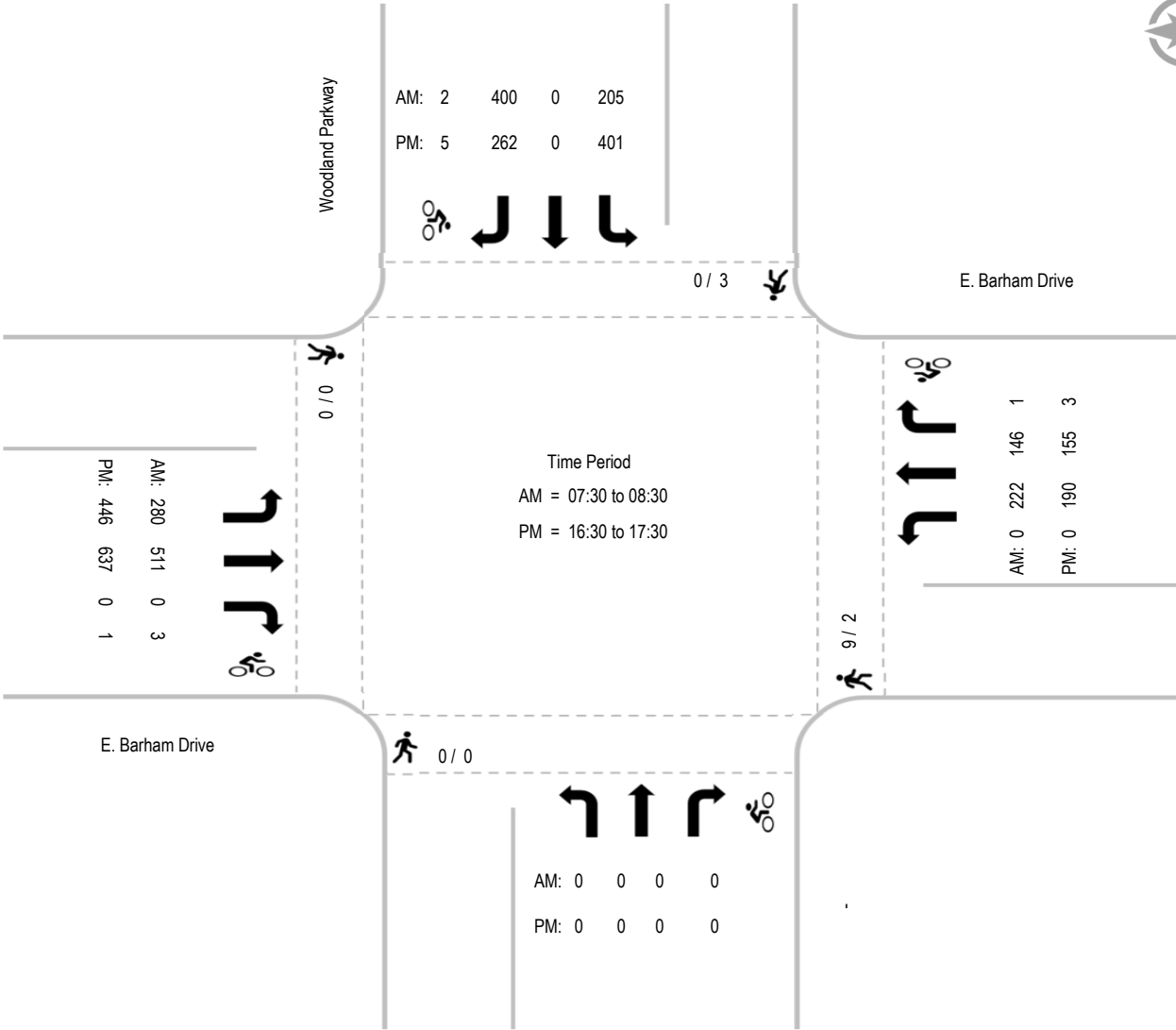
AM	Woodland Parkway Southbound				E. Barham Drive Westbound				- Northbound				E. Barham Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	1
8:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
8:15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
8:45	0	0	0	0	6	0	1	0	0	0	0	0	0	1	0	0	6	2
Ped Total	0				9				0				0				9	
Bike Total		0	0	2		0	1	0		0	0	0		3	0	0		6

PM	Woodland Parkway Southbound				E. Barham Drive Westbound				- Northbound				E. Barham Drive 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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
16:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:30	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1
16:45	0	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	1	3
17:00	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ped Total	3				2				0				0				5	
Bike Total		3	0	2		0	1	2		0	0	0		0	1	0		9

Intersection Turning Movement - Peak Hour Summary



Location:	#01	File Name:	ITM-24-001-01
Intersection:	Woodland Parkway and E. Barham Drive	Project:	LLG Ref. 3-23-3760
Date of Count:	Tuesday January 09, 2024		San Marcos Industrial



Counts Unlimited, Inc.

City of San Marcos
Mulberry Drive
B/ Borden Road - Mission Road
24 Hour Directional Volume Count

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

SNM002
Site Code: 057-23782

Start Time	8/31/23 Thu	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		13	81			7	110				
12:15		10	66			3	109				
12:30		9	54			11	137				
12:45		4	77	36	278	10	174	31	530	67	808
01:00		4	84			2	132				
01:15		2	78			2	104				
01:30		3	87			15	135				
01:45		3	69	12	318	12	84	31	455	43	773
02:00		2	68			2	108				
02:15		1	76			8	137				
02:30		2	80			20	126				
02:45		3	106	8	330	21	198	51	569	59	899
03:00		2	111			7	153				
03:15		2	147			13	274				
03:30		3	179			12	256				
03:45		1	136	8	573	15	179	47	862	55	1435
04:00		0	152			15	135				
04:15		4	128			19	162				
04:30		2	156			38	164				
04:45		0	137	6	573	36	203	108	664	114	1237
05:00		5	155			53	154				
05:15		7	174			70	152				
05:30		7	156			95	189				
05:45		25	168	44	653	83	153	301	648	345	1301
06:00		15	122			91	132				
06:15		13	138			122	178				
06:30		20	100			113	147				
06:45		30	107	78	467	193	134	519	591	597	1058
07:00		47	79			233	112				
07:15		56	81			276	105				
07:30		55	85			309	103				
07:45		78	98	236	343	421	92	1239	412	1475	755
08:00		109	56			483	90				
08:15		124	76			287	61				
08:30		73	65			240	60				
08:45		56	61	362	258	255	81	1265	292	1627	550
09:00		56	60			160	44				
09:15		38	52			127	46				
09:30		34	37			138	34				
09:45		44	40	172	189	103	28	528	152	700	341
10:00		34	29			156	28				
10:15		44	28			124	24				
10:30		63	29			104	21				
10:45		35	21	176	107	114	23	498	96	674	203
11:00		50	18			123	15				
11:15		59	17			112	13				
11:30		63	11			130	8				
11:45		63	12	235	58	110	9	475	45	710	103
Total		1373	4147	1373	4147	5093	5316	5093	5316	6466	9463
Combined Total		5520		5520		10409		10409		15929	
AM Peak	-	07:45	-	-	-	07:30	-	-	-	-	-
Vol.	-	384	-	-	-	1500	-	-	-	-	-
P.H.F.		0.774				0.776					
PM Peak	-	-	05:00	-	-	-	02:45	-	-	-	-
Vol.	-	-	653	-	-	-	881	-	-	-	-
P.H.F.			0.938				0.804				
Percentage		24.9%	75.1%			48.9%	51.1%				
ADT/AADT		ADT 15,929	AADT 15,929								

Counts Unlimited, Inc.

City of San Marcos
Mission Road
B/ Woodward Street - Falcon Place
24 Hour Directional Volume Count

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

SNM001
Site Code: 057-23782

Start Time	8/31/23 Thu	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		13	132			13	127				
12:15		15	153			14	115				
12:30		10	141			13	107				
12:45		9	159	47	585	15	162	55	511	102	1096
01:00		9	136			7	147				
01:15		4	138			11	123				
01:30		8	144			5	160				
01:45		5	129	26	547	11	110	34	540	60	1087
02:00		11	176			7	138				
02:15		0	193			4	123				
02:30		4	240			7	191				
02:45		3	298	18	907	7	158	25	610	43	1517
03:00		3	354			4	168				
03:15		5	400			6	243				
03:30		5	322			6	428				
03:45		5	335	18	1411	11	283	27	1122	45	2533
04:00		3	374			5	199				
04:15		10	355			12	180				
04:30		14	394			28	199				
04:45		17	397	44	1520	19	228	64	806	108	2326
05:00		19	365			25	203				
05:15		31	419			48	208				
05:30		58	314			43	231				
05:45		86	352	194	1450	46	202	162	844	356	2294
06:00		60	288			68	147				
06:15		64	221			97	126				
06:30		76	174			103	131				
06:45		104	152	304	835	141	163	409	567	713	1402
07:00		139	115			184	118				
07:15		156	140			239	91				
07:30		190	123			315	99				
07:45		318	128	803	506	345	85	1083	393	1886	899
08:00		306	89			425	86				
08:15		197	110			414	89				
08:30		113	111			282	58				
08:45		132	91	748	401	249	60	1370	293	2118	694
09:00		119	86			183	56				
09:15		89	61			121	50				
09:30		94	55			131	35				
09:45		85	55	387	257	122	29	557	170	944	427
10:00		106	48			135	26				
10:15		107	32			118	35				
10:30		109	39			127	20				
10:45		124	33	446	152	132	24	512	105	958	257
11:00		132	23			113	27				
11:15		146	32			125	21				
11:30		113	21			102	23				
11:45		128	26	519	102	111	10	451	81	970	183
Total		3554	8673	3554	8673	4749	6042	4749	6042	8303	14715
Combined Total		12227		12227		10791		10791		23018	
AM Peak	-	07:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	1011	-	-	-	1499	-	-	-	-	-
P.H.F.		0.795				0.882					
PM Peak	-	-	04:30	-	-	-	03:15	-	-	-	-
Vol.	-	-	1575	-	-	-	1153	-	-	-	-
P.H.F.			0.940				0.673				
Percentage		29.1%	70.9%			44.0%	56.0%				
ADT/AADT		ADT 23,018	AADT 23,018								

Counts Unlimited, Inc.

City of San Marcos
Mission Road
B/ Mulberry Drive - Woodland Parkway
24 Hour Directional Volume Count

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

SNM003
Site Code: 057-23782

Start Time	8/31/23 Thu	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		10	116			20	131				
12:15		9	148			9	108				
12:30		8	133			9	116				
12:45		11	156	38	553	11	151	49	506	87	1059
01:00		9	125			2	157				
01:15		3	131			3	148				
01:30		12	136			7	152				
01:45		4	115	28	507	10	102	22	559	50	1066
02:00		7	159			5	140				
02:15		7	209			2	146				
02:30		5	228			4	173				
02:45		10	266	29	862	8	162	19	621	48	1483
03:00		9	324			4	165				
03:15		2	365			3	289				
03:30		10	402			8	326				
03:45		7	279	28	1370	7	247	22	1027	50	2397
04:00		4	315			7	183				
04:15		18	317			11	190				
04:30		16	359			19	230				
04:45		25	366	63	1357	19	236	56	839	119	2196
05:00		24	315			31	223				
05:15		33	333			33	229				
05:30		66	286			44	232				
05:45		68	274	191	1208	62	230	170	914	361	2122
06:00		67	244			62	151				
06:15		88	187			71	165				
06:30		115	140			82	154				
06:45		145	146	415	717	109	126	324	596	739	1313
07:00		164	117			139	106				
07:15		189	119			187	99				
07:30		239	100			255	99				
07:45		324	99	916	435	303	90	884	394	1800	829
08:00		326	104			361	77				
08:15		221	84			377	95				
08:30		127	82			210	65				
08:45		135	66	809	336	177	77	1125	314	1934	650
09:00		125	71			148	53				
09:15		101	52			114	63				
09:30		98	41			105	36				
09:45		80	55	404	219	120	34	487	186	891	405
10:00		122	42			95	23				
10:15		99	21			90	26				
10:30		97	30			112	27				
10:45		104	26	422	119	117	24	414	100	836	219
11:00		133	20			93	26				
11:15		114	28			101	28				
11:30		113	16			93	12				
11:45		114	15	474	79	104	7	391	73	865	152
Total		3817	7762	3817	7762	3963	6129	3963	6129	7780	13891
Combined Total		11579		11579		10092		10092		21671	
AM Peak	-	07:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	1110	-	-	-	1296	-	-	-	-	-
P.H.F.		0.851				0.859					
PM Peak	-	-	04:30	-	-	-	03:15	-	-	-	-
Vol.	-	-	1373	-	-	-	1045	-	-	-	-
P.H.F.			0.854				0.801				
Percentage		33.0%	67.0%			39.3%	60.7%				
ADT/AADT		ADT 21,671	AADT 21,671								

Counts Unlimited, Inc.

City of San Marcos
Woodland Parkway
B/ Mission Road - Rancheros Drive
24 Hour Directional Volume Count

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

SNM004
Site Code: 057-23782

Start Time	8/31/23 Thu	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		27	141			7	93				
12:15		16	127			5	92				
12:30		8	122			3	115				
12:45		14	129	65	519	2	135	17	435	82	954
01:00		10	121			0	109				
01:15		8	101			0	115				
01:30		8	94			11	103				
01:45		4	129	30	445	7	107	18	434	48	879
02:00		7	152			7	107				
02:15		6	128			3	126				
02:30		8	148			4	130				
02:45		7	107	28	535	4	120	18	483	46	1018
03:00		4	120			3	157				
03:15		6	119			8	187				
03:30		6	140			8	148				
03:45		8	133	24	512	8	151	27	643	51	1155
04:00		7	126			8	130				
04:15		6	136			15	120				
04:30		9	134			17	146				
04:45		10	142	32	538	36	135	76	531	108	1069
05:00		15	147			31	137				
05:15		21	137			19	117				
05:30		29	142			48	146				
05:45		41	150	106	576	51	130	149	530	255	1106
06:00		46	120			23	112				
06:15		44	124			51	144				
06:30		59	144			91	115				
06:45		59	123	208	511	50	87	215	458	423	969
07:00		75	125			130	80				
07:15		89	139			36	88				
07:30		97	125			159	69				
07:45		112	136	373	525	202	77	527	314	900	839
08:00		118	121			154	89				
08:15		87	127			140	72				
08:30		42	111			156	46				
08:45		81	89	328	448	116	41	566	248	894	696
09:00		63	120			148	45				
09:15		87	88			146	34				
09:30		87	64			131	36				
09:45		82	67	319	339	133	29	558	144	877	483
10:00		93	60			125	34				
10:15		82	50			103	31				
10:30		94	52			119	23				
10:45		90	45	359	207	123	18	470	106	829	313
11:00		119	35			103	21				
11:15		109	35			100	11				
11:30		116	25			114	18				
11:45		110	16	454	111	97	7	414	57	868	168
Total		2326	5266	2326	5266	3055	4383	3055	4383	5381	9649
Combined Total		7592		7592		7438		7438		15030	
AM Peak	-	11:00	-	-	-	07:30	-	-	-	-	-
Vol.	-	454	-	-	-	655	-	-	-	-	-
P.H.F.		0.954				0.811					
PM Peak	-	-	05:00	-	-	-	03:00	-	-	-	-
Vol.	-	-	576	-	-	-	643	-	-	-	-
P.H.F.			0.960				0.860				
Percentage		30.6%	69.4%			41.1%	58.9%				
ADT/AADT		ADT 15,030	AADT 15,030								

Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **BC 24-002 Woodland Parkway between Rancheros Drive & E Barham Drive**

Date: Tuesday, January 9, 2024					Total Daily Volume: 21975										Description: Total Volume									
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
70	41	42	53	112	341	824	1555	1468	1306	1194	1436	1491	1451	1807	1709	1978	1789	1169	848	538	409	218	126	
24	12	11	7	14	42	151	278	277	413	297	363	428	398	498	370	519	490	347	265	157	134	55	41	
14	9	6	10	17	66	162	309	388	323	225	353	387	357	455	409	463	529	272	242	143	99	54	31	
19	9	15	20	24	93	225	438	332	276	335	338	341	319	474	465	478	401	302	162	128	76	69	29	
13	11	10	16	57	140	286	530	471	294	337	382	335	377	380	465	518	369	248	179	110	100	40	25	

Date: Tuesday, January 9, 2024					Total Daily Volume: 12109												Description: Northbound Volume							
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
48	24	22	33	54	132	343	695	767	703	675	801	892	829	1039	871	1073	972	735	561	360	269	125	86	
17	8	6	4	6	13	80	139	162	224	180	225	265	193	302	176	271	255	222	175	111	95	27	25	
9	6	5	6	11	22	73	133	188	155	134	201	224	234	276	214	261	296	157	160	96	67	33	23	
12	4	6	14	15	32	76	200	177	161	180	159	213	168	281	241	259	237	196	100	80	55	39	18	
10	6	5	9	22	65	114	223	240	163	181	216	190	234	180	240	282	184	160	126	73	52	26	20	

Date: Tuesday, January 9, 2024					Total Daily Volume: 9866										Description: Southbound Volume									
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
22	17	20	20	58	209	481	860	701	603	519	635	599	622	768	838	905	817	434	287	178	140	93	40	
7	4	5	3	8	29	71	139	115	189	117	138	163	205	196	194	248	235	125	90	46	39	28	16	
5	3	1	4	6	44	89	176	200	168	91	152	163	123	179	195	202	233	115	82	47	32	21	8	
7	5	9	6	9	61	149	238	155	115	155	179	128	151	193	224	219	164	106	62	48	21	30	11	
3	5	5	7	35	75	172	307	231	131	156	166	145	143	200	225	236	185	88	53	37	48	14	5	

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APPENDIX B

CITY OF SAN MARCOS ROADWAY CLASSIFICATION TABLE

Table 3: Roadway Classifications, Capacity, and LOS

Street Classification	Lanes	LOS A	LOS B	LOS C	LOS D	LOS E (Capacity)
Expressway	6	30,000	42,000	60,000	70,000	80,000
Prime Arterial	6	25,000	35,000	50,000	55,000	60,000
Major Arterial	6	20,000	28,000	40,000	45,000	50,000
Major Arterial	4	15,000	21,000	30,000	35,000	40,000
Major Arterial (One-Way)	3	12,500	16,500	22,500	25,000	27,500
Major Arterial (One-Way)	2	10,000	13,000	17,500	20,000	22,500
Secondary Arterial/Collector	4	10,000	14,000	20,000	25,000	30,000
Collector (no center lane)	4	5,000	7,000	10,000	13,000	15,000
Collector (continuous left-turn lane)	2	5,000	7,000	10,000	13,000	15,000
Collector (no fronting property)	2	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2	2,500	3,500	5,000	6,500	8,000
Collector (multi-family)	2	2,500	3,500	5,000	6,500	8,000
Collector (one-way)	3	11,000	14,000	19,000	22,500	26,000
Collector (one-way)	2	7,500	9,500	12,500	15,000	17,500
Collector (one-way)	1	2,500	3,500	5,000	6,500	7,500
Sub-Collector (single-family)	2	--	--	2,200	--	--

Source: *Guidelines for Transportation Impact Studies in the San Diego Region* (May 2019)

Notes: 1. The volumes and the average daily level of service listed above are only intended as a general planning outline.

2. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

3.7. 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. The local transportation analysis should note intersections and roadway segments that perform unacceptably (based on standards in the current General Plan Mobility Element) under no project and/or plus project conditions, and improvements that can be applied to increase performance to acceptable levels.

For study intersections, the study should identify if the addition of the traffic generated from the proposed project results in any one of the following, and 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 average delay per vehicle by more than 2.0 seconds.
- ▶ Increases the average delay per vehicle for a study intersection that is already operating at unacceptable LOS by more than 2.0 seconds.

APPENDIX C

EXISTING INTERSECTION ANALYSIS WORKSHEETS

HCM 6th Signalized Intersection Summary

1: Mulberry Dr & Borden Rd

Ex AM
02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	281	248	334	555	30	97	149	122	51	245	23
Future Volume (veh/h)	14	281	248	334	555	30	97	149	122	51	245	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	16	312	276	367	610	33	154	237	194	68	327	31
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.63	0.63	0.63	0.75	0.75	0.75
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	136	315	279	430	692	37	185	651	271	185	597	56
Arrive On Green	0.08	0.35	0.35	0.13	0.40	0.40	0.10	0.18	0.18	0.10	0.18	0.18
Sat Flow, veh/h	1767	895	792	3428	1742	94	1767	3526	1469	1767	3235	304
Grp Volume(v), veh/h	16	0	588	367	0	643	154	237	194	68	177	181
Grp Sat Flow(s),veh/h/ln	1767	0	1687	1714	0	1836	1767	1763	1469	1767	1763	1776
Q Serve(g_s), s	0.8	0.0	31.5	9.5	0.0	29.5	7.8	5.3	11.3	3.3	8.3	8.4
Cycle Q Clear(g_c), s	0.8	0.0	31.5	9.5	0.0	29.5	7.8	5.3	11.3	3.3	8.3	8.4
Prop In Lane	1.00		0.47	1.00		0.05	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	136	0	594	430	0	729	185	651	271	185	325	328
V/C Ratio(X)	0.12	0.00	0.99	0.85	0.00	0.88	0.83	0.36	0.72	0.37	0.54	0.55
Avail Cap(c_a), veh/h	136	0	594	430	0	729	185	1024	427	185	512	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	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	29.3	38.9	0.0	25.4	39.9	32.4	34.8	37.9	33.6	33.6
Incr Delay (d2), s/veh	1.8	0.0	34.5	18.9	0.0	14.5	33.7	0.3	3.5	5.6	1.4	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	0.4	0.0	17.6	5.0	0.0	14.7	4.9	2.2	4.1	1.6	3.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	0.0	63.7	57.8	0.0	39.9	73.6	32.7	38.3	43.5	35.0	35.1
LnGrp LOS	D	A	E	E	A	D	E	C	D	D	C	D
Approach Vol, veh/h		604			1010			585			426	
Approach Delay, s/veh		63.1			46.4			45.3			36.4	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	22.8	16.0	37.7	14.4	22.8	11.9	41.8				
Change Period (Y+Rc), s	* 4.9	* 6	* 4.6	* 5.7	* 4.9	* 6	* 4.9	* 5.7				
Max Green Setting (Gmax), s	* 9.5	* 26	* 11	* 32	* 9.5	* 26	* 7	* 36				
Max Q Clear Time (g_c+I1), s	5.3	13.3	11.5	33.5	9.8	10.4	2.8	31.5				
Green Ext Time (p_c), s	0.0	1.7	0.0	0.0	0.0	1.6	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			48.4									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

2: N Twin Oaks Valley Rd & W San Marcos Blvd/E San Marcos Blvd

Ex AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	360	345	501	461	25	217	362	433	90	720	215
Future Volume (veh/h)	136	360	345	501	461	25	217	362	433	90	720	215
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		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	155	409	392	551	507	27	252	421	503	95	758	226
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.86	0.86	0.86	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	220	1058	984	416	1215	65	220	1536	860	203	1136	339
Arrive On Green	0.06	0.30	0.30	0.12	0.36	0.36	0.06	0.44	0.44	0.06	0.43	0.43
Sat Flow, veh/h	3428	3526	2687	3428	3399	181	3428	3526	1535	3428	2660	793
Grp Volume(v), veh/h	155	409	392	551	262	272	252	421	503	95	502	482
Grp Sat Flow(s),veh/h/ln	1714	1763	1344	1714	1763	1817	1714	1763	1535	1714	1763	1690
Q Serve(g_s), s	6.2	12.9	15.2	17.0	15.7	15.8	9.0	10.7	30.2	3.8	32.0	32.0
Cycle Q Clear(g_c), s	6.2	12.9	15.2	17.0	15.7	15.8	9.0	10.7	30.2	3.8	32.0	32.0
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	220	1058	984	416	630	649	220	1536	860	203	753	722
V/C Ratio(X)	0.70	0.39	0.40	1.32	0.42	0.42	1.14	0.27	0.59	0.47	0.67	0.67
Avail Cap(c_a), veh/h	269	1058	984	416	630	649	220	1536	860	203	753	722
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	64.2	38.8	33.1	61.5	34.0	34.0	65.5	25.3	20.4	63.7	32.1	32.1
Incr Delay (d2), s/veh	6.2	1.1	1.2	161.5	2.0	2.0	104.7	0.4	2.9	7.5	4.6	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	5.8	5.0	16.7	7.2	7.4	7.1	4.5	10.9	1.8	14.1	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.5	39.9	34.3	223.0	36.0	36.0	170.2	25.8	23.3	71.2	36.8	37.0
LnGrp LOS	E	D	C	F	D	D	F	C	C	E	D	D
Approach Vol, veh/h	956			1085			1176			1079		
Approach Delay, s/veh	42.6			131.0			55.7			39.9		
Approach LOS	D			F			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	49.4	16.0	68.1	16.0	57.4	14.8	69.3				
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	42.0	42.0	9.0	* 43	11.0	48.0	8.3	44.0				
Max Q Clear Time (g_c+119), s	17.2	17.2	11.0	34.0	8.2	17.8	5.8	32.2				
Green Ext Time (p_c), s	0.0	4.6	0.0	4.0	0.1	3.5	0.0	3.6				

Intersection Summary

HCM 6th Ctrl Delay 67.8
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.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

3: San Marcos Blvd/Woodward St & E Mission Rd

Ex AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	497	59	628	793	93	20	58	470	37	360	86
Future Volume (veh/h)	30	497	59	628	793	93	20	58	470	37	360	86
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		0.98	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	39	645	77	714	901	106	26	74	603	45	439	105
Peak Hour Factor	0.77	0.77	0.77	0.88	0.88	0.88	0.78	0.78	0.78	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	80	783	337	788	1434	624	81	1062	460	85	832	197
Arrive On Green	0.05	0.22	0.22	0.23	0.41	0.41	0.05	0.30	0.30	0.05	0.30	0.30
Sat Flow, veh/h	1767	3526	1517	3428	3526	1534	1767	3526	1527	1767	2809	666
Grp Volume(v), veh/h	39	645	77	714	901	106	26	74	603	45	274	270
Grp Sat Flow(s),veh/h/ln	1767	1763	1517	1714	1763	1534	1767	1763	1527	1767	1763	1712
Q Serve(g_s), s	2.9	23.7	5.7	27.6	27.7	6.0	1.9	2.0	41.0	3.4	17.6	17.9
Cycle Q Clear(g_c), s	2.9	23.7	5.7	27.6	27.7	6.0	1.9	2.0	41.0	3.4	17.6	17.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	80	783	337	788	1434	624	81	1062	460	85	522	507
V/C Ratio(X)	0.49	0.82	0.23	0.91	0.63	0.17	0.32	0.07	1.31	0.53	0.52	0.53
Avail Cap(c_a), veh/h	117	959	413	932	1697	738	130	1062	460	104	522	507
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	63.4	50.4	43.3	51.0	32.2	25.7	62.8	33.9	47.5	63.3	39.9	40.0
Incr Delay (d2), s/veh	4.5	4.9	0.3	11.0	0.6	0.1	2.2	0.0	154.6	5.0	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	10.7	2.2	12.7	11.5	0.0	0.9	0.9	35.2	1.6	7.8	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.9	55.3	43.7	62.0	32.7	25.8	65.1	33.9	202.1	68.3	40.9	41.1
LnGrp LOS	E	E	D	E	C	C	E	C	F	E	D	D
Approach Vol, veh/h	761			1721			703			589		
Approach Delay, s/veh	54.7			44.4			179.4			43.1		
Approach LOS	D			D			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	38.3	37.2	13.3	47.3	13.2	62.3	12.5	48.0				
Change Period (Y+Rc), s	7.0	7.0	7.0	* 7	7.0	* 7	6.0	7.0				
Max Green Setting (Gmax), s	37.0	37.0	10.0	* 39	9.0	* 66	8.0	41.0				
Max Q Clear Time (g_c+29.6)	29.6	25.7	3.9	19.9	4.9	29.7	5.4	43.0				
Green Ext Time (p_c), s	1.7	3.2	0.0	3.2	0.0	7.2	0.0	0.0				

Intersection Summary

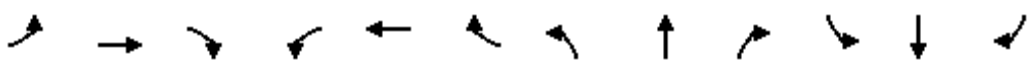
HCM 6th Ctrl Delay 71.4
HCM 6th LOS E

Notes

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

HCM 6th Signalized Intersection Summary 5: E Mission Rd & Mulberry Dr

Ex AM
02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	898	0	5	1143	265	0	0	0	474	0	338
Future Volume (veh/h)	128	898	0	5	1143	265	0	0	0	474	0	338
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		0.98	1.00		1.00	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	158	1109	0	5	1411	327	0	0	0	564	0	402
Peak Hour Factor	0.81	0.81	0.92	0.92	0.81	0.81	0.92	0.92	0.92	0.84	0.92	0.84
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	216	3046	0	16	1983	458	0	1	0	931	0	401
Arrive On Green	0.12	0.60	0.00	0.01	0.48	0.48	0.00	0.00	0.00	0.26	0.00	0.26
Sat Flow, veh/h	1767	5233	0	1767	4091	945	0	1856	0	3534	0	1523
Grp Volume(v), veh/h	158	1109	0	5	1164	574	0	0	0	564	0	402
Grp Sat Flow(s),veh/h/ln	1767	1689	0	1767	1689	1660	0	1856	0	1767	0	1523
Q Serve(g_s), s	12.9	16.8	0.0	0.4	40.6	40.9	0.0	0.0	0.0	21.0	0.0	39.5
Cycle Q Clear(g_c), s	12.9	16.8	0.0	0.4	40.6	40.9	0.0	0.0	0.0	21.0	0.0	39.5
Prop In Lane	1.00		0.00	1.00		0.57	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	3046	0	16	1637	804	0	1	0	931	0	401
V/C Ratio(X)	0.73	0.36	0.00	0.32	0.71	0.71	0.00	0.00	0.00	0.61	0.00	1.00
Avail Cap(c_a), veh/h	216	3046	0	82	1637	804	0	111	0	931	0	401
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	0.00	0.00	0.00	0.62	0.00	0.62
Uniform Delay (d), s/veh	63.5	15.3	0.0	73.9	30.4	30.5	0.0	0.0	0.0	48.4	0.0	55.2
Incr Delay (d2), s/veh	19.7	0.3	0.0	11.5	2.7	5.4	0.0	0.0	0.0	0.7	0.0	36.0
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	6.9	6.3	0.0	0.2	16.5	16.9	0.0	0.0	0.0	9.2	0.0	19.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.2	15.6	0.0	85.4	33.0	35.8	0.0	0.0	0.0	49.1	0.0	91.2
LnGrp LOS	F	B	A	F	C	D	A	A	A	D	A	F
Approach Vol, veh/h	1267			1743			0			966		
Approach Delay, s/veh	24.0			34.1			0.0			66.6		
Approach LOS	C			C						E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	96.7		46.0	24.8	79.2		0.0				
Change Period (Y+Rc), s	6.0	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	7.0	69.0		39.5	18.3	57.2		9.0				
Max Q Clear Time (g_c+I1), s	2.4	18.8		41.5	14.9	42.9		0.0				
Green Ext Time (p_c), s	0.0	9.1		0.0	0.1	9.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay 38.8
HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

6: Woodland Pkwy & E Mission Rd

Ex AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	306	513	215	174	665	20	227	179	59	95	482	360
Future Volume (veh/h)	306	513	215	174	665	20	227	179	59	95	482	360
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		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	387	649	0	200	764	23	247	195	64	106	536	400
Peak Hour Factor	0.79	0.79	0.79	0.87	0.87	0.87	0.92	0.92	0.92	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	339	1025		382	1062	32	260	1014	439	131	1008	436
Arrive On Green	0.19	0.29	0.00	0.11	0.21	0.21	0.08	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	1767	3526	1572	3428	5047	152	3428	3526	1526	1767	3526	1525
Grp Volume(v), veh/h	387	649	0	200	511	276	247	195	64	106	536	400
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1689	1822	1714	1763	1526	1767	1763	1525
Q Serve(g_s), s	21.5	18.0	0.0	6.2	15.8	15.8	8.0	4.7	3.5	6.6	14.4	28.5
Cycle Q Clear(g_c), s	21.5	18.0	0.0	6.2	15.8	15.8	8.0	4.7	3.5	6.6	14.4	28.5
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	339	1025		382	711	383	260	1014	439	131	1008	436
V/C Ratio(X)	1.14	0.63		0.52	0.72	0.72	0.95	0.19	0.15	0.81	0.53	0.92
Avail Cap(c_a), veh/h	339	1241		382	918	495	260	1043	452	131	1037	449
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	34.6	0.0	47.0	41.2	41.2	51.6	30.1	29.7	51.2	33.7	38.8
Incr Delay (d2), s/veh	93.4	0.8	0.0	5.1	1.9	3.6	44.5	0.1	0.2	40.1	0.5	23.3
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	7.8	7.5	0.0	2.8	6.5	7.2	5.0	2.0	1.3	4.3	6.1	13.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	138.8	35.3	0.0	52.1	43.1	44.8	96.1	30.2	29.9	91.3	34.2	62.1
LnGrp LOS	F	D		D	D	D	F	C	C	F	C	E
Approach Vol, veh/h	1036		A	987			506			1042		
Approach Delay, s/veh	74.0			45.4			62.4			50.7		
Approach LOS	E			D			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	39.0	39.1	15.0	39.1	28.0	30.1	14.8	39.3				
Change Period (Y+Rc), s	6.5	6.5	6.5	7.0	6.5	6.5	6.5	7.0				
Max Green Setting (Gmax), s	12.5	39.5	8.5	33.0	21.5	30.5	8.3	33.2				
Max Q Clear Time (g_c+I), s	10.2	20.0	10.0	30.5	23.5	17.8	8.6	6.7				
Green Ext Time (p_c), s	0.2	3.9	0.0	1.2	0.0	3.7	0.0	1.4				

Intersection Summary

HCM 6th Ctrl Delay 57.7

HCM 6th LOS E

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

7: Woodland Pkwy & Rancheros Dr

Ex AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	60	322	102	193	7	144	318	81	10	381	460
Future Volume (veh/h)	111	60	322	102	193	7	144	318	81	10	381	460
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	125	67	362	131	247	9	148	328	84	12	465	561
Peak Hour Factor	0.89	0.89	0.89	0.78	0.78	0.78	0.97	0.97	0.97	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	245	460	539	213	415	15	191	1135	285	74	640	736
Arrive On Green	0.14	0.25	0.25	0.12	0.23	0.23	0.11	0.41	0.41	0.04	0.34	0.34
Sat Flow, veh/h	1767	1856	1487	1767	1776	65	1767	2764	695	1767	1856	1502
Grp Volume(v), veh/h	125	67	362	131	0	256	148	207	205	12	465	561
Grp Sat Flow(s),veh/h/ln	1767	1856	1487	1767	0	1841	1767	1763	1696	1767	1856	1502
Q Serve(g_s), s	9.8	4.2	31.1	10.6	0.0	18.6	12.2	11.8	12.2	1.0	32.9	46.2
Cycle Q Clear(g_c), s	9.8	4.2	31.1	10.6	0.0	18.6	12.2	11.8	12.2	1.0	32.9	46.2
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	245	460	539	213	0	430	191	724	696	74	640	736
V/C Ratio(X)	0.51	0.15	0.67	0.61	0.00	0.60	0.78	0.29	0.29	0.16	0.73	0.76
Avail Cap(c_a), veh/h	245	460	539	213	0	430	191	724	696	74	640	736
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	0.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80
Uniform Delay (d), s/veh	59.9	44.0	41.1	62.6	0.0	51.2	65.1	29.5	29.6	69.3	43.0	32.0
Incr Delay (d2), s/veh	7.4	0.7	6.6	12.5	0.0	6.0	25.9	1.0	1.1	3.7	5.7	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	4.9	2.1	12.4	5.5	0.0	9.3	6.9	5.2	5.2	0.5	16.0	17.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.3	44.7	47.7	75.2	0.0	57.2	91.1	30.5	30.7	73.0	48.7	37.9
LnGrp LOS	E	D	D	E	A	E	F	C	C	E	D	D
Approach Vol, veh/h	554			387			560			1038		
Approach Delay, s/veh	51.7			63.3			46.6			43.2		
Approach LOS	D			E			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.2	68.3	25.0	44.5	22.1	58.4	27.2	42.3				
Change Period (Y+Rc), s	5.9	* 6.7	6.9	* 7.3	* 5.9	* 6.7	6.4	* 7.3				
Max Green Setting (Gmax), s	10.3	* 62	18.1	* 37	* 16	* 52	20.8	* 35				
Max Q Clear Time (g_c+I), s	13.0	14.2	12.6	33.1	14.2	48.2	11.8	20.6				
Green Ext Time (p_c), s	0.0	2.6	0.1	0.7	0.1	1.8	0.2	1.2				

Intersection Summary

HCM 6th Ctrl Delay 48.8

HCM 6th LOS D

Notes

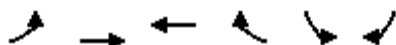
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

8: Barham Dr & Woodland Pkwy

Ex AM
02/08/2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	280	511	222	146	205	400
Future Volume (veh/h)	280	511	222	146	205	400
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	298	544	244	160	250	488
Peak Hour Factor	0.94	0.94	0.91	0.91	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	326	1113	695	1049	545	485
Arrive On Green	0.18	0.60	0.37	0.37	0.31	0.31
Sat Flow, veh/h	1767	1856	1856	1505	1767	1572
Grp Volume(v), veh/h	298	544	244	160	250	488
Grp Sat Flow(s), veh/h/ln	1767	1856	1856	1505	1767	1572
Q Serve(g_s), s	24.8	24.9	14.2	5.7	17.1	46.3
Cycle Q Clear(g_c), s	24.8	24.9	14.2	5.7	17.1	46.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	326	1113	695	1049	545	485
V/C Ratio(X)	0.91	0.49	0.35	0.15	0.46	1.01
Avail Cap(c_a), veh/h	540	1113	695	1049	545	485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.0	17.0	33.8	8.4	41.8	51.8
Incr Delay (d2), s/veh	13.2	1.5	1.4	0.3	2.8	42.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	11.1	6.8	8.9	7.9	39.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	73.2	18.5	35.2	8.7	44.5	94.0
LnGrp LOS	E	B	D	A	D	F
Approach Vol, veh/h		842	404		738	
Approach Delay, s/veh		37.9	24.7		77.3	
Approach LOS		D	C		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		97.0		53.0	33.9	63.1
Change Period (Y+Rc), s		* 7		6.7	* 6.2	* 7
Max Green Setting (Gmax), s		* 90		46.3	* 46	* 38
Max Q Clear Time (g_c+I1), s		26.9		48.3	26.8	16.2
Green Ext Time (p_c), s		4.2		0.0	0.8	2.0

Intersection Summary

HCM 6th Ctrl Delay	49.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

HCM 6th Signalized Intersection Summary

1: Mulberry Dr & Borden Rd

Ex PM
02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	480	79	129	291	25	105	213	283	21	151	9
Future Volume (veh/h)	13	480	79	129	291	25	105	213	283	21	151	9
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		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	15	545	90	152	342	29	113	229	304	23	164	10
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	133	587	97	293	651	55	155	832	350	133	751	45
Arrive On Green	0.08	0.38	0.38	0.09	0.39	0.39	0.09	0.24	0.24	0.08	0.22	0.22
Sat Flow, veh/h	1767	1546	255	3428	1683	143	1767	3526	1484	1767	3364	203
Grp Volume(v), veh/h	15	0	635	152	0	371	113	229	304	23	85	89
Grp Sat Flow(s),veh/h/ln	1767	0	1802	1714	0	1825	1767	1763	1484	1767	1763	1804
Q Serve(g_s), s	0.7	0.0	32.0	4.0	0.0	14.8	5.9	5.0	18.6	1.2	3.7	3.8
Cycle Q Clear(g_c), s	0.7	0.0	32.0	4.0	0.0	14.8	5.9	5.0	18.6	1.2	3.7	3.8
Prop In Lane	1.00		0.14	1.00		0.08	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	133	0	683	293	0	706	155	832	350	133	394	403
V/C Ratio(X)	0.11	0.00	0.93	0.52	0.00	0.53	0.73	0.28	0.87	0.17	0.22	0.22
Avail Cap(c_a), veh/h	133	0	683	293	0	706	155	1051	442	133	503	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	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	40.8	0.0	28.1	41.4	0.0	22.3	42.1	29.5	34.7	41.0	30.0	30.0
Incr Delay (d2), s/veh	1.7	0.0	20.9	6.4	0.0	2.8	25.8	0.2	13.9	2.8	0.3	0.3
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	0.4	0.0	16.9	1.9	0.0	6.5	3.6	2.0	7.8	0.6	1.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	0.0	49.0	47.8	0.0	25.1	67.9	29.7	48.7	43.8	30.3	30.3
LnGrp LOS	D	A	D	D	A	C	E	C	D	D	C	C
Approach Vol, veh/h		650			523			646			197	
Approach Delay, s/veh		48.9			31.7			45.3			31.9	
Approach LOS		D			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	28.3	12.7	41.6	13.2	27.1	12.0	42.3				
Change Period (Y+Rc), s	* 4.9	* 6	* 4.6	* 5.7	* 4.9	* 6	* 4.9	* 5.7				
Max Green Setting (Gmax), s	* 7.1	* 28	* 8.1	* 36	* 8.3	* 27	* 7.1	* 36				
Max Q Clear Time (g_c+I1), s	3.2	20.6	6.0	34.0	7.9	5.8	2.7	16.8				
Green Ext Time (p_c), s	0.0	1.5	0.1	0.8	0.0	0.8	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			41.6									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

2: N Twin Oaks Valley Rd & W San Marcos Blvd/E San Marcos Blvd

Ex PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	304	686	380	297	424	85	430	704	284	85	570	242
Future Volume (veh/h)	304	686	380	297	424	85	430	704	284	85	570	242
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		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	320	722	400	309	442	89	443	726	293	89	600	255
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.97	0.97	0.97	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	365	1058	1103	245	771	154	367	1720	862	196	1039	441
Arrive On Green	0.11	0.30	0.30	0.07	0.27	0.27	0.11	0.49	0.49	0.06	0.43	0.43
Sat Flow, veh/h	3428	3526	2687	3428	2910	581	3428	3526	1537	3428	2391	1015
Grp Volume(v), veh/h	320	722	400	309	266	265	443	726	293	89	442	413
Grp Sat Flow(s),veh/h/ln	1714	1763	1344	1714	1763	1729	1714	1763	1537	1714	1763	1644
Q Serve(g_s), s	12.9	25.2	14.5	10.0	18.3	18.6	15.0	18.6	14.5	3.5	26.5	26.6
Cycle Q Clear(g_c), s	12.9	25.2	14.5	10.0	18.3	18.6	15.0	18.6	14.5	3.5	26.5	26.6
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	365	1058	1103	245	467	458	367	1720	862	196	766	714
V/C Ratio(X)	0.88	0.68	0.36	1.26	0.57	0.58	1.21	0.42	0.34	0.45	0.58	0.58
Avail Cap(c_a), veh/h	367	1058	1103	245	467	458	367	1720	862	196	766	714
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	61.7	43.1	28.9	65.0	44.5	44.7	62.5	23.1	16.8	63.9	29.9	29.9
Incr Delay (d2), s/veh	20.5	3.6	0.9	146.3	5.0	5.2	115.7	0.8	1.1	7.4	3.2	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	6.7	11.6	4.7	9.4	8.7	8.7	12.3	7.7	5.2	1.7	11.6	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.2	46.7	29.8	211.3	49.5	49.9	178.2	23.9	17.9	71.3	33.1	33.3
LnGrp LOS	F	D	C	F	D	D	F	C	B	E	C	C
Approach Vol, veh/h	1442			840			1462			944		
Approach Delay, s/veh	49.9			109.2			69.4			36.8		
Approach LOS	D			F			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	49.4	22.0	69.1	21.9	44.5	14.5	76.6				
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	10.0	42.0	15.0	* 44	15.0	37.0	8.0	51.3				
Max Q Clear Time (g_c+112, s)	12.0	27.2	17.0	28.6	14.9	20.6	5.5	20.6				
Green Ext Time (p_c), s	0.0	6.0	0.0	4.6	0.0	3.0	0.0	6.2				

Intersection Summary

HCM 6th Ctrl Delay 64.0

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.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

3: San Marcos Blvd/Woodward St & E Mission Rd

Ex PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	927	55	308	509	73	59	235	667	17	171	77
Future Volume (veh/h)	92	927	55	308	509	73	59	235	667	17	171	77
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	98	986	59	354	585	84	65	258	733	23	231	104
Peak Hour Factor	0.94	0.94	0.94	0.87	0.87	0.87	0.91	0.91	0.91	0.74	0.74	0.74
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	120	1068	463	379	1219	529	113	1292	561	59	780	338
Arrive On Green	0.07	0.30	0.30	0.11	0.35	0.35	0.06	0.37	0.37	0.03	0.33	0.33
Sat Flow, veh/h	1767	3526	1527	3428	3526	1530	1767	3526	1532	1767	2372	1027
Grp Volume(v), veh/h	98	986	59	354	585	84	65	258	733	23	169	166
Grp Sat Flow(s),veh/h/ln	1767	1763	1527	1714	1763	1530	1767	1763	1532	1767	1763	1636
Q Serve(g_s), s	7.9	39.1	4.1	14.8	18.8	5.5	5.2	7.2	53.0	1.8	10.3	10.9
Cycle Q Clear(g_c), s	7.9	39.1	4.1	14.8	18.8	5.5	5.2	7.2	53.0	1.8	10.3	10.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.63
Lane Grp Cap(c), veh/h	120	1068	463	379	1219	529	113	1292	561	59	580	538
V/C Ratio(X)	0.82	0.92	0.13	0.93	0.48	0.16	0.57	0.20	1.31	0.39	0.29	0.31
Avail Cap(c_a), veh/h	195	1121	486	379	1219	529	147	1292	561	98	591	549
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	66.5	48.8	36.6	63.8	37.1	32.8	65.8	31.3	45.8	68.5	36.0	36.2
Incr Delay (d2), s/veh	12.7	12.2	0.1	29.9	0.3	0.1	4.5	0.1	150.3	4.2	0.3	0.3
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	8.9	18.5	1.6	7.9	8.0	2.1	2.5	3.2	43.4	0.9	4.6	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.2	61.0	36.7	93.6	37.4	32.9	70.3	31.4	196.1	72.6	36.3	36.6
LnGrp LOS	E	E	D	F	D	C	E	C	F	E	D	D
Approach Vol, veh/h	1143			1023			1056			358		
Approach Delay, s/veh	61.3			56.5			148.1			38.8		
Approach LOS	E			E			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.0	50.8	16.3	54.6	16.8	57.0	10.8	60.0				
Change Period (Y+Rc), s	7.0	7.0	7.0	* 7	7.0	* 7	6.0	7.0				
Max Green Setting (Gmax), s	16.0	46.0	12.0	* 49	16.0	* 47	8.0	53.0				
Max Q Clear Time (g_c+16.0), s	16.0	41.1	7.2	12.9	9.9	20.8	3.8	55.0				
Green Ext Time (p_c), s	0.0	2.7	0.0	2.2	0.1	4.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 83.3

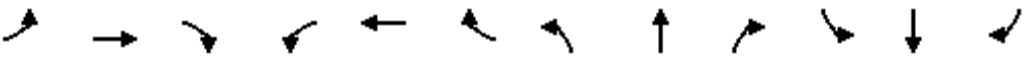
HCM 6th LOS F

Notes

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

HCM 6th Signalized Intersection Summary 5: E Mission Rd & Mulberry Dr

Ex PM
02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰		↰	↰↰↰			↰↰		↰	↰	↰
Traffic Volume (veh/h)	404	1217	0	8	674	262	0	0	0	227	0	178
Future Volume (veh/h)	404	1217	0	8	674	262	0	0	0	227	0	178
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		0.98	1.00		1.00	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	421	1268	0	9	695	270	0	0	0	270	0	212
Peak Hour Factor	0.96	0.96	0.92	0.92	0.97	0.97	0.92	0.92	0.92	0.84	0.92	0.84
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	501	3451	0	26	1464	559	0	1	0	627	0	268
Arrive On Green	0.28	0.68	0.00	0.01	0.41	0.41	0.00	0.00	0.00	0.18	0.00	0.18
Sat Flow, veh/h	1767	5233	0	1767	3579	1367	0	1856	0	3534	0	1508
Grp Volume(v), veh/h	421	1268	0	9	655	310	0	0	0	270	0	212
Grp Sat Flow(s),veh/h/ln	1767	1689	0	1767	1689	1569	0	1856	0	1767	0	1508
Q Serve(g_s), s	33.6	16.0	0.0	0.8	21.3	21.8	0.0	0.0	0.0	10.2	0.0	20.2
Cycle Q Clear(g_c), s	33.6	16.0	0.0	0.8	21.3	21.8	0.0	0.0	0.0	10.2	0.0	20.2
Prop In Lane	1.00		0.00	1.00		0.87	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	501	3451	0	26	1382	642	0	1	0	627	0	268
V/C Ratio(X)	0.84	0.37	0.00	0.35	0.47	0.48	0.00	0.00	0.00	0.43	0.00	0.79
Avail Cap(c_a), veh/h	501	3451	0	82	1382	642	0	111	0	919	0	392
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	0.00	0.00	0.00	0.92	0.00	0.92
Uniform Delay (d), s/veh	50.6	10.2	0.0	73.2	32.5	32.6	0.0	0.0	0.0	54.9	0.0	59.0
Incr Delay (d2), s/veh	15.6	0.3	0.0	7.9	1.2	2.6	0.0	0.0	0.0	0.4	0.0	6.2
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	16.7	5.6	0.0	0.4	8.8	8.6	0.0	0.0	0.0	4.5	0.0	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.2	10.5	0.0	81.1	33.6	35.2	0.0	0.0	0.0	55.4	0.0	65.2
LnGrp LOS	E	B	A	F	C	D	A	A	A	E	A	E
Approach Vol, veh/h	1689				974				0			
Approach Delay, s/veh	24.3				34.6				0.0			
Approach LOS	C				C				E			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	108.7		33.1	49.0	67.9		0.0				
Change Period (Y+Rc), s	6.0	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	7.0	69.5		39.0	42.5	33.5		9.0				
Max Q Clear Time (g_c+I1), s	2.8	18.0		22.2	35.6	23.8		0.0				
Green Ext Time (p_c), s	0.0	11.2		1.5	0.8	4.1		0.0				

Intersection Summary

HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

6: Woodland Pkwy & E Mission Rd

Ex PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	357	925	208	146	616	49	193	367	107	45	294	136
Future Volume (veh/h)	357	925	208	146	616	49	193	367	107	45	294	136
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		0.96	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	368	954	0	154	648	52	217	412	120	46	303	140
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.89	0.89	0.89	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	410	1273		283	1008	80	283	709	304	146	709	304
Arrive On Green	0.23	0.36	0.00	0.08	0.21	0.21	0.08	0.20	0.20	0.08	0.20	0.20
Sat Flow, veh/h	1767	3526	1572	3428	4768	379	3428	3526	1514	1767	3526	1514
Grp Volume(v), veh/h	368	954	0	154	457	243	217	412	120	46	303	140
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1689	1770	1714	1763	1514	1767	1763	1514
Q Serve(g_s), s	19.6	23.0	0.0	4.2	12.0	12.2	6.0	10.3	6.7	2.4	7.3	7.9
Cycle Q Clear(g_c), s	19.6	23.0	0.0	4.2	12.0	12.2	6.0	10.3	6.7	2.4	7.3	7.9
Prop In Lane	1.00		1.00	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	410	1273		283	714	374	283	709	304	146	709	304
V/C Ratio(X)	0.90	0.75		0.54	0.64	0.65	0.77	0.58	0.39	0.32	0.43	0.46
Avail Cap(c_a), veh/h	410	1617		283	1044	547	283	1199	515	146	1199	515
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	27.2	0.0	42.8	34.9	35.0	43.6	35.1	33.6	41.9	33.9	34.1
Incr Delay (d2), s/veh	25.0	1.5	0.0	7.4	1.0	1.9	18.0	0.8	0.8	5.6	0.4	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	9.2	0.0	2.0	4.8	5.2	3.2	4.4	2.5	1.2	3.1	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.2	28.7	0.0	50.1	35.8	36.8	61.6	35.8	34.5	47.5	34.3	35.2
LnGrp LOS	E	C		D	D	D	E	D	C	D	C	D
Approach Vol, veh/h	1322		A	854			749			489		
Approach Delay, s/veh	37.7			38.7			43.1			35.8		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	44.5	41.5	14.5	26.5	29.0	27.0	14.5	26.5				
Change Period (Y+Rc), s	6.5	6.5	6.5	7.0	6.5	6.5	6.5	7.0				
Max Green Setting (Gmax), s	44.5	44.5	8.0	33.0	22.5	30.0	8.0	33.0				
Max Q Clear Time (g_c+I1), s	10.2	25.0	8.0	9.9	21.6	14.2	4.4	12.3				
Green Ext Time (p_c), s	0.1	6.1	0.0	2.3	0.1	3.7	0.0	3.0				

Intersection Summary

HCM 6th Ctrl Delay	38.9
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

7: Woodland Pkwy & Rancheros Dr

Ex PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	133	441	55	129	33	143	394	64	24	285	358
Future Volume (veh/h)	171	133	441	55	129	33	143	394	64	24	285	358
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	186	145	479	62	147	38	144	398	65	26	313	393
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.99	0.99	0.99	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	285	560	700	158	329	85	279	1155	187	84	505	659
Arrive On Green	0.16	0.30	0.30	0.09	0.23	0.23	0.16	0.38	0.38	0.05	0.27	0.27
Sat Flow, veh/h	1767	1856	1497	1767	1410	365	1767	3017	488	1767	1856	1492
Grp Volume(v), veh/h	186	145	479	62	0	185	144	231	232	26	313	393
Grp Sat Flow(s),veh/h/ln	1767	1856	1497	1767	0	1775	1767	1763	1742	1767	1856	1492
Q Serve(g_s), s	14.8	8.9	38.1	5.0	0.0	13.4	11.2	14.0	14.2	2.1	22.2	30.4
Cycle Q Clear(g_c), s	14.8	8.9	38.1	5.0	0.0	13.4	11.2	14.0	14.2	2.1	22.2	30.4
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	285	560	700	158	0	414	279	675	667	84	505	659
V/C Ratio(X)	0.65	0.26	0.68	0.39	0.00	0.45	0.52	0.34	0.35	0.31	0.62	0.60
Avail Cap(c_a), veh/h	285	560	700	158	0	414	279	675	667	84	505	659
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	0.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	59.0	39.6	32.2	64.5	0.0	49.2	57.9	32.9	33.0	69.1	47.8	32.7
Incr Delay (d2), s/veh	11.1	1.1	5.4	7.2	0.0	3.5	6.7	1.4	1.4	8.6	5.1	3.6
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	7.5	4.3	14.9	2.6	0.0	6.4	5.5	6.3	6.3	1.2	11.0	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	40.8	37.5	71.6	0.0	52.7	64.6	34.3	34.4	77.7	53.0	36.3
LnGrp LOS	E	D	D	E	A	D	E	C	C	E	D	D
Approach Vol, veh/h	810			247			607			732		
Approach Delay, s/veh	45.6			57.4			41.5			44.9		
Approach LOS	D			E			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.0	64.1	20.3	52.6	29.6	47.5	30.6	42.3				
Change Period (Y+Rc), s	5.9	* 6.7	6.9	* 7.3	* 5.9	* 6.7	6.4	* 7.3				
Max Green Setting (Gmax), s	7.5	* 57	13.4	* 45	* 24	* 41	24.2	* 35				
Max Q Clear Time (g_c+I), s	14.1	16.2	7.0	40.1	13.2	32.4	16.8	15.4				
Green Ext Time (p_c), s	0.0	2.9	0.0	1.4	0.2	2.2	0.3	1.0				

Intersection Summary

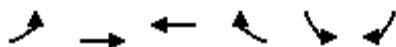
HCM 6th Ctrl Delay 45.6
HCM 6th LOS D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

HCM 6th Signalized Intersection Summary 8: Barham Dr & Woodland Pkwy

Ex PM
02/08/2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	446	637	190	155	401	262
Future Volume (veh/h)	446	637	190	155	401	262
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	496	708	221	180	356	362
Peak Hour Factor	0.90	0.90	0.86	0.86	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	526	1229	600	872	435	388
Arrive On Green	0.30	0.66	0.32	0.32	0.25	0.25
Sat Flow, veh/h	1767	1856	1856	1499	1767	1572
Grp Volume(v), veh/h	496	708	221	180	356	362
Grp Sat Flow(s), veh/h/ln	1767	1856	1856	1499	1767	1572
Q Serve(g_s), s	41.1	31.3	13.7	8.8	28.5	33.8
Cycle Q Clear(g_c), s	41.1	31.3	13.7	8.8	28.5	33.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	526	1229	600	872	435	388
V/C Ratio(X)	0.94	0.58	0.37	0.21	0.82	0.93
Avail Cap(c_a), veh/h	705	1229	600	872	475	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	13.8	39.0	15.8	53.3	55.3
Incr Delay (d2), s/veh	17.9	2.0	1.7	0.5	10.0	26.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.8	13.5	6.6	10.9	13.8	29.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	69.4	15.8	40.7	16.3	63.4	82.2
LnGrp LOS	E	B	D	B	E	F
Approach Vol, veh/h		1204	401		718	
Approach Delay, s/veh		37.9	29.8		72.8	
Approach LOS		D	C		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		106.3		43.7	50.8	55.5
Change Period (Y+Rc), s		* 7		6.7	* 6.2	* 7
Max Green Setting (Gmax), s		* 96		40.3	* 60	* 30
Max Q Clear Time (g_c+I1), s		33.3		35.8	43.1	15.7
Green Ext Time (p_c), s		6.1		1.2	1.5	1.6
Intersection Summary						
HCM 6th Ctrl Delay			47.3			
HCM 6th LOS			D			
Notes						
User approved volume balancing among the lanes for turning movement.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

APPENDIX D

**NEAR-TERM CUMULATIVE INTERSECTION ANALYSIS
WORKSHEETS**

HCM 6th Signalized Intersection Summary

1: Mulberry Dr & Borden Rd

Ex + C AM
02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	287	254	346	566	31	100	158	128	52	267	25
Future Volume (veh/h)	14	287	254	346	566	31	100	158	128	52	267	25
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		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	16	319	282	380	622	34	159	251	203	69	356	33
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.63	0.63	0.63	0.75	0.75	0.75
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	135	314	277	428	687	38	184	667	278	184	614	56
Arrive On Green	0.08	0.35	0.35	0.12	0.39	0.39	0.10	0.19	0.19	0.10	0.19	0.19
Sat Flow, veh/h	1767	896	792	3428	1740	95	1767	3526	1470	1767	3242	298
Grp Volume(v), veh/h	16	0	601	380	0	656	159	251	203	69	192	197
Grp Sat Flow(s),veh/h/ln	1767	0	1687	1714	0	1836	1767	1763	1470	1767	1763	1777
Q Serve(g_s), s	0.8	0.0	32.0	10.0	0.0	30.8	8.1	5.7	11.9	3.3	9.1	9.2
Cycle Q Clear(g_c), s	0.8	0.0	32.0	10.0	0.0	30.8	8.1	5.7	11.9	3.3	9.1	9.2
Prop In Lane	1.00		0.47	1.00		0.05	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	135	0	591	428	0	725	184	667	278	184	334	336
V/C Ratio(X)	0.12	0.00	1.02	0.89	0.00	0.90	0.87	0.38	0.73	0.38	0.58	0.59
Avail Cap(c_a), veh/h	135	0	591	428	0	725	184	1018	425	184	509	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	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	39.3	0.0	29.7	39.4	0.0	26.0	40.3	32.3	34.9	38.2	33.7	33.8
Incr Delay (d2), s/veh	1.8	0.0	41.4	23.0	0.0	16.9	38.5	0.4	3.7	5.8	1.6	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	0.4	0.0	19.0	5.4	0.0	15.7	5.3	2.3	4.3	1.7	3.8	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.1	0.0	71.1	62.4	0.0	42.9	78.9	32.7	38.5	44.0	35.3	35.4
LnGrp LOS	D	A	F	E	A	D	E	C	D	D	D	D
Approach Vol, veh/h		617			1036			613			458	
Approach Delay, s/veh		70.3			50.1			46.6			36.6	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	23.3	16.0	37.7	14.4	23.3	11.9	41.8				
Change Period (Y+Rc), s	* 4.9	* 6	* 4.6	* 5.7	* 4.9	* 6	* 4.9	* 5.7				
Max Green Setting (Gmax), s	* 9.5	* 26	* 11	* 32	* 9.5	* 26	* 7	* 36				
Max Q Clear Time (g_c+I1), s	5.3	13.9	12.0	34.0	10.1	11.2	2.8	32.8				
Green Ext Time (p_c), s	0.0	1.7	0.0	0.0	0.0	1.7	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			51.6									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

2: N Twin Oaks Valley Rd & W San Marcos Blvd/E San Marcos Blvd

Ex + C AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	368	356	568	470	26	222	392	508	92	743	219
Future Volume (veh/h)	139	368	356	568	470	26	222	392	508	92	743	219
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		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	158	418	405	624	516	29	258	456	591	97	782	231
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.86	0.86	0.86	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	220	1058	984	416	1210	68	220	1536	860	203	1139	336
Arrive On Green	0.06	0.30	0.30	0.12	0.36	0.36	0.06	0.44	0.44	0.06	0.43	0.43
Sat Flow, veh/h	3428	3526	2687	3428	3388	190	3428	3526	1535	3428	2666	788
Grp Volume(v), veh/h	158	418	405	624	268	277	258	456	591	97	517	496
Grp Sat Flow(s),veh/h/ln	1714	1763	1344	1714	1763	1815	1714	1763	1535	1714	1763	1691
Q Serve(g_s), s	6.3	13.2	15.8	17.0	16.1	16.2	9.0	11.7	38.8	3.8	33.3	33.3
Cycle Q Clear(g_c), s	6.3	13.2	15.8	17.0	16.1	16.2	9.0	11.7	38.8	3.8	33.3	33.3
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	220	1058	984	416	630	649	220	1536	860	203	753	722
V/C Ratio(X)	0.72	0.40	0.41	1.50	0.43	0.43	1.17	0.30	0.69	0.48	0.69	0.69
Avail Cap(c_a), veh/h	269	1058	984	416	630	649	220	1536	860	203	753	722
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	64.3	38.9	33.3	61.5	34.1	34.1	65.5	25.6	22.3	63.7	32.5	32.5
Incr Delay (d2), s/veh	7.0	1.1	1.3	236.8	2.1	2.1	114.4	0.5	4.5	7.8	5.1	5.3
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	8.0	5.9	5.2	21.1	7.3	7.6	7.4	4.9	14.2	1.9	14.7	14.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.2	40.0	34.6	298.3	36.2	36.2	179.9	26.1	26.8	71.6	37.6	37.8
LnGrp LOS	E	D	C	F	D	D	F	C	C	E	D	D
Approach Vol, veh/h	981			1169			1305			1110		
Approach Delay, s/veh	42.8			176.1			56.8			40.6		
Approach LOS	D			F			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	49.4	16.0	68.1	16.0	57.4	14.8	69.3				
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	42.0	42.0	9.0	* 43	11.0	48.0	8.3	44.0				
Max Q Clear Time (g_c+119), s	17.8	17.8	11.0	35.3	8.3	18.2	5.8	40.8				
Green Ext Time (p_c), s	0.0	4.8	0.0	3.7	0.1	3.6	0.0	1.6				

Intersection Summary

HCM 6th Ctrl Delay 80.4
HCM 6th LOS F

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.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

3: San Marcos Blvd/Woodward St & E Mission Rd

Ex + C AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	515	61	652	814	95	21	63	506	38	381	92
Future Volume (veh/h)	32	515	61	652	814	95	21	63	506	38	381	92
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	42	669	79	741	925	108	27	81	649	46	465	112
Peak Hour Factor	0.77	0.77	0.77	0.88	0.88	0.88	0.78	0.78	0.78	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	82	793	341	810	1462	636	82	1044	452	85	813	194
Arrive On Green	0.05	0.22	0.22	0.24	0.41	0.41	0.05	0.30	0.30	0.05	0.29	0.29
Sat Flow, veh/h	1767	3526	1518	3428	3526	1534	1767	3526	1526	1767	2804	670
Grp Volume(v), veh/h	42	669	79	741	925	108	27	81	649	46	291	286
Grp Sat Flow(s),veh/h/ln	1767	1763	1518	1714	1763	1534	1767	1763	1526	1767	1763	1711
Q Serve(g_s), s	3.2	25.1	5.9	29.2	28.8	6.1	2.0	2.3	41.0	3.5	19.4	19.7
Cycle Q Clear(g_c), s	3.2	25.1	5.9	29.2	28.8	6.1	2.0	2.3	41.0	3.5	19.4	19.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	82	793	341	810	1462	636	82	1044	452	85	511	496
V/C Ratio(X)	0.51	0.84	0.23	0.92	0.63	0.17	0.33	0.08	1.44	0.54	0.57	0.58
Avail Cap(c_a), veh/h	115	942	406	916	1668	726	128	1044	452	102	511	496
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	64.5	51.3	43.9	51.5	32.2	25.5	63.9	35.1	48.7	64.4	41.8	41.9
Incr Delay (d2), s/veh	4.9	6.2	0.3	12.6	0.6	0.1	2.3	0.0	208.6	5.3	1.5	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	1.5	11.5	2.3	13.6	12.0	2.3	1.0	1.0	41.7	1.7	8.7	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.4	57.5	44.2	64.2	32.8	25.6	66.2	35.1	257.3	69.8	43.3	43.5
LnGrp LOS	E	E	D	E	C	C	E	D	F	E	D	D
Approach Vol, veh/h	790			1774			757			623		
Approach Delay, s/veh	56.8			45.5			226.7			45.4		
Approach LOS	E			D			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	39.7	38.1	13.5	47.2	13.4	64.4	12.6	48.0				
Change Period (Y+Rc), s	7.0	7.0	7.0	* 7	7.0	* 7	6.0	7.0				
Max Green Setting (Gmax), s	37.0	37.0	10.0	* 39	9.0	* 66	8.0	41.0				
Max Q Clear Time (g_c+bl), s	27.1	27.1	4.0	21.7	5.2	30.8	5.5	43.0				
Green Ext Time (p_c), s	1.5	3.1	0.0	3.3	0.0	7.4	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 82.5

HCM 6th LOS F

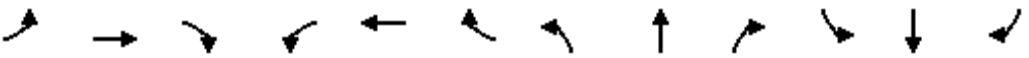
Notes

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

HCM 6th Signalized Intersection Summary

5: E Mission Rd & Mulberry Dr

Ex + C AM
02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	999	0	5	1200	274	0	0	0	498	0	348
Future Volume (veh/h)	137	999	0	5	1200	274	0	0	0	498	0	348
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		0.98	1.00		1.00	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	169	1233	0	5	1481	338	0	0	0	593	0	414
Peak Hour Factor	0.81	0.81	0.92	0.92	0.81	0.81	0.92	0.92	0.92	0.84	0.92	0.84
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	216	3046	0	16	1990	452	0	1	0	931	0	401
Arrive On Green	0.12	0.60	0.00	0.01	0.48	0.48	0.00	0.00	0.00	0.26	0.00	0.26
Sat Flow, veh/h	1767	5233	0	1767	4107	932	0	1856	0	3534	0	1523
Grp Volume(v), veh/h	169	1233	0	5	1216	603	0	0	0	593	0	414
Grp Sat Flow(s),veh/h/ln	1767	1689	0	1767	1689	1662	0	1856	0	1767	0	1523
Q Serve(g_s), s	13.9	19.2	0.0	0.4	43.5	44.0	0.0	0.0	0.0	22.3	0.0	39.5
Cycle Q Clear(g_c), s	13.9	19.2	0.0	0.4	43.5	44.0	0.0	0.0	0.0	22.3	0.0	39.5
Prop In Lane	1.00		0.00	1.00		0.56	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	3046	0	16	1637	806	0	1	0	931	0	401
V/C Ratio(X)	0.78	0.40	0.00	0.32	0.74	0.75	0.00	0.00	0.00	0.64	0.00	1.03
Avail Cap(c_a), veh/h	216	3046	0	82	1637	806	0	111	0	931	0	401
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	0.00	0.00	0.00	0.58	0.00	0.58
Uniform Delay (d), s/veh	63.9	15.8	0.0	73.9	31.1	31.2	0.0	0.0	0.0	48.9	0.0	55.2
Incr Delay (d2), s/veh	24.2	0.4	0.0	11.5	3.1	6.3	0.0	0.0	0.0	0.8	0.0	42.8
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	7.6	7.2	0.0	0.2	17.7	18.3	0.0	0.0	0.0	9.8	0.0	19.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.2	16.2	0.0	85.4	34.2	37.5	0.0	0.0	0.0	49.8	0.0	98.0
LnGrp LOS	F	B	A	F	C	D	A	A	A	D	A	F
Approach Vol, veh/h	1402			1824			0			1007		
Approach Delay, s/veh	24.8			35.5			0.0			69.6		
Approach LOS	C			D						E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	96.7		46.0	24.8	79.2		0.0				
Change Period (Y+Rc), s	6.0	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	7.0	69.0		39.5	18.3	57.2		9.0				
Max Q Clear Time (g_c+I1), s	2.4	21.2		41.5	15.9	46.0		0.0				
Green Ext Time (p_c), s	0.0	10.6		0.0	0.1	8.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay 40.1
HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

6: Woodland Pkwy & E Mission Rd

Ex + C AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	319	536	245	177	690	20	304	183	60	97	492	374
Future Volume (veh/h)	319	536	245	177	690	20	304	183	60	97	492	374
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		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	404	678	0	203	793	23	330	199	65	108	547	416
Peak Hour Factor	0.79	0.79	0.79	0.87	0.87	0.87	0.92	0.92	0.92	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	335	1032		378	1079	31	257	1024	443	129	1018	440
Arrive On Green	0.19	0.29	0.00	0.11	0.21	0.21	0.07	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	1767	3526	1572	3428	5054	146	3428	3526	1526	1767	3526	1526
Grp Volume(v), veh/h	404	678	0	203	529	287	330	199	65	108	547	416
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1689	1823	1714	1763	1526	1767	1763	1526
Q Serve(g_s), s	21.5	19.1	0.0	6.4	16.6	16.7	8.5	4.8	3.6	6.8	14.8	30.3
Cycle Q Clear(g_c), s	21.5	19.1	0.0	6.4	16.6	16.7	8.5	4.8	3.6	6.8	14.8	30.3
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	335	1032		378	721	389	257	1024	443	129	1018	440
V/C Ratio(X)	1.21	0.66		0.54	0.73	0.74	1.29	0.19	0.15	0.84	0.54	0.94
Avail Cap(c_a), veh/h	335	1227		378	908	490	257	1031	446	129	1025	444
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	35.1	0.0	47.8	41.6	41.7	52.5	30.3	29.8	51.9	34.0	39.5
Incr Delay (d2), s/veh	117.8	1.0	0.0	5.4	2.3	4.4	154.6	0.1	0.2	44.3	0.6	29.0
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	20.0	8.0	0.0	2.9	6.9	7.7	9.1	2.0	1.3	4.6	6.3	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	163.8	36.1	0.0	53.2	44.0	46.0	207.1	30.4	30.0	96.2	34.5	68.5
LnGrp LOS	F	D		D	D	D	F	C	C	F	C	E
Approach Vol, veh/h	1082		A		1019		594				1071	
Approach Delay, s/veh	83.8				46.4		128.5				54.0	
Approach LOS	F				D		F				D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	39.7	15.0	39.8	28.0	30.7	14.8	40.0				
Change Period (Y+Rc), s	6.5	6.5	6.5	7.0	6.5	6.5	6.5	7.0				
Max Green Setting (Gmax), s	12.5	39.5	8.5	33.0	21.5	30.5	8.3	33.2				
Max Q Clear Time (g_c+I), s	19.4	21.1	10.5	32.3	23.5	18.7	8.8	6.8				
Green Ext Time (p_c), s	0.2	4.0	0.0	0.4	0.0	3.8	0.0	1.4				

Intersection Summary

HCM 6th Ctrl Delay 72.2

HCM 6th LOS E

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

7: Woodland Pkwy & Rancheros Dr

Ex + C AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	61	328	104	197	7	147	326	83	10	402	469
Future Volume (veh/h)	179	61	328	104	197	7	147	326	83	10	402	469
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	201	69	369	133	253	9	152	336	86	12	490	572
Peak Hour Factor	0.89	0.89	0.89	0.78	0.78	0.78	0.97	0.97	0.97	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	245	460	539	213	415	15	191	1135	285	74	640	736
Arrive On Green	0.14	0.25	0.25	0.12	0.23	0.23	0.11	0.41	0.41	0.04	0.34	0.34
Sat Flow, veh/h	1767	1856	1487	1767	1778	63	1767	2763	695	1767	1856	1502
Grp Volume(v), veh/h	201	69	369	133	0	262	152	212	210	12	490	572
Grp Sat Flow(s),veh/h/ln	1767	1856	1487	1767	0	1842	1767	1763	1696	1767	1856	1502
Q Serve(g_s), s	16.6	4.4	31.9	10.7	0.0	19.1	12.6	12.1	12.5	1.0	35.3	47.7
Cycle Q Clear(g_c), s	16.6	4.4	31.9	10.7	0.0	19.1	12.6	12.1	12.5	1.0	35.3	47.7
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	245	460	539	213	0	430	191	724	696	74	640	736
V/C Ratio(X)	0.82	0.15	0.69	0.62	0.00	0.61	0.80	0.29	0.30	0.16	0.77	0.78
Avail Cap(c_a), veh/h	245	460	539	213	0	430	191	724	696	74	640	736
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	0.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78
Uniform Delay (d), s/veh	62.8	44.1	41.4	62.7	0.0	51.4	65.3	29.6	29.7	69.3	43.8	32.3
Incr Delay (d2), s/veh	25.5	0.7	6.9	13.0	0.0	6.3	28.2	1.0	1.1	3.6	6.8	6.3
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	0.2	2.1	12.8	5.6	0.0	9.6	7.2	5.4	5.4	0.5	17.3	18.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.3	44.7	48.3	75.7	0.0	57.7	93.5	30.6	30.8	72.9	50.5	38.6
LnGrp LOS	F	D	D	E	A	E	F	C	C	E	D	D
Approach Vol, veh/h	639			395			574			1074		
Approach Delay, s/veh	60.5			63.8			47.4			44.4		
Approach LOS	E			E			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	62.2	68.3	25.0	44.5	22.1	58.4	27.2	42.3				
Change Period (Y+Rc), s	* 5.9	* 6.7	6.9	* 7.3	* 5.9	* 6.7	6.4	* 7.3				
Max Green Setting (Gmax), s	* 60.3	* 62	18.1	* 37	* 16	* 52	20.8	* 35				
Max Q Clear Time (g_c+I), s	13.0	14.5	12.7	33.9	14.6	49.7	18.6	21.1				
Green Ext Time (p_c), s	0.0	2.7	0.1	0.6	0.1	1.1	0.1	1.2				

Intersection Summary

HCM 6th Ctrl Delay 51.7
HCM 6th LOS D

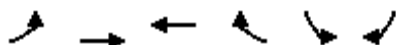
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

8: Barham Dr & Woodland Pkwy

Ex + C AM
02/08/2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	288	521	226	149	218	411
Future Volume (veh/h)	288	521	226	149	218	411
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	306	554	248	164	266	501
Peak Hour Factor	0.94	0.94	0.91	0.91	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	334	1113	686	1042	545	485
Arrive On Green	0.19	0.60	0.37	0.37	0.31	0.31
Sat Flow, veh/h	1767	1856	1856	1505	1767	1572
Grp Volume(v), veh/h	306	554	248	164	266	501
Grp Sat Flow(s),veh/h/ln	1767	1856	1856	1505	1767	1572
Q Serve(g_s), s	25.5	25.5	14.6	5.9	18.4	46.3
Cycle Q Clear(g_c), s	25.5	25.5	14.6	5.9	18.4	46.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	334	1113	686	1042	545	485
V/C Ratio(X)	0.92	0.50	0.36	0.16	0.49	1.03
Avail Cap(c_a), veh/h	540	1113	686	1042	545	485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.7	17.1	34.4	8.7	42.2	51.8
Incr Delay (d2), s/veh	13.9	1.6	1.5	0.3	3.1	49.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	11.4	7.0	9.1	8.5	40.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	73.6	18.7	35.9	9.0	45.3	101.2
LnGrp LOS	E	B	D	A	D	F
Approach Vol, veh/h		860	412		767	
Approach Delay, s/veh		38.2	25.2		81.8	
Approach LOS		D	C		F	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		97.0		53.0	34.5	62.5
Change Period (Y+Rc), s		* 7		6.7	* 6.2	* 7
Max Green Setting (Gmax), s		* 90		46.3	* 46	* 38
Max Q Clear Time (g_c+I1), s		27.5		48.3	27.5	16.6
Green Ext Time (p_c), s		4.3		0.0	0.9	2.0
Intersection Summary						
HCM 6th Ctrl Delay			52.0			
HCM 6th LOS			D			
Notes						
User approved volume balancing among the lanes for turning movement.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Summary

1: Mulberry Dr & Borden Rd

Ex + C PM
02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	490	81	136	297	26	109	235	295	21	162	10
Future Volume (veh/h)	13	490	81	136	297	26	109	235	295	21	162	10
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		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	15	557	92	160	349	31	117	253	317	23	176	11
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	132	582	96	291	643	57	154	854	360	132	771	48
Arrive On Green	0.07	0.38	0.38	0.08	0.38	0.38	0.09	0.24	0.24	0.07	0.23	0.23
Sat Flow, veh/h	1767	1546	255	3428	1675	149	1767	3526	1486	1767	3358	208
Grp Volume(v), veh/h	15	0	649	160	0	380	117	253	317	23	92	95
Grp Sat Flow(s),veh/h/ln	1767	0	1802	1714	0	1824	1767	1763	1486	1767	1763	1803
Q Serve(g_s), s	0.8	0.0	33.5	4.3	0.0	15.5	6.2	5.6	19.6	1.2	4.0	4.1
Cycle Q Clear(g_c), s	0.8	0.0	33.5	4.3	0.0	15.5	6.2	5.6	19.6	1.2	4.0	4.1
Prop In Lane	1.00		0.14	1.00		0.08	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	132	0	678	291	0	700	154	854	360	132	405	414
V/C Ratio(X)	0.11	0.00	0.96	0.55	0.00	0.54	0.76	0.30	0.88	0.17	0.23	0.23
Avail Cap(c_a), veh/h	132	0	678	291	0	700	154	1042	439	132	499	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	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	41.2	0.0	29.0	41.9	0.0	22.9	42.6	29.5	34.8	41.4	29.9	29.9
Incr Delay (d2), s/veh	1.8	0.0	25.6	7.3	0.0	3.0	29.3	0.2	16.1	2.9	0.3	0.3
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	0.4	0.0	18.4	2.0	0.0	6.8	3.8	2.3	8.4	0.6	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	0.0	54.6	49.2	0.0	25.9	71.9	29.7	50.9	44.3	30.1	30.2
LnGrp LOS	D	A	D	D	A	C	E	C	D	D	C	C
Approach Vol, veh/h		664			540			687			210	
Approach Delay, s/veh		54.3			32.8			46.7			31.7	
Approach LOS		D			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	29.1	12.7	41.6	13.2	27.9	12.0	42.3				
Change Period (Y+Rc), s	* 4.9	* 6	* 4.6	* 5.7	* 4.9	* 6	* 4.9	* 5.7				
Max Green Setting (Gmax), s	* 7.1	* 28	* 8.1	* 36	* 8.3	* 27	* 7.1	* 36				
Max Q Clear Time (g_c+I1), s	3.2	21.6	6.3	35.5	8.2	6.1	2.8	17.5				
Green Ext Time (p_c), s	0.0	1.5	0.1	0.2	0.0	0.8	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			44.0									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

2: N Twin Oaks Valley Rd & W San Marcos Blvd/E San Marcos Blvd

Ex + C PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	700	390	378	434	87	444	727	354	87	604	247
Future Volume (veh/h)	310	700	390	378	434	87	444	727	354	87	604	247
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		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No		No				No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	326	737	411	394	452	91	458	749	365	92	636	260
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.97	0.97	0.97	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	367	1058	1103	245	769	154	367	1720	862	196	1052	430
Arrive On Green	0.11	0.30	0.30	0.07	0.26	0.26	0.11	0.49	0.49	0.06	0.43	0.43
Sat Flow, veh/h	3428	3526	2687	3428	2910	581	3428	3526	1537	3428	2422	990
Grp Volume(v), veh/h	326	737	411	394	272	271	458	749	365	92	463	433
Grp Sat Flow(s),veh/h/ln	1714	1763	1344	1714	1763	1729	1714	1763	1537	1714	1763	1649
Q Serve(g_s), s	13.1	25.9	15.0	10.0	18.8	19.1	15.0	19.3	19.2	3.6	28.2	28.2
Cycle Q Clear(g_c), s	13.1	25.9	15.0	10.0	18.8	19.1	15.0	19.3	19.2	3.6	28.2	28.2
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	367	1058	1103	245	466	457	367	1720	862	196	766	716
V/C Ratio(X)	0.89	0.70	0.37	1.61	0.58	0.59	1.25	0.44	0.42	0.47	0.60	0.60
Avail Cap(c_a), veh/h	367	1058	1103	245	466	457	367	1720	862	196	766	716
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	61.7	43.4	29.0	65.0	44.8	44.9	62.5	23.3	17.8	63.9	30.4	30.4
Incr Delay (d2), s/veh	22.2	3.8	1.0	292.2	5.3	5.6	131.9	0.8	1.5	7.9	3.5	3.8
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	6.9	11.9	4.9	14.3	9.0	9.0	13.1	8.0	6.9	1.8	12.3	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.8	47.2	30.0	357.2	50.1	50.5	194.4	24.1	19.4	71.8	33.9	34.2
LnGrp LOS	F	D	C	F	D	D	F	C	B	E	C	C
Approach Vol, veh/h	1474		937			1572			988			
Approach Delay, s/veh	50.5		179.4			72.6			37.5			
Approach LOS	D		F			E			D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	49.4	22.0	69.1	22.0	44.4	14.5	76.6				
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	10.0	42.0	15.0	* 44	15.0	37.0	8.0	51.3				
Max Q Clear Time (g_c+1/2g), s	11.0	27.9	17.0	30.2	15.1	21.1	5.6	21.3				
Green Ext Time (p_c), s	0.0	5.9	0.0	4.6	0.0	3.0	0.0	6.8				

Intersection Summary

HCM 6th Ctrl Delay	79.2
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.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

3: San Marcos Blvd/Woodward St & E Mission Rd

Ex + C PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	952	57	342	527	74	62	256	692	17	181	81
Future Volume (veh/h)	99	952	57	342	527	74	62	256	692	17	181	81
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	105	1013	61	393	606	85	68	281	760	23	245	109
Peak Hour Factor	0.94	0.94	0.94	0.87	0.87	0.87	0.91	0.91	0.91	0.74	0.74	0.74
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	127	1082	469	377	1216	528	114	1284	558	59	776	333
Arrive On Green	0.07	0.31	0.31	0.11	0.34	0.34	0.06	0.36	0.36	0.03	0.33	0.33
Sat Flow, veh/h	1767	3526	1527	3428	3526	1530	1767	3526	1531	1767	2379	1021
Grp Volume(v), veh/h	105	1013	61	393	606	85	68	281	760	23	179	175
Grp Sat Flow(s),veh/h/ln	1767	1763	1527	1714	1763	1530	1767	1763	1531	1767	1763	1637
Q Serve(g_s), s	8.5	40.7	4.2	16.0	19.8	5.6	5.4	8.0	53.0	1.9	11.1	11.7
Cycle Q Clear(g_c), s	8.5	40.7	4.2	16.0	19.8	5.6	5.4	8.0	53.0	1.9	11.1	11.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	127	1082	469	377	1216	528	114	1284	558	59	575	534
V/C Ratio(X)	0.83	0.94	0.13	1.04	0.50	0.16	0.60	0.22	1.36	0.39	0.31	0.33
Avail Cap(c_a), veh/h	194	1115	483	377	1216	528	146	1284	558	97	588	546
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	49.0	36.4	64.7	37.7	33.1	66.2	31.9	46.2	68.9	36.7	37.0
Incr Delay (d2), s/veh	15.6	14.1	0.1	57.8	0.3	0.1	5.0	0.1	174.3	4.2	0.3	0.4
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	4.3	19.5	1.6	9.9	8.4	2.1	2.6	3.5	47.0	0.9	4.9	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.2	63.1	36.5	122.5	38.0	33.2	71.2	32.0	220.6	73.1	37.1	37.3
LnGrp LOS	F	E	D	F	D	C	E	C	F	E	D	D
Approach Vol, veh/h	1179			1084			1109			377		
Approach Delay, s/veh	63.4			68.3			163.7			39.4		
Approach LOS	E			E			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.0	51.6	16.4	54.5	17.5	57.2	10.8	60.0				
Change Period (Y+Rc), s	7.0	7.0	7.0	* 7	7.0	* 7	6.0	7.0				
Max Green Setting (Gmax), s	16.0	46.0	12.0	* 49	16.0	* 47	8.0	53.0				
Max Q Clear Time (g_c+11.0), s	11.0	42.7	7.4	13.7	10.5	21.8	3.9	55.0				
Green Ext Time (p_c), s	0.0	2.0	0.0	2.3	0.1	4.1	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	92.1
HCM 6th LOS	F

Notes

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

HCM 6th Signalized Intersection Summary 5: E Mission Rd & Mulberry Dr

Ex + C PM
02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	417	1282	0	8	776	281	0	0	0	236	0	189
Future Volume (veh/h)	417	1282	0	8	776	281	0	0	0	236	0	189
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		0.98	1.00		1.00	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	434	1335	0	9	800	290	0	0	0	281	0	225
Peak Hour Factor	0.96	0.96	0.92	0.92	0.97	0.97	0.92	0.92	0.92	0.84	0.92	0.84
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	501	3416	0	26	1467	527	0	1	0	652	0	279
Arrive On Green	0.28	0.67	0.00	0.01	0.40	0.40	0.00	0.00	0.00	0.18	0.00	0.18
Sat Flow, veh/h	1767	5233	0	1767	3647	1310	0	1856	0	3534	0	1510
Grp Volume(v), veh/h	434	1335	0	9	740	350	0	0	0	281	0	225
Grp Sat Flow(s),veh/h/ln	1767	1689	0	1767	1689	1580	0	1856	0	1767	0	1510
Q Serve(g_s), s	35.0	17.5	0.0	0.8	25.2	25.5	0.0	0.0	0.0	10.6	0.0	21.4
Cycle Q Clear(g_c), s	35.0	17.5	0.0	0.8	25.2	25.5	0.0	0.0	0.0	10.6	0.0	21.4
Prop In Lane	1.00		0.00	1.00		0.83	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	501	3416	0	26	1358	636	0	1	0	652	0	279
V/C Ratio(X)	0.87	0.39	0.00	0.35	0.54	0.55	0.00	0.00	0.00	0.43	0.00	0.81
Avail Cap(c_a), veh/h	501	3416	0	82	1358	636	0	111	0	919	0	393
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.91	0.00	0.91
Uniform Delay (d), s/veh	51.1	10.8	0.0	73.2	34.3	34.4	0.0	0.0	0.0	54.2	0.0	58.6
Incr Delay (d2), s/veh	18.0	0.3	0.0	7.9	1.6	3.4	0.0	0.0	0.0	0.4	0.0	7.5
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	17.6	6.2	0.0	0.4	10.4	10.2	0.0	0.0	0.0	4.7	0.0	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.1	11.1	0.0	81.1	35.9	37.8	0.0	0.0	0.0	54.6	0.0	66.1
LnGrp LOS	E	B	A	F	D	D	A	A	A	D	A	E
Approach Vol, veh/h	1769					1099		0		506		
Approach Delay, s/veh	25.3					36.9		0.0		59.7		
Approach LOS	C					D				E		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	8.2	107.6	34.2		49.0	66.8	0.0					
Change Period (Y+Rc), s	6.0	6.5	6.5		6.5	6.5	6.5					
Max Green Setting (Gmax), s	7.0	69.5	39.0		42.5	33.5	9.0					
Max Q Clear Time (g_c+I1), s	2.8	19.5	23.4		37.0	27.5	0.0					
Green Ext Time (p_c), s	0.0	12.1	1.6		0.7	3.3	0.0					
Intersection Summary												
HCM 6th Ctrl Delay			34.3									
HCM 6th LOS			C									
Notes												

HCM 6th Signalized Intersection Summary

6: Woodland Pkwy & E Mission Rd

Ex + C PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	375	958	288	149	642	50	225	374	109	46	300	148
Future Volume (veh/h)	375	958	288	149	642	50	225	374	109	46	300	148
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		0.96	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	387	988	0	157	676	53	253	420	122	47	309	153
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.89	0.89	0.89	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	406	1282		280	1029	80	280	713	306	144	713	306
Arrive On Green	0.23	0.36	0.00	0.08	0.22	0.22	0.08	0.20	0.20	0.08	0.20	0.20
Sat Flow, veh/h	1767	3526	1572	3428	4778	372	3428	3526	1514	1767	3526	1514
Grp Volume(v), veh/h	387	988	0	157	476	253	253	420	122	47	309	153
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1689	1772	1714	1763	1514	1767	1763	1514
Q Serve(g_s), s	21.1	24.3	0.0	4.3	12.6	12.8	7.2	10.6	6.8	2.5	7.5	8.8
Cycle Q Clear(g_c), s	21.1	24.3	0.0	4.3	12.6	12.8	7.2	10.6	6.8	2.5	7.5	8.8
Prop In Lane	1.00		1.00	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	406	1282		280	728	382	280	713	306	144	713	306
V/C Ratio(X)	0.95	0.77		0.56	0.65	0.66	0.90	0.59	0.40	0.33	0.43	0.50
Avail Cap(c_a), veh/h	406	1603		280	1035	543	280	1188	510	144	1188	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(l)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	27.5	0.0	43.3	35.1	35.1	44.6	35.4	33.9	42.4	34.1	34.6
Incr Delay (d2), s/veh	34.2	1.8	0.0	7.9	1.0	2.0	33.7	0.8	0.8	5.9	0.4	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	9.8	0.0	2.1	5.0	5.5	4.3	4.5	2.5	1.3	3.1	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.4	29.4	0.0	51.1	36.1	37.1	78.3	36.1	34.7	48.3	34.6	35.9
LnGrp LOS	E	C		D	D	D	E	D	C	D	C	D
Approach Vol, veh/h	1375		A	886			795			509		
Approach Delay, s/veh	41.2			39.0			49.3			36.2		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	44.5	42.1	14.5	26.8	29.0	27.6	14.5	26.8				
Change Period (Y+Rc), s	6.5	6.5	6.5	7.0	6.5	6.5	6.5	7.0				
Max Green Setting (Gmax), s	44.5	44.5	8.0	33.0	22.5	30.0	8.0	33.0				
Max Q Clear Time (g_c+I), s	10.3	26.3	9.2	10.8	23.1	14.8	4.5	12.6				
Green Ext Time (p_c), s	0.1	6.2	0.0	2.3	0.0	3.8	0.0	3.0				

Intersection Summary

HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

7: Woodland Pkwy & Rancheros Dr

Ex + C PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	136	450	56	132	34	146	405	65	24	329	365
Future Volume (veh/h)	196	136	450	56	132	34	146	405	65	24	329	365
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	213	148	489	64	150	39	147	409	66	26	362	401
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.99	0.99	0.99	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	285	560	700	158	329	85	279	1157	185	84	505	659
Arrive On Green	0.16	0.30	0.30	0.09	0.23	0.23	0.16	0.38	0.38	0.05	0.27	0.27
Sat Flow, veh/h	1767	1856	1497	1767	1408	366	1767	3023	483	1767	1856	1492
Grp Volume(v), veh/h	213	148	489	64	0	189	147	237	238	26	362	401
Grp Sat Flow(s),veh/h/ln	1767	1856	1497	1767	0	1774	1767	1763	1743	1767	1856	1492
Q Serve(g_s), s	17.2	9.1	39.3	5.1	0.0	13.7	11.5	14.4	14.6	2.1	26.5	31.3
Cycle Q Clear(g_c), s	17.2	9.1	39.3	5.1	0.0	13.7	11.5	14.4	14.6	2.1	26.5	31.3
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	285	560	700	158	0	414	279	675	667	84	505	659
V/C Ratio(X)	0.75	0.26	0.70	0.41	0.00	0.46	0.53	0.35	0.36	0.31	0.72	0.61
Avail Cap(c_a), veh/h	285	560	700	158	0	414	279	675	667	84	505	659
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	0.00	1.00	1.00	1.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	60.0	39.7	32.5	64.5	0.0	49.3	58.0	33.0	33.1	69.1	49.4	32.9
Incr Delay (d2), s/veh	16.3	1.1	5.7	7.6	0.0	3.6	6.9	1.4	1.5	8.4	7.6	3.7
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	0.1	4.4	15.3	2.7	0.0	6.6	5.7	6.5	6.5	1.2	13.3	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.3	40.9	38.2	72.1	0.0	52.9	64.9	34.5	34.6	77.5	57.0	36.6
LnGrp LOS	E	D	D	E	A	D	E	C	C	E	E	D
Approach Vol, veh/h	850			253			622			789		
Approach Delay, s/veh	48.2			57.8			41.7			47.3		
Approach LOS	D			E			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.0	64.1	20.3	52.6	29.6	47.5	30.6	42.3				
Change Period (Y+Rc), s	5.9	* 6.7	6.9	* 7.3	* 5.9	* 6.7	6.4	* 7.3				
Max Green Setting (Gmax), s	7.5	* 57	13.4	* 45	* 24	* 41	24.2	* 35				
Max Q Clear Time (g_c+I), s	14.5	16.6	7.1	41.3	13.5	33.3	19.2	15.7				
Green Ext Time (p_c), s	0.0	3.0	0.1	1.1	0.2	2.3	0.3	1.0				

Intersection Summary

HCM 6th Ctrl Delay 47.3
HCM 6th LOS D

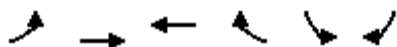
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

8: Barham Dr & Woodland Pkwy

Ex + C PM
02/08/2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	458	650	194	158	443	270
Future Volume (veh/h)	458	650	194	158	443	270
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	509	722	226	184	383	390
Peak Hour Factor	0.90	0.90	0.86	0.86	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	539	1202	560	862	461	410
Arrive On Green	0.30	0.65	0.30	0.30	0.26	0.26
Sat Flow, veh/h	1767	1856	1856	1496	1767	1572
Grp Volume(v), veh/h	509	722	226	184	383	390
Grp Sat Flow(s), veh/h/ln	1767	1856	1856	1496	1767	1572
Q Serve(g_s), s	42.2	33.7	14.5	9.2	30.7	36.6
Cycle Q Clear(g_c), s	42.2	33.7	14.5	9.2	30.7	36.6
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	539	1202	560	862	461	410
V/C Ratio(X)	0.94	0.60	0.40	0.21	0.83	0.95
Avail Cap(c_a), veh/h	705	1202	560	862	475	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	15.2	41.7	16.4	52.3	54.5
Incr Delay (d2), s/veh	18.5	2.2	2.2	0.6	11.6	31.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.4	14.7	7.1	11.2	15.0	31.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	69.5	17.5	43.8	16.9	63.9	85.4
LnGrp LOS	E	B	D	B	E	F
Approach Vol, veh/h		1231	410		773	
Approach Delay, s/veh		39.0	31.8		74.7	
Approach LOS		D	C		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		104.2		45.8	51.9	52.2
Change Period (Y+Rc), s		* 7		6.7	* 6.2	* 7
Max Green Setting (Gmax), s		* 96		40.3	* 60	* 30
Max Q Clear Time (g_c+I1), s		35.7		38.6	44.2	16.5
Green Ext Time (p_c), s		6.3		0.6	1.5	1.6

Intersection Summary

HCM 6th Ctrl Delay 49.2
HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

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

APPENDIX E

NEAR-TERM CUMULATIVE + PROJECT INTERSECTION ANALYSIS WORKSHEETS

HCM 6th Signalized Intersection Summary

1: Mulberry Dr & Borden Rd

Ex + C + P AM

02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (veh/h)	14	287	255	348	566	31	101	160	129	52	273	25
Future Volume (veh/h)	14	287	255	348	566	31	101	160	129	52	273	25
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		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	16	319	283	382	622	34	160	254	205	69	364	33
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.63	0.63	0.63	0.75	0.75	0.75
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	135	313	277	427	687	38	183	671	280	183	618	56
Arrive On Green	0.08	0.35	0.35	0.12	0.39	0.39	0.10	0.19	0.19	0.10	0.19	0.19
Sat Flow, veh/h	1767	894	793	3428	1740	95	1767	3526	1471	1767	3250	292
Grp Volume(v), veh/h	16	0	602	382	0	656	160	254	205	69	196	201
Grp Sat Flow(s),veh/h/ln	1767	0	1687	1714	0	1836	1767	1763	1471	1767	1763	1779
Q Serve(g_s), s	0.8	0.0	32.0	10.0	0.0	30.8	8.2	5.8	12.0	3.3	9.3	9.4
Cycle Q Clear(g_c), s	0.8	0.0	32.0	10.0	0.0	30.8	8.2	5.8	12.0	3.3	9.3	9.4
Prop In Lane	1.00		0.47	1.00		0.05	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	135	0	590	427	0	724	183	671	280	183	335	338
V/C Ratio(X)	0.12	0.00	1.02	0.89	0.00	0.91	0.87	0.38	0.73	0.38	0.58	0.59
Avail Cap(c_a), veh/h	135	0	590	427	0	724	183	1017	424	183	509	513
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	39.4	0.0	29.8	39.5	0.0	26.1	40.4	32.3	34.9	38.2	33.8	33.8
Incr Delay (d2), s/veh	1.8	0.0	42.3	23.8	0.0	17.1	39.6	0.4	3.7	5.8	1.6	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	0.4	0.0	19.1	5.5	0.0	15.7	5.4	2.4	4.4	1.7	3.9	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	0.0	72.0	63.3	0.0	43.2	80.0	32.7	38.6	44.0	35.4	35.5
LnGrp LOS	D	A	F	E	A	D	F	C	D	D	D	D
Approach Vol, veh/h	618		1038				619		466			
Approach Delay, s/veh	71.2		50.6				46.9		36.7			
Approach LOS	E		D				D		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	23.4	16.0	37.7	14.4	23.4	11.9	41.8				
Change Period (Y+Rc), s	* 4.9	* 6	* 4.6	* 5.7	* 4.9	* 6	* 4.9	* 5.7				
Max Green Setting (Gmax), s	* 9.5	* 26	* 11	* 32	* 9.5	* 26	* 7	* 36				
Max Q Clear Time (g_c+I1), s	5.3	14.0	12.0	34.0	10.2	11.4	2.8	32.8				
Green Ext Time (p_c), s	0.0	1.8	0.0	0.0	0.0	1.8	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			52.0									
HCM 6th LOS			D									
Notes												

HCM 6th Signalized Intersection Summary

2: N Twin Oaks Valley Rd & W San Marcos Blvd/E San Marcos Blvd

Ex + C + P AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	368	356	574	470	26	222	392	522	92	743	219
Future Volume (veh/h)	139	368	356	574	470	26	222	392	522	92	743	219
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		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	158	418	405	631	516	29	258	456	607	97	782	231
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.86	0.86	0.86	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	220	1058	984	416	1210	68	220	1536	860	203	1139	336
Arrive On Green	0.06	0.30	0.30	0.12	0.36	0.36	0.06	0.44	0.44	0.06	0.43	0.43
Sat Flow, veh/h	3428	3526	2687	3428	3388	190	3428	3526	1535	3428	2666	788
Grp Volume(v), veh/h	158	418	405	631	268	277	258	456	607	97	517	496
Grp Sat Flow(s),veh/h/ln	1714	1763	1344	1714	1763	1815	1714	1763	1535	1714	1763	1691
Q Serve(g_s), s	6.3	13.2	15.8	17.0	16.1	16.2	9.0	11.7	40.6	3.8	33.3	33.3
Cycle Q Clear(g_c), s	6.3	13.2	15.8	17.0	16.1	16.2	9.0	11.7	40.6	3.8	33.3	33.3
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	220	1058	984	416	630	649	220	1536	860	203	753	722
V/C Ratio(X)	0.72	0.40	0.41	1.52	0.43	0.43	1.17	0.30	0.71	0.48	0.69	0.69
Avail Cap(c_a), veh/h	269	1058	984	416	630	649	220	1536	860	203	753	722
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	64.3	38.9	33.3	61.5	34.1	34.1	65.5	25.6	22.7	63.7	32.5	32.5
Incr Delay (d2), s/veh	7.0	1.1	1.3	244.2	2.1	2.1	114.4	0.5	4.8	7.8	5.1	5.3
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	8.0	5.9	5.2	21.5	7.3	7.6	7.4	4.9	14.9	1.9	14.7	14.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.2	40.0	34.6	305.7	36.2	36.2	179.9	26.1	27.6	71.6	37.6	37.8
LnGrp LOS	E	D	C	F	D	D	F	C	C	E	D	D
Approach Vol, veh/h	981		1176				1321		1110			
Approach Delay, s/veh	42.8		180.8				56.8		40.6			
Approach LOS	D		F				E		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	49.4	16.0	68.1	16.0	57.4	14.8	69.3				
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	42.0	42.0	9.0	* 43	11.0	48.0	8.3	44.0				
Max Q Clear Time (g_c+119, s)	17.8	17.8	11.0	35.3	8.3	18.2	5.8	42.6				
Green Ext Time (p_c), s	0.0	4.8	0.0	3.7	0.1	3.6	0.0	0.8				

Intersection Summary

HCM 6th Ctrl Delay 81.7
HCM 6th LOS F

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.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

3: San Marcos Blvd/Woodward St & E Mission Rd

Ex + C + P AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	518	61	658	815	95	21	63	520	38	381	92
Future Volume (veh/h)	32	518	61	658	815	95	21	63	520	38	381	92
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		0.98	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	42	673	79	748	926	108	27	81	667	46	465	112
Peak Hour Factor	0.77	0.77	0.77	0.88	0.88	0.88	0.78	0.78	0.78	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	80	767	330	810	1440	626	81	1096	475	83	854	204
Arrive On Green	0.05	0.22	0.22	0.24	0.41	0.41	0.05	0.31	0.31	0.05	0.30	0.30
Sat Flow, veh/h	1767	3526	1517	3428	3526	1534	1767	3526	1528	1767	2804	670
Grp Volume(v), veh/h	42	673	79	748	926	108	27	81	667	46	291	286
Grp Sat Flow(s),veh/h/ln	1767	1763	1517	1714	1763	1534	1767	1763	1528	1767	1763	1711
Q Serve(g_s), s	3.3	26.4	6.2	30.5	30.2	6.4	2.1	2.3	44.5	3.6	19.7	20.0
Cycle Q Clear(g_c), s	3.3	26.4	6.2	30.5	30.2	6.4	2.1	2.3	44.5	3.6	19.7	20.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	80	767	330	810	1440	626	81	1096	475	83	537	521
V/C Ratio(X)	0.52	0.88	0.24	0.92	0.64	0.17	0.33	0.07	1.40	0.55	0.54	0.55
Avail Cap(c_a), veh/h	111	812	350	886	1514	659	173	1096	475	105	537	521
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	66.8	54.2	46.2	53.4	34.0	27.0	66.2	34.8	49.3	66.8	41.5	41.6
Incr Delay (d2), s/veh	5.2	10.3	0.4	14.4	0.9	0.1	2.4	0.0	194.6	5.7	1.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	12.6	2.4	14.4	12.7	2.4	1.0	1.0	42.6	1.8	8.8	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	64.5	46.6	67.8	34.9	27.1	68.5	34.8	243.9	72.5	42.6	42.8
LnGrp LOS	E	E	D	E	C	C	E	C	F	E	D	D
Approach Vol, veh/h	794			1782			775			623		
Approach Delay, s/veh	63.1			48.2			216.0			44.9		
Approach LOS	E			D			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	40.8	38.2	13.6	50.6	13.5	65.5	12.7	51.5				
Change Period (Y+Rc), s	7.0	7.0	7.0	* 7	7.0	* 7	6.0	7.0				
Max Green Setting (Gmax), s	37.0	33.0	14.0	* 39	9.0	* 62	8.5	44.5				
Max Q Clear Time (g_c+Rc), s	32.5	28.4	4.1	22.0	5.3	32.2	5.6	46.5				
Green Ext Time (p_c), s	1.3	1.8	0.0	3.3	0.0	7.2	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 83.4

HCM 6th LOS F

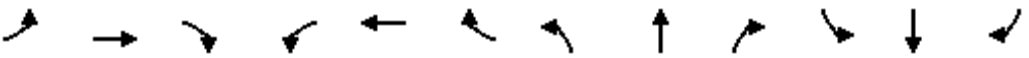
Notes

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

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑↑↓			↗
Traffic Vol, veh/h	0	1123	1529	55	0	22
Future Vol, veh/h	0	1123	1529	55	0	22
Conflicting Peds, #/hr	10	0	0	10	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	1221	1662	60	0	24
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	881
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.16
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.93
Pot Cap-1 Maneuver	0	-	-	-	0	247
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	242
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		21.5		
HCM LOS	C					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	242		
HCM Lane V/C Ratio	-	-	-	0.099		
HCM Control Delay (s)	-	-	-	21.5		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0.3		

HCM 6th Signalized Intersection Summary 5: E Mission Rd & Mulberry Dr

Ex + C + P AM
02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰		↰	↰↰↰			↰↰		↰	↰	↰
Traffic Volume (veh/h)	157	1011	0	5	1229	274	0	0	0	498	0	357
Future Volume (veh/h)	157	1011	0	5	1229	274	0	0	0	498	0	357
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		0.98	1.00		1.00	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	194	1248	0	5	1517	338	0	0	0	593	0	425
Peak Hour Factor	0.81	0.81	0.92	0.92	0.81	0.81	0.92	0.92	0.92	0.84	0.92	0.84
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	216	3046	0	16	2001	443	0	1	0	931	0	401
Arrive On Green	0.12	0.60	0.00	0.01	0.48	0.48	0.00	0.00	0.00	0.26	0.00	0.26
Sat Flow, veh/h	1767	5233	0	1767	4129	914	0	1856	0	3534	0	1523
Grp Volume(v), veh/h	194	1248	0	5	1239	616	0	0	0	593	0	425
Grp Sat Flow(s),veh/h/ln	1767	1689	0	1767	1689	1666	0	1856	0	1767	0	1523
Q Serve(g_s), s	16.2	19.6	0.0	0.4	44.8	45.3	0.0	0.0	0.0	22.3	0.0	39.5
Cycle Q Clear(g_c), s	16.2	19.6	0.0	0.4	44.8	45.3	0.0	0.0	0.0	22.3	0.0	39.5
Prop In Lane	1.00		0.00	1.00		0.55	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	3046	0	16	1637	807	0	1	0	931	0	401
V/C Ratio(X)	0.90	0.41	0.00	0.32	0.76	0.76	0.00	0.00	0.00	0.64	0.00	1.06
Avail Cap(c_a), veh/h	216	3046	0	82	1637	807	0	111	0	931	0	401
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	0.00	0.00	0.00	0.57	0.00	0.57
Uniform Delay (d), s/veh	64.9	15.8	0.0	73.9	31.5	31.6	0.0	0.0	0.0	48.9	0.0	55.2
Incr Delay (d2), s/veh	39.8	0.4	0.0	11.5	3.3	6.7	0.0	0.0	0.0	0.8	0.0	50.8
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	9.6	7.3	0.0	0.2	18.3	19.0	0.0	0.0	0.0	9.8	0.0	20.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.8	16.2	0.0	85.4	34.8	38.3	0.0	0.0	0.0	49.7	0.0	106.1
LnGrp LOS	F	B	A	F	C	D	A	A	A	D	A	F
Approach Vol, veh/h	1442			1860			0			1018		
Approach Delay, s/veh	28.1			36.1			0.0			73.3		
Approach LOS	C			D						E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	96.7		46.0	24.8	79.2		0.0				
Change Period (Y+Rc), s	6.0	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	7.0	69.0		39.5	18.3	57.2		9.0				
Max Q Clear Time (g_c+I1), s	2.4	21.6		41.5	18.2	47.3		0.0				
Green Ext Time (p_c), s	0.0	10.8		0.0	0.0	7.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay 42.2
HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

6: Woodland Pkwy & E Mission Rd

Ex + C + P AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	538	254	177	694	20	327	183	60	97	492	376
Future Volume (veh/h)	320	538	254	177	694	20	327	183	60	97	492	376
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		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	405	681	0	203	798	23	355	199	65	108	547	418
Peak Hour Factor	0.79	0.79	0.79	0.87	0.87	0.87	0.92	0.92	0.92	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	331	1024		373	1072	31	284	1018	441	143	1012	438
Arrive On Green	0.19	0.29	0.00	0.11	0.21	0.21	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	1767	3526	1572	3428	5055	145	3428	3526	1526	1767	3526	1526
Grp Volume(v), veh/h	405	681	0	203	533	288	355	199	65	108	547	418
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1689	1823	1714	1763	1526	1767	1763	1526
Q Serve(g_s), s	21.5	19.5	0.0	6.4	16.9	17.0	9.5	4.9	3.6	6.9	15.0	30.9
Cycle Q Clear(g_c), s	21.5	19.5	0.0	6.4	16.9	17.0	9.5	4.9	3.6	6.9	15.0	30.9
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	331	1024		373	716	386	284	1018	441	143	1012	438
V/C Ratio(X)	1.22	0.67		0.54	0.74	0.75	1.25	0.20	0.15	0.75	0.54	0.95
Avail Cap(c_a), veh/h	331	1182		373	868	468	284	1020	441	143	1013	439
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	35.8	0.0	48.5	42.3	42.3	52.7	30.8	30.3	51.6	34.5	40.2
Incr Delay (d2), s/veh	124.7	1.2	0.0	5.6	2.8	5.2	138.8	0.1	0.2	30.3	0.6	31.4
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	20.6	8.2	0.0	3.0	7.1	7.9	9.5	2.1	1.3	4.2	6.4	15.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	171.3	37.0	0.0	54.0	45.1	47.6	191.5	30.9	30.5	81.9	35.1	71.6
LnGrp LOS	F	D		D	D	D	F	C	C	F	D	E
Approach Vol, veh/h	1086		A		1024		619		1073			
Approach Delay, s/veh	87.1				47.6		122.9		54.0			
Approach LOS	F		D		F		D					
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	39.8	16.0	40.0	28.0	30.8	15.8	40.2				
Change Period (Y+Rc), s	6.5	6.5	6.5	7.0	6.5	6.5	6.5	7.0				
Max Green Setting (Gmax), s	12.5	38.5	9.5	33.0	21.5	29.5	9.3	33.2				
Max Q Clear Time (g_c+I), s	10.4	21.5	11.5	32.9	23.5	19.0	8.9	6.9				
Green Ext Time (p_c), s	0.2	3.9	0.0	0.1	0.0	3.5	0.0	1.4				

Intersection Summary

HCM 6th Ctrl Delay 73.0

HCM 6th LOS E

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

7: Woodland Pkwy & Rancheros Dr

Ex + C + P AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	61	328	104	197	7	147	327	83	10	411	469
Future Volume (veh/h)	201	61	328	104	197	7	147	327	83	10	411	469
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	226	69	369	133	253	9	152	337	86	12	501	572
Peak Hour Factor	0.89	0.89	0.89	0.78	0.78	0.78	0.97	0.97	0.97	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	245	460	539	213	415	15	191	1136	285	74	640	736
Arrive On Green	0.14	0.25	0.25	0.12	0.23	0.23	0.11	0.41	0.41	0.04	0.34	0.34
Sat Flow, veh/h	1767	1856	1487	1767	1778	63	1767	2765	693	1767	1856	1502
Grp Volume(v), veh/h	226	69	369	133	0	262	152	213	210	12	501	572
Grp Sat Flow(s),veh/h/ln	1767	1856	1487	1767	0	1842	1767	1763	1696	1767	1856	1502
Q Serve(g_s), s	18.9	4.4	31.9	10.7	0.0	19.1	12.6	12.1	12.5	1.0	36.4	47.7
Cycle Q Clear(g_c), s	18.9	4.4	31.9	10.7	0.0	19.1	12.6	12.1	12.5	1.0	36.4	47.7
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	245	460	539	213	0	430	191	724	696	74	640	736
V/C Ratio(X)	0.92	0.15	0.69	0.62	0.00	0.61	0.80	0.29	0.30	0.16	0.78	0.78
Avail Cap(c_a), veh/h	245	460	539	213	0	430	191	724	696	74	640	736
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	0.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	63.8	44.1	41.4	62.7	0.0	51.4	65.3	29.6	29.7	69.3	44.1	32.3
Incr Delay (d2), s/veh	40.4	0.7	6.9	13.0	0.0	6.3	28.2	1.0	1.1	3.6	7.3	6.2
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	1.3	2.1	12.8	5.6	0.0	9.6	7.2	5.4	5.4	0.5	17.9	18.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.2	44.7	48.3	75.7	0.0	57.7	93.5	30.7	30.9	72.9	51.4	38.5
LnGrp LOS	F	D	D	E	A	E	F	C	C	E	D	D
Approach Vol, veh/h	664			395			575			1085		
Approach Delay, s/veh	67.0			63.8			47.3			44.9		
Approach LOS	E			E			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	62.2	68.3	25.0	44.5	22.1	58.4	27.2	42.3				
Change Period (Y+Rc), s	* 5.9	* 6.7	6.9	* 7.3	* 5.9	* 6.7	6.4	* 7.3				
Max Green Setting (Gmax), s	* 60.3	* 62	18.1	* 37	* 16	* 52	20.8	* 35				
Max Q Clear Time (g_c+I), s	13.0	14.5	12.7	33.9	14.6	49.7	20.9	21.1				
Green Ext Time (p_c), s	0.0	2.7	0.1	0.6	0.1	1.1	0.0	1.2				

Intersection Summary

HCM 6th Ctrl Delay 53.5

HCM 6th LOS D

Notes

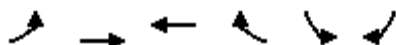
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

8: Barham Dr & Woodland Pkwy

Ex + C + P AM
02/08/2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	289	521	226	149	227	411
Future Volume (veh/h)	289	521	226	149	227	411
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	307	554	248	164	277	501
Peak Hour Factor	0.94	0.94	0.91	0.91	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	335	1113	685	1041	545	485
Arrive On Green	0.19	0.60	0.37	0.37	0.31	0.31
Sat Flow, veh/h	1767	1856	1856	1505	1767	1572
Grp Volume(v), veh/h	307	554	248	164	277	501
Grp Sat Flow(s), veh/h/ln	1767	1856	1856	1505	1767	1572
Q Serve(g_s), s	25.6	25.5	14.6	5.9	19.3	46.3
Cycle Q Clear(g_c), s	25.6	25.5	14.6	5.9	19.3	46.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	335	1113	685	1041	545	485
V/C Ratio(X)	0.92	0.50	0.36	0.16	0.51	1.03
Avail Cap(c_a), veh/h	540	1113	685	1041	545	485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	17.1	34.4	8.7	42.5	51.8
Incr Delay (d2), s/veh	14.0	1.6	1.5	0.3	3.4	49.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.8	11.4	7.0	9.1	8.9	40.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	73.6	18.7	35.9	9.1	45.9	101.2
LnGrp LOS	E	B	D	A	D	F
Approach Vol, veh/h		861	412		778	
Approach Delay, s/veh		38.3	25.2		81.5	
Approach LOS		D	C		F	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		97.0		53.0	34.6	62.4
Change Period (Y+Rc), s		* 7		6.7	* 6.2	* 7
Max Green Setting (Gmax), s		* 90		46.3	* 46	* 38
Max Q Clear Time (g_c+I1), s		27.5		48.3	27.6	16.6
Green Ext Time (p_c), s		4.3		0.0	0.9	2.0

Intersection Summary

HCM 6th Ctrl Delay	52.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

HCM 6th Signalized Intersection Summary

1: Mulberry Dr & Borden Rd

Ex + C + P PM

02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	490	82	138	297	26	110	241	298	21	166	10
Future Volume (veh/h)	13	490	82	138	297	26	110	241	298	21	166	10
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		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	15	557	93	162	349	31	118	259	320	23	180	11
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	131	579	97	290	641	57	153	860	363	131	778	47
Arrive On Green	0.07	0.38	0.38	0.08	0.38	0.38	0.09	0.24	0.24	0.07	0.23	0.23
Sat Flow, veh/h	1767	1543	258	3428	1675	149	1767	3526	1486	1767	3364	204
Grp Volume(v), veh/h	15	0	650	162	0	380	118	259	320	23	94	97
Grp Sat Flow(s),veh/h/ln	1767	0	1801	1714	0	1824	1767	1763	1486	1767	1763	1804
Q Serve(g_s), s	0.8	0.0	33.7	4.3	0.0	15.5	6.2	5.7	19.8	1.2	4.1	4.2
Cycle Q Clear(g_c), s	0.8	0.0	33.7	4.3	0.0	15.5	6.2	5.7	19.8	1.2	4.1	4.2
Prop In Lane	1.00		0.14	1.00		0.08	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	131	0	676	290	0	698	153	860	363	131	408	418
V/C Ratio(X)	0.11	0.00	0.96	0.56	0.00	0.54	0.77	0.30	0.88	0.18	0.23	0.23
Avail Cap(c_a), veh/h	131	0	676	290	0	698	153	1040	438	131	498	509
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	41.3	0.0	29.2	42.0	0.0	23.0	42.7	29.5	34.8	41.5	29.8	29.9
Incr Delay (d2), s/veh	1.8	0.0	26.3	7.5	0.0	3.0	30.3	0.2	16.4	2.9	0.3	0.3
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	0.4	0.0	18.7	2.1	0.0	6.8	3.9	2.3	8.5	0.6	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	0.0	55.5	49.6	0.0	26.0	73.0	29.7	51.3	44.4	30.1	30.1
LnGrp LOS	D	A	E	D	A	C	E	C	D	D	C	C
Approach Vol, veh/h		665			542			697			214	
Approach Delay, s/veh		55.2			33.1			46.9			31.7	
Approach LOS		E			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	29.3	12.7	41.6	13.2	28.1	12.0	42.3				
Change Period (Y+Rc), s	* 4.9	* 6	* 4.6	* 5.7	* 4.9	* 6	* 4.9	* 5.7				
Max Green Setting (Gmax), s	* 7.1	* 28	* 8.1	* 36	* 8.3	* 27	* 7.1	* 36				
Max Q Clear Time (g_c+I1), s	3.2	21.8	6.3	35.7	8.2	6.2	2.8	17.5				
Green Ext Time (p_c), s	0.0	1.5	0.1	0.1	0.0	0.8	0.0	2.0				

Intersection Summary

HCM 6th Ctrl Delay 44.5

HCM 6th LOS D

Notes

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

HCM 6th Signalized Intersection Summary

2: N Twin Oaks Valley Rd & W San Marcos Blvd/E San Marcos Blvd

Ex + C + P PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔↔	↔↔	↑↑		↔↔	↑↑	↔	↔↔	↑↑	
Traffic Volume (veh/h)	310	700	390	393	434	87	444	727	364	87	604	247
Future Volume (veh/h)	310	700	390	393	434	87	444	727	364	87	604	247
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		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	326	737	411	409	452	91	458	749	375	92	636	260
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.97	0.97	0.97	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	367	1058	1113	245	769	154	380	1720	862	196	1043	426
Arrive On Green	0.11	0.30	0.30	0.07	0.26	0.26	0.11	0.49	0.49	0.06	0.43	0.43
Sat Flow, veh/h	3428	3526	2687	3428	2910	581	3428	3526	1537	3428	2422	990
Grp Volume(v), veh/h	326	737	411	409	272	271	458	749	375	92	463	433
Grp Sat Flow(s),veh/h/ln	1714	1763	1344	1714	1763	1729	1714	1763	1537	1714	1763	1649
Q Serve(g_s), s	13.1	25.9	14.9	10.0	18.8	19.1	15.5	19.3	19.9	3.6	28.4	28.4
Cycle Q Clear(g_c), s	13.1	25.9	14.9	10.0	18.8	19.1	15.5	19.3	19.9	3.6	28.4	28.4
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		0.60
Lane Grp Cap(c), veh/h	367	1058	1113	245	466	457	380	1720	862	196	759	710
V/C Ratio(X)	0.89	0.70	0.37	1.67	0.58	0.59	1.21	0.44	0.43	0.47	0.61	0.61
Avail Cap(c_a), veh/h	367	1058	1113	245	466	457	380	1720	862	196	759	710
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.7	43.4	28.7	65.0	44.8	44.9	62.3	23.3	18.0	63.9	30.8	30.8
Incr Delay (d2), s/veh	22.2	3.8	0.9	318.9	5.3	5.6	115.3	0.8	1.6	7.9	3.6	3.9
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	6.9	11.9	4.8	15.2	9.0	9.0	12.7	8.0	7.1	1.8	12.4	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.8	47.2	29.6	383.9	50.1	50.5	177.6	24.1	19.6	71.8	34.4	34.6
LnGrp LOS	F	D	C	F	D	D	F	C	B	E	C	C
Approach Vol, veh/h	1474			952			1582			988		
Approach Delay, s/veh	50.4			193.6			67.5			38.0		
Approach LOS	D			F			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	49.4	22.5	68.6	22.0	44.4	14.5	76.6				
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	40.0	42.0	15.5	* 44	15.0	37.0	8.0	51.3				
Max Q Clear Time (g_c+1/2, s)	11.0	27.9	17.5	30.4	15.1	21.1	5.6	21.9				
Green Ext Time (p_c), s	0.0	5.9	0.0	4.5	0.0	3.0	0.0	6.8				

Intersection Summary

HCM 6th Ctrl Delay 80.6
HCM 6th LOS F

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.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

3: San Marcos Blvd/Woodward St & E Mission Rd

Ex + C + P PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	954	57	357	530	74	62	256	702	17	181	81
Future Volume (veh/h)	99	954	57	357	530	74	62	256	702	17	181	81
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	105	1015	61	410	609	85	68	281	771	23	245	109
Peak Hour Factor	0.94	0.94	0.94	0.87	0.87	0.87	0.91	0.91	0.91	0.74	0.74	0.74
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	128	1015	439	376	1147	498	113	1354	588	59	824	354
Arrive On Green	0.07	0.29	0.29	0.11	0.33	0.33	0.06	0.38	0.38	0.03	0.35	0.35
Sat Flow, veh/h	1767	3526	1526	3428	3526	1529	1767	3526	1533	1767	2380	1022
Grp Volume(v), veh/h	105	1015	61	410	609	85	68	281	771	23	179	175
Grp Sat Flow(s),veh/h/ln	1767	1763	1526	1714	1763	1529	1767	1763	1533	1767	1763	1638
Q Serve(g_s), s	8.5	42.0	4.3	16.0	20.5	5.8	5.5	7.8	56.0	1.9	10.8	11.4
Cycle Q Clear(g_c), s	8.5	42.0	4.3	16.0	20.5	5.8	5.5	7.8	56.0	1.9	10.8	11.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	128	1015	439	376	1147	498	113	1354	588	59	610	567
V/C Ratio(X)	0.82	1.00	0.14	1.09	0.53	0.17	0.60	0.21	1.31	0.39	0.29	0.31
Avail Cap(c_a), veh/h	242	1015	439	376	1147	498	194	1354	588	109	610	567
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	66.7	51.9	38.5	64.9	40.1	35.1	66.4	30.1	44.9	69.1	34.7	34.9
Incr Delay (d2), s/veh	12.2	28.2	0.1	72.8	0.5	0.2	5.0	0.1	151.5	4.2	0.3	0.3
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	4.2	22.0	1.7	10.7	8.8	2.2	2.6	3.4	45.8	0.9	4.8	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.0	80.1	38.7	137.7	40.6	35.3	71.4	30.1	196.4	73.2	35.0	35.2
LnGrp LOS	E	F	D	F	D	D	E	C	F	E	C	D
Approach Vol, veh/h	1181			1104			1120			377		
Approach Delay, s/veh	77.9			76.3			147.1			37.4		
Approach LOS	E			E			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.0	49.0	16.4	57.5	17.5	54.5	10.8	63.0				
Change Period (Y+Rc), s	7.0	7.0	7.0	* 7	7.0	* 7	6.0	7.0				
Max Green Setting (Gmax), s	16.0	42.0	16.0	* 49	20.0	* 39	9.0	56.0				
Max Q Clear Time (g_c+11.0), s	16.0	44.0	7.5	13.4	10.5	22.5	3.9	58.0				
Green Ext Time (p_c), s	0.0	0.0	0.1	2.3	0.1	3.6	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 93.9
HCM 6th LOS F

Notes

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

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑↑↓			↗
Traffic Vol, veh/h	0	1730	916	40	0	59
Future Vol, veh/h	0	1730	916	40	0	59
Conflicting Peds, #/hr	10	0	0	10	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	1880	996	43	0	64
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	-	0	-	0	-	540
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.16
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.93
Pot Cap-1 Maneuver	0	-	-	-	0	414
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	406
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		15.5		
HCM LOS	C					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	406		
HCM Lane V/C Ratio	-	-	-	0.158		
HCM Control Delay (s)	-	-	-	15.5		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0.6		

HCM 6th Signalized Intersection Summary

5: E Mission Rd & Mulberry Dr

Ex + C + P PM

02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	439	1313	0	8	797	281	0	0	0	236	0	196
Future Volume (veh/h)	439	1313	0	8	797	281	0	0	0	236	0	196
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		0.98	1.00		1.00	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	457	1368	0	9	822	290	0	0	0	281	0	233
Peak Hour Factor	0.96	0.96	0.92	0.92	0.97	0.97	0.92	0.92	0.92	0.84	0.92	0.84
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	501	3395	0	26	1463	512	0	1	0	667	0	285
Arrive On Green	0.28	0.67	0.00	0.01	0.40	0.40	0.00	0.00	0.00	0.19	0.00	0.19
Sat Flow, veh/h	1767	5233	0	1767	3675	1287	0	1856	0	3534	0	1511
Grp Volume(v), veh/h	457	1368	0	9	755	357	0	0	0	281	0	233
Grp Sat Flow(s),veh/h/ln	1767	1689	0	1767	1689	1585	0	1856	0	1767	0	1511
Q Serve(g_s), s	37.5	18.3	0.0	0.8	26.0	26.3	0.0	0.0	0.0	10.5	0.0	22.2
Cycle Q Clear(g_c), s	37.5	18.3	0.0	0.8	26.0	26.3	0.0	0.0	0.0	10.5	0.0	22.2
Prop In Lane	1.00		0.00	1.00		0.81	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	501	3395	0	26	1344	631	0	1	0	667	0	285
V/C Ratio(X)	0.91	0.40	0.00	0.35	0.56	0.57	0.00	0.00	0.00	0.42	0.00	0.82
Avail Cap(c_a), veh/h	501	3395	0	82	1344	631	0	111	0	919	0	393
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	0.00	0.00	0.00	0.91	0.00	0.91
Uniform Delay (d), s/veh	52.0	11.2	0.0	73.2	35.0	35.1	0.0	0.0	0.0	53.6	0.0	58.4
Incr Delay (d2), s/veh	23.5	0.4	0.0	7.9	1.7	3.7	0.0	0.0	0.0	0.4	0.0	8.5
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	19.5	6.5	0.0	0.4	10.8	10.6	0.0	0.0	0.0	4.7	0.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.5	11.5	0.0	81.1	36.7	38.7	0.0	0.0	0.0	54.0	0.0	66.8
LnGrp LOS	E	B	A	F	D	D	A	A	A	D	A	E
Approach Vol, veh/h	1825			1121			0			514		
Approach Delay, s/veh	27.5			37.7			0.0			59.8		
Approach LOS	C			D						E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	107.0		34.8	49.0	66.2		0.0				
Change Period (Y+Rc), s	6.0	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	7.0	69.5		39.0	42.5	33.5		9.0				
Max Q Clear Time (g_c+I1), s	2.8	20.3		24.2	39.5	28.3		0.0				
Green Ext Time (p_c), s	0.0	12.5		1.6	0.5	3.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay 35.6

HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

6: Woodland Pkwy & E Mission Rd

Ex + C + P PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	376	963	313	149	645	50	242	374	109	46	300	149
Future Volume (veh/h)	376	963	313	149	645	50	242	374	109	46	300	149
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		0.96	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	388	993	0	157	679	53	272	420	122	47	309	154
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.89	0.89	0.89	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	406	1283		280	1032	80	280	713	306	144	713	306
Arrive On Green	0.23	0.36	0.00	0.08	0.22	0.22	0.08	0.20	0.20	0.08	0.20	0.20
Sat Flow, veh/h	1767	3526	1572	3428	4780	370	3428	3526	1514	1767	3526	1514
Grp Volume(v), veh/h	388	993	0	157	478	254	272	420	122	47	309	154
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1689	1773	1714	1763	1514	1767	1763	1514
Q Serve(g_s), s	21.2	24.4	0.0	4.3	12.7	12.8	7.8	10.6	6.8	2.5	7.5	8.8
Cycle Q Clear(g_c), s	21.2	24.4	0.0	4.3	12.7	12.8	7.8	10.6	6.8	2.5	7.5	8.8
Prop In Lane	1.00		1.00	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	406	1283		280	729	383	280	713	306	144	713	306
V/C Ratio(X)	0.96	0.77		0.56	0.66	0.66	0.97	0.59	0.40	0.33	0.43	0.50
Avail Cap(c_a), veh/h	406	1602		280	1034	543	280	1188	510	144	1188	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	27.6	0.0	43.3	35.1	35.1	44.9	35.4	33.9	42.4	34.2	34.7
Incr Delay (d2), s/veh	34.9	1.9	0.0	7.9	1.0	2.0	47.0	0.8	0.8	5.9	0.4	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	9.8	0.0	2.1	5.1	5.5	5.1	4.5	2.5	1.3	3.1	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	29.5	0.0	51.2	36.1	37.1	91.8	36.2	34.7	48.3	34.6	36.0
LnGrp LOS	E	C		D	D	D	F	D	C	D	C	D
Approach Vol, veh/h	1381		A	889			814			510		
Approach Delay, s/veh	41.5			39.1			54.6			36.3		
Approach LOS	D			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	44.5	42.1	14.5	26.8	29.0	27.6	14.5	26.8				
Change Period (Y+Rc), s	6.5	6.5	6.5	7.0	6.5	6.5	6.5	7.0				
Max Green Setting (Gmax), s	44.5	44.5	8.0	33.0	22.5	30.0	8.0	33.0				
Max Q Clear Time (g_c+I), s	10.3	26.4	9.8	10.8	23.2	14.8	4.5	12.6				
Green Ext Time (p_c), s	0.1	6.2	0.0	2.3	0.0	3.8	0.0	3.0				

Intersection Summary

HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

7: Woodland Pkwy & Rancheros Dr

Ex + C + P PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	136	450	56	132	34	146	406	65	24	354	365
Future Volume (veh/h)	212	136	450	56	132	34	146	406	65	24	354	365
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	230	148	489	64	150	39	147	410	66	26	389	401
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.99	0.99	0.99	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	285	560	700	158	329	85	279	1157	185	84	505	659
Arrive On Green	0.16	0.30	0.30	0.09	0.23	0.23	0.16	0.38	0.38	0.05	0.27	0.27
Sat Flow, veh/h	1767	1856	1497	1767	1408	366	1767	3024	482	1767	1856	1492
Grp Volume(v), veh/h	230	148	489	64	0	189	147	237	239	26	389	401
Grp Sat Flow(s),veh/h/ln	1767	1856	1497	1767	0	1774	1767	1763	1744	1767	1856	1492
Q Serve(g_s), s	18.8	9.1	39.3	5.1	0.0	13.7	11.5	14.4	14.7	2.1	29.0	31.3
Cycle Q Clear(g_c), s	18.8	9.1	39.3	5.1	0.0	13.7	11.5	14.4	14.7	2.1	29.0	31.3
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	285	560	700	158	0	414	279	675	667	84	505	659
V/C Ratio(X)	0.81	0.26	0.70	0.41	0.00	0.46	0.53	0.35	0.36	0.31	0.77	0.61
Avail Cap(c_a), veh/h	285	560	700	158	0	414	279	675	667	84	505	659
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	0.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	60.6	39.7	32.5	64.5	0.0	49.3	58.0	33.0	33.1	69.1	50.3	32.9
Incr Delay (d2), s/veh	21.2	1.1	5.7	7.6	0.0	3.6	6.9	1.4	1.5	8.3	9.6	3.7
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	0.1	4.4	15.3	2.7	0.0	6.6	5.7	6.5	6.5	1.2	14.8	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.8	40.9	38.2	72.1	0.0	52.9	64.9	34.5	34.6	77.4	59.9	36.6
LnGrp LOS	F	D	D	E	A	D	E	C	C	E	E	D
Approach Vol, veh/h	867			253			623			816		
Approach Delay, s/veh	50.2			57.8			41.7			49.0		
Approach LOS	D			E			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.0	64.1	20.3	52.6	29.6	47.5	30.6	42.3				
Change Period (Y+Rc), s	5.9	* 6.7	6.9	* 7.3	* 5.9	* 6.7	6.4	* 7.3				
Max Green Setting (Gmax), s	57	* 57	13.4	* 45	* 24	* 41	24.2	* 35				
Max Q Clear Time (g_c+I), s	16.7	16.7	7.1	41.3	13.5	33.3	20.8	15.7				
Green Ext Time (p_c), s	0.0	3.0	0.1	1.1	0.2	2.4	0.2	1.0				

Intersection Summary

HCM 6th Ctrl Delay 48.5
HCM 6th LOS D

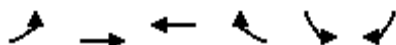
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

8: Barham Dr & Woodland Pkwy

Ex + C + P PM
02/08/2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	459	650	194	158	467	271
Future Volume (veh/h)	459	650	194	158	467	271
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	510	722	226	184	396	404
Peak Hour Factor	0.90	0.90	0.86	0.86	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	540	1190	547	861	473	420
Arrive On Green	0.31	0.64	0.29	0.29	0.27	0.27
Sat Flow, veh/h	1767	1856	1856	1495	1767	1572
Grp Volume(v), veh/h	510	722	226	184	396	404
Grp Sat Flow(s), veh/h/ln	1767	1856	1856	1495	1767	1572
Q Serve(g_s), s	42.3	34.3	14.7	9.2	31.7	38.0
Cycle Q Clear(g_c), s	42.3	34.3	14.7	9.2	31.7	38.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	540	1190	547	861	473	420
V/C Ratio(X)	0.95	0.61	0.41	0.21	0.84	0.96
Avail Cap(c_a), veh/h	705	1190	547	861	475	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	15.8	42.5	16.4	51.9	54.2
Incr Delay (d2), s/veh	18.6	2.3	2.3	0.6	12.5	33.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.5	15.0	7.2	11.2	15.6	33.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	69.5	18.1	44.8	17.0	64.3	87.8
LnGrp LOS	E	B	D	B	E	F
Approach Vol, veh/h		1232	410		800	
Approach Delay, s/veh		39.4	32.3		76.2	
Approach LOS		D	C		E	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.2		46.8	52.0	51.2
Change Period (Y+Rc), s		* 7		6.7	* 6.2	* 7
Max Green Setting (Gmax), s		* 96		40.3	* 60	* 30
Max Q Clear Time (g_c+I1), s		36.3		40.0	44.3	16.7
Green Ext Time (p_c), s		6.3		0.1	1.5	1.6
Intersection Summary						
HCM 6th Ctrl Delay			50.2			
HCM 6th LOS			D			
Notes						
User approved volume balancing among the lanes for turning movement.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

APPENDIX F

LONG-TERM (HORIZON YEAR 2050) INTERSECTION ANALYSIS WORKSHEETS

HCM 6th Signalized Intersection Summary

1: Mulberry Dr & Borden Rd

Year 2050 AM

02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	300	270	360	580	40	110	170	140	60	280	30
Future Volume (veh/h)	20	300	270	360	580	40	110	170	140	60	280	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	22	333	300	396	637	44	175	270	222	80	373	40
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.63	0.63	0.63	0.75	0.75	0.75
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	134	307	277	423	669	46	182	700	292	182	633	67
Arrive On Green	0.08	0.35	0.35	0.12	0.39	0.39	0.10	0.20	0.20	0.10	0.20	0.20
Sat Flow, veh/h	1767	887	799	3428	1712	118	1767	3526	1474	1767	3191	339
Grp Volume(v), veh/h	22	0	633	396	0	681	175	270	222	80	205	208
Grp Sat Flow(s),veh/h/ln	1767	0	1686	1714	0	1831	1767	1763	1474	1767	1763	1768
Q Serve(g_s), s	1.1	0.0	32.0	10.6	0.0	33.4	9.1	6.1	13.1	3.9	9.7	9.9
Cycle Q Clear(g_c), s	1.1	0.0	32.0	10.6	0.0	33.4	9.1	6.1	13.1	3.9	9.7	9.9
Prop In Lane	1.00		0.47	1.00		0.06	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	134	0	584	423	0	715	182	700	292	182	350	351
V/C Ratio(X)	0.16	0.00	1.08	0.94	0.00	0.95	0.96	0.39	0.76	0.44	0.58	0.59
Avail Cap(c_a), veh/h	134	0	584	423	0	715	182	1007	421	182	503	505
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	40.0	0.0	30.2	40.2	0.0	27.3	41.3	32.2	35.0	39.0	33.6	33.7
Incr Delay (d2), s/veh	2.6	0.0	62.3	30.4	0.0	23.9	57.9	0.3	4.8	7.6	1.6	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	0.6	0.0	22.3	6.1	0.0	18.1	6.7	2.5	4.9	2.0	4.1	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	0.0	92.5	70.6	0.0	51.2	99.2	32.5	39.8	46.6	35.2	35.3
LnGrp LOS	D	A	F	E	A	D	F	C	D	D	D	D
Approach Vol, veh/h		655			1077			667			493	
Approach Delay, s/veh		90.9			58.3			52.4			37.1	
Approach LOS		F			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	24.3	16.0	37.7	14.4	24.3	11.9	41.8				
Change Period (Y+Rc), s	* 4.9	* 6	* 4.6	* 5.7	* 4.9	* 6	* 4.9	* 5.7				
Max Green Setting (Gmax), s	* 9.5	* 26	* 11	* 32	* 9.5	* 26	* 7	* 36				
Max Q Clear Time (g_c+I1), s	5.9	15.1	12.6	34.0	11.1	11.9	3.1	35.4				
Green Ext Time (p_c), s	0.0	1.8	0.0	0.0	0.0	1.8	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay	60.7
HCM 6th LOS	E

Notes

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

HCM 6th Signalized Intersection Summary

Year 2050 AM

2: N Twin Oaks Valley Rd & W San Marcos Blvd/E San Marcos Blvd

02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	390	380	580	500	40	240	430	520	110	850	260
Future Volume (veh/h)	160	390	380	580	500	40	240	430	520	110	850	260
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		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	182	443	432	637	549	44	279	500	605	116	895	274
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.86	0.86	0.86	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	230	1058	984	416	1169	93	220	1536	860	203	1129	345
Arrive On Green	0.07	0.30	0.30	0.12	0.35	0.35	0.06	0.44	0.44	0.06	0.43	0.43
Sat Flow, veh/h	3428	3526	2687	3428	3299	264	3428	3526	1535	3428	2643	807
Grp Volume(v), veh/h	182	443	432	637	293	300	279	500	605	116	596	573
Grp Sat Flow(s),veh/h/ln	1714	1763	1344	1714	1763	1800	1714	1763	1535	1714	1763	1687
Q Serve(g_s), s	7.3	14.1	17.0	17.0	18.0	18.1	9.0	13.1	40.3	4.6	41.0	41.2
Cycle Q Clear(g_c), s	7.3	14.1	17.0	17.0	18.0	18.1	9.0	13.1	40.3	4.6	41.0	41.2
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	230	1058	984	416	624	637	220	1536	860	203	753	721
V/C Ratio(X)	0.79	0.42	0.44	1.53	0.47	0.47	1.27	0.33	0.70	0.57	0.79	0.79
Avail Cap(c_a), veh/h	269	1058	984	416	624	637	220	1536	860	203	753	721
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	64.3	39.2	33.7	61.5	35.0	35.0	65.5	26.0	22.7	64.1	34.7	34.8
Incr Delay (d2), s/veh	12.7	1.2	1.4	250.5	2.5	2.5	150.6	0.6	4.8	11.1	8.4	8.8
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	8.6	6.3	5.6	21.9	8.2	8.5	8.5	5.5	14.8	2.3	18.6	18.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.1	40.5	35.1	312.0	37.5	37.5	216.1	26.5	27.5	75.2	43.1	43.6
LnGrp LOS	E	D	D	F	D	D	F	C	C	E	D	D
Approach Vol, veh/h	1057			1230			1384			1285		
Approach Delay, s/veh	44.6			179.6			65.1			46.2		
Approach LOS	D			F			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	49.4	16.0	68.1	16.4	57.0	14.8	69.3				
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	42.0	42.0	9.0	* 43	11.0	48.0	8.3	44.0				
Max Q Clear Time (g_c+119, s)	19.0	19.0	11.0	43.2	9.3	20.1	6.6	42.3				
Green Ext Time (p_c), s	0.0	5.0	0.0	0.1	0.1	3.9	0.0	1.0				

Intersection Summary

HCM 6th Ctrl Delay 84.3

HCM 6th LOS F

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.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

3: San Marcos Blvd/Woodward St & E Mission Rd

Year 2050 AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	530	70	660	830	100	30	70	520	50	390	100
Future Volume (veh/h)	40	530	70	660	830	100	30	70	520	50	390	100
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	52	688	91	750	943	114	38	90	667	61	476	122
Peak Hour Factor	0.77	0.77	0.77	0.88	0.88	0.88	0.78	0.78	0.78	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	87	800	344	815	1463	637	97	1029	445	91	777	198
Arrive On Green	0.05	0.23	0.23	0.24	0.42	0.42	0.06	0.29	0.29	0.05	0.28	0.28
Sat Flow, veh/h	1767	3526	1518	3428	3526	1534	1767	3526	1526	1767	2763	703
Grp Volume(v), veh/h	52	688	91	750	943	114	38	90	667	61	302	296
Grp Sat Flow(s),veh/h/ln	1767	1763	1518	1714	1763	1534	1767	1763	1526	1767	1763	1703
Q Serve(g_s), s	4.1	26.3	6.9	30.0	30.0	6.6	2.9	2.6	41.0	4.8	20.9	21.2
Cycle Q Clear(g_c), s	4.1	26.3	6.9	30.0	30.0	6.6	2.9	2.6	41.0	4.8	20.9	21.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	87	800	344	815	1463	637	97	1029	445	91	496	479
V/C Ratio(X)	0.60	0.86	0.26	0.92	0.64	0.18	0.39	0.09	1.50	0.67	0.61	0.62
Avail Cap(c_a), veh/h	113	928	400	903	1643	715	126	1029	445	101	496	479
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	65.4	52.2	44.7	52.3	32.8	26.0	64.1	36.2	49.8	65.5	43.8	43.9
Incr Delay (d2), s/veh	6.3	7.4	0.4	13.6	0.7	0.1	2.5	0.0	235.8	13.9	2.2	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	12.2	2.7	14.1	12.6	2.5	1.4	1.1	44.7	2.5	9.5	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.7	59.6	45.1	65.9	33.6	26.1	66.7	36.2	285.5	79.4	46.0	46.3
LnGrp LOS	E	E	D	E	C	C	E	D	F	E	D	D
Approach Vol, veh/h	831		1807				795		659			
Approach Delay, s/veh	58.7		46.5				246.9		49.2			
Approach LOS	E		D				F		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	40.4	38.9	14.7	46.5	13.9	65.3	13.3	48.0				
Change Period (Y+Rc), s	7.0	7.0	7.0	* 7	7.0	* 7	6.0	7.0				
Max Green Setting (Gmax), s	37.0	37.0	10.0	* 39	9.0	* 66	8.0	41.0				
Max Q Clear Time (g_c+Q_c), s	28.3	28.3	4.9	23.2	6.1	32.0	6.8	43.0				
Green Ext Time (p_c), s	1.4	3.0	0.0	3.3	0.0	7.6	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	88.4
HCM 6th LOS	F

Notes

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

HCM 6th Signalized Intersection Summary

5: E Mission Rd & Mulberry Dr

Year 2050 AM
02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1010	0	10	1220	280	0	0	0	510	0	360
Future Volume (veh/h)	140	1010	0	10	1220	280	0	0	0	510	0	360
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		0.98	1.00		1.00	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	173	1247	0	11	1506	346	0	0	0	607	0	429
Peak Hour Factor	0.81	0.81	0.92	0.92	0.81	0.81	0.92	0.92	0.92	0.84	0.92	0.84
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	216	3003	0	30	1988	454	0	1	0	931	0	401
Arrive On Green	0.12	0.59	0.00	0.02	0.48	0.48	0.00	0.00	0.00	0.26	0.00	0.26
Sat Flow, veh/h	1767	5233	0	1767	4102	937	0	1856	0	3534	0	1523
Grp Volume(v), veh/h	173	1247	0	11	1238	614	0	0	0	607	0	429
Grp Sat Flow(s),veh/h/ln	1767	1689	0	1767	1689	1661	0	1856	0	1767	0	1523
Q Serve(g_s), s	14.3	19.9	0.0	0.9	44.7	45.3	0.0	0.0	0.0	22.9	0.0	39.5
Cycle Q Clear(g_c), s	14.3	19.9	0.0	0.9	44.7	45.3	0.0	0.0	0.0	22.9	0.0	39.5
Prop In Lane	1.00		0.00	1.00		0.56	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	3003	0	30	1637	805	0	1	0	931	0	401
V/C Ratio(X)	0.80	0.42	0.00	0.36	0.76	0.76	0.00	0.00	0.00	0.65	0.00	1.07
Avail Cap(c_a), veh/h	216	3003	0	82	1637	805	0	111	0	931	0	401
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	0.00	0.00	0.00	0.53	0.00	0.53
Uniform Delay (d), s/veh	64.1	16.5	0.0	72.9	31.4	31.6	0.0	0.0	0.0	49.1	0.0	55.2
Incr Delay (d2), s/veh	26.2	0.4	0.0	7.1	3.3	6.7	0.0	0.0	0.0	0.9	0.0	53.0
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	7.9	7.5	0.0	0.5	18.2	18.9	0.0	0.0	0.0	10.0	0.0	21.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.3	16.9	0.0	80.0	34.8	38.3	0.0	0.0	0.0	50.0	0.0	108.2
LnGrp LOS	F	B	A	F	C	D	A	A	A	D	A	F
Approach Vol, veh/h	1420			1863			0			1036		
Approach Delay, s/veh	25.9			36.2			0.0			74.1		
Approach LOS	C			D						E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	95.4		46.0	24.8	79.2		0.0				
Change Period (Y+Rc), s	6.0	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	7.0	69.0		39.5	18.3	57.2		9.0				
Max Q Clear Time (g_c+I1), s	2.9	21.9		41.5	16.3	47.3		0.0				
Green Ext Time (p_c), s	0.0	10.8		0.0	0.1	7.4		0.0				

Intersection Summary

HCM 6th Ctrl Delay 41.9
HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

6: Woodland Pkwy & E Mission Rd

Year 2050 AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	330	560	260	200	710	30	320	200	70	100	550	390
Future Volume (veh/h)	330	560	260	200	710	30	320	200	70	100	550	390
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		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	418	709	0	230	816	34	348	217	76	111	611	433
Peak Hour Factor	0.79	0.79	0.79	0.87	0.87	0.87	0.92	0.92	0.92	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	332	1045		375	1085	45	255	1023	443	128	1017	440
Arrive On Green	0.19	0.30	0.00	0.11	0.22	0.22	0.07	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	1767	3526	1572	3428	4980	207	3428	3526	1526	1767	3526	1526
Grp Volume(v), veh/h	418	709	0	230	553	297	348	217	76	111	611	433
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1689	1809	1714	1763	1526	1767	1763	1526
Q Serve(g_s), s	21.5	20.3	0.0	7.3	17.5	17.6	8.5	5.3	4.3	7.1	17.1	32.3
Cycle Q Clear(g_c), s	21.5	20.3	0.0	7.3	17.5	17.6	8.5	5.3	4.3	7.1	17.1	32.3
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	332	1045		375	736	394	255	1023	443	128	1017	440
V/C Ratio(X)	1.26	0.68		0.61	0.75	0.75	1.37	0.21	0.17	0.87	0.60	0.98
Avail Cap(c_a), veh/h	332	1217		375	900	482	255	1023	443	128	1017	440
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	35.4	0.0	48.7	41.9	41.9	53.0	30.7	30.3	52.5	35.0	40.5
Incr Delay (d2), s/veh	138.6	1.2	0.0	7.3	2.8	5.3	188.0	0.1	0.2	49.7	1.0	38.6
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	21.9	8.5	0.0	3.4	7.3	8.2	10.3	2.3	1.6	4.9	7.3	16.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	185.1	36.7	0.0	56.0	44.7	47.2	241.0	30.8	30.5	102.2	36.0	79.0
LnGrp LOS	F	D		E	D	D	F	C	C	F	D	E
Approach Vol, veh/h	1127		A		1080		641		1155			
Approach Delay, s/veh	91.7				47.8		144.9		58.5			
Approach LOS	F				D		F		E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	40.4	15.0	40.0	28.0	31.4	14.8	40.2				
Change Period (Y+Rc), s	6.5	6.5	6.5	7.0	6.5	6.5	6.5	7.0				
Max Green Setting (Gmax), s	12.5	39.5	8.5	33.0	21.5	30.5	8.3	33.2				
Max Q Clear Time (g_c+I), s	19.3	22.3	10.5	34.3	23.5	19.6	9.1	7.3				
Green Ext Time (p_c), s	0.2	4.1	0.0	0.0	0.0	3.8	0.0	1.6				

Intersection Summary

HCM 6th Ctrl Delay 78.8

HCM 6th LOS E

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

7: Woodland Pkwy & Rancheros Dr

Year 2050 AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	70	400	120	210	10	180	430	90	20	510	550
Future Volume (veh/h)	190	70	400	120	210	10	180	430	90	20	510	550
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	213	79	449	154	269	13	186	443	93	24	622	671
Peak Hour Factor	0.89	0.89	0.89	0.78	0.78	0.78	0.97	0.97	0.97	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	233	398	494	260	409	20	198	1202	250	74	644	729
Arrive On Green	0.13	0.21	0.21	0.15	0.23	0.23	0.11	0.42	0.42	0.04	0.35	0.35
Sat Flow, veh/h	1767	1856	1479	1767	1752	85	1767	2881	599	1767	1856	1502
Grp Volume(v), veh/h	213	79	449	154	0	282	186	269	267	24	622	671
Grp Sat Flow(s),veh/h/ln	1767	1856	1479	1767	0	1837	1767	1763	1718	1767	1856	1502
Q Serve(g_s), s	17.8	5.2	32.2	12.2	0.0	20.9	15.7	15.8	16.1	2.0	49.4	52.1
Cycle Q Clear(g_c), s	17.8	5.2	32.2	12.2	0.0	20.9	15.7	15.8	16.1	2.0	49.4	52.1
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	233	398	494	260	0	429	198	736	717	74	644	729
V/C Ratio(X)	0.91	0.20	0.91	0.59	0.00	0.66	0.94	0.37	0.37	0.32	0.97	0.92
Avail Cap(c_a), veh/h	233	398	494	260	0	429	198	736	717	74	644	729
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	0.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73
Uniform Delay (d), s/veh	64.3	48.3	48.7	59.7	0.0	52.1	66.1	30.1	30.1	69.8	48.1	36.7
Incr Delay (d2), s/veh	40.1	1.1	23.3	9.5	0.0	7.7	49.9	1.4	1.5	8.2	22.9	14.7
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	10.7	2.6	19.3	6.2	0.0	10.6	9.8	7.0	7.0	1.1	26.6	25.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.3	49.4	72.1	69.3	0.0	59.8	116.0	31.5	31.6	78.0	71.0	51.4
LnGrp LOS	F	D	E	E	A	E	F	C	C	E	E	D
Approach Vol, veh/h	741			436			722			1317		
Approach Delay, s/veh	78.9			63.1			53.3			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	62.2	69.3	29.0	39.5	22.7	58.8	26.2	42.3				
Change Period (Y+Rc), s	* 5.9	* 6.7	6.9	* 7.3	* 5.9	* 6.7	6.4	* 7.3				
Max Green Setting (Gmax), s	* 63	* 63	22.1	* 32	* 17	* 52	19.8	* 35				
Max Q Clear Time (g_c+I), s	14.0	18.1	14.2	34.2	17.7	54.1	19.8	22.9				
Green Ext Time (p_c), s	0.0	3.5	0.2	0.0	0.0	0.0	0.0	1.3				

Intersection Summary

HCM 6th Ctrl Delay 63.7

HCM 6th LOS E

Notes

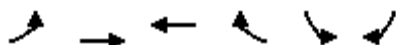
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

8: Barham Dr & Woodland Pkwy

Year 2050 AM
02/08/2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	310	550	240	160	230	450
Future Volume (veh/h)	310	550	240	160	230	450
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	330	585	264	176	280	549
Peak Hour Factor	0.94	0.94	0.91	0.91	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	358	1113	661	1021	545	485
Arrive On Green	0.20	0.60	0.36	0.36	0.31	0.31
Sat Flow, veh/h	1767	1856	1856	1503	1767	1572
Grp Volume(v), veh/h	330	585	264	176	280	549
Grp Sat Flow(s), veh/h/ln	1767	1856	1856	1503	1767	1572
Q Serve(g_s), s	27.5	27.6	16.0	6.7	19.5	46.3
Cycle Q Clear(g_c), s	27.5	27.6	16.0	6.7	19.5	46.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	358	1113	661	1021	545	485
V/C Ratio(X)	0.92	0.53	0.40	0.17	0.51	1.13
Avail Cap(c_a), veh/h	540	1113	661	1021	545	485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.7	17.5	36.2	9.5	42.6	51.8
Incr Delay (d2), s/veh	16.0	1.8	1.8	0.4	3.4	82.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	8.9	12.3	7.7	9.9	9.1	45.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	74.7	19.3	38.0	9.9	46.0	133.9
LnGrp LOS	E	B	D	A	D	F
Approach Vol, veh/h		915	440		829	
Approach Delay, s/veh		39.3	26.8		104.2	
Approach LOS		D	C		F	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		97.0		53.0	36.6	60.4
Change Period (Y+Rc), s		* 7		6.7	* 6.2	* 7
Max Green Setting (Gmax), s		* 90		46.3	* 46	* 38
Max Q Clear Time (g_c+I1), s		29.6		48.3	29.5	18.0
Green Ext Time (p_c), s		4.6		0.0	0.9	2.1

Intersection Summary

HCM 6th Ctrl Delay 61.4
HCM 6th LOS E

Notes

User approved volume balancing among the lanes for turning movement.

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

HCM 6th Signalized Intersection Summary

1: Mulberry Dr & Borden Rd

Year 2050 PM

02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	510	90	150	310	40	120	250	310	30	170	20
Future Volume (veh/h)	20	510	90	150	310	40	120	250	310	30	170	20
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		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	23	580	102	176	365	47	129	269	333	33	185	22
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	130	569	100	288	609	78	152	885	373	130	753	88
Arrive On Green	0.07	0.37	0.37	0.08	0.38	0.38	0.09	0.25	0.25	0.07	0.24	0.24
Sat Flow, veh/h	1767	1530	269	3428	1605	207	1767	3526	1488	1767	3157	369
Grp Volume(v), veh/h	23	0	682	176	0	412	129	269	333	33	102	105
Grp Sat Flow(s),veh/h/ln	1767	0	1799	1714	0	1812	1767	1763	1488	1767	1763	1763
Q Serve(g_s), s	1.2	0.0	35.9	4.8	0.0	17.6	6.9	6.0	20.9	1.7	4.5	4.7
Cycle Q Clear(g_c), s	1.2	0.0	35.9	4.8	0.0	17.6	6.9	6.0	20.9	1.7	4.5	4.7
Prop In Lane	1.00		0.15	1.00		0.11	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	130	0	669	288	0	687	152	885	373	130	421	421
V/C Ratio(X)	0.18	0.00	1.02	0.61	0.00	0.60	0.85	0.30	0.89	0.25	0.24	0.25
Avail Cap(c_a), veh/h	130	0	669	288	0	687	152	1030	435	130	493	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	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	42.0	0.0	30.3	42.7	0.0	24.1	43.5	29.3	34.9	42.2	29.7	29.8
Incr Delay (d2), s/veh	3.0	0.0	39.8	9.4	0.0	3.8	41.4	0.2	18.3	4.6	0.3	0.3
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	0.6	0.0	22.0	2.3	0.0	7.8	4.7	2.4	9.1	0.9	1.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	0.0	70.1	52.1	0.0	27.9	84.9	29.5	53.2	46.9	30.0	30.1
LnGrp LOS	D	A	F	D	A	C	F	C	D	D	C	C
Approach Vol, veh/h		705			588			731			240	
Approach Delay, s/veh		69.3			35.1			50.1			32.3	
Approach LOS		E			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	30.2	12.7	41.6	13.2	29.0	12.0	42.3				
Change Period (Y+Rc), s	* 4.9	* 6	* 4.6	* 5.7	* 4.9	* 6	* 4.9	* 5.7				
Max Green Setting (Gmax), s	* 7.1	* 28	* 8.1	* 36	* 8.3	* 27	* 7.1	* 36				
Max Q Clear Time (g_c+I1), s	3.7	22.9	6.8	37.9	8.9	6.7	3.2	19.6				
Green Ext Time (p_c), s	0.0	1.4	0.1	0.0	0.0	0.9	0.0	2.1				

Intersection Summary

HCM 6th Ctrl Delay 50.3

HCM 6th LOS D

Notes

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

HCM 6th Signalized Intersection Summary

2: N Twin Oaks Valley Rd & W San Marcos Blvd/E San Marcos Blvd

Year 2050 PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	740	410	390	460	100	470	830	360	100	680	290
Future Volume (veh/h)	370	740	410	390	460	100	470	830	360	100	680	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		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	389	779	432	406	479	104	485	856	371	105	716	305
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.97	0.97	0.97	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	367	1058	1103	245	757	163	367	1720	862	196	1037	442
Arrive On Green	0.11	0.30	0.30	0.07	0.26	0.26	0.11	0.49	0.49	0.06	0.43	0.43
Sat Flow, veh/h	3428	3526	2687	3428	2866	618	3428	3526	1537	3428	2389	1017
Grp Volume(v), veh/h	389	779	432	406	293	290	485	856	371	105	528	493
Grp Sat Flow(s),veh/h/ln	1714	1763	1344	1714	1763	1721	1714	1763	1537	1714	1763	1643
Q Serve(g_s), s	15.0	27.8	15.9	10.0	20.6	20.9	15.0	23.0	19.6	4.2	33.9	33.9
Cycle Q Clear(g_c), s	15.0	27.8	15.9	10.0	20.6	20.9	15.0	23.0	19.6	4.2	33.9	33.9
Prop In Lane	1.00		1.00	1.00		0.36	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	367	1058	1103	245	466	455	367	1720	862	196	766	714
V/C Ratio(X)	1.06	0.74	0.39	1.66	0.63	0.64	1.32	0.50	0.43	0.54	0.69	0.69
Avail Cap(c_a), veh/h	367	1058	1103	245	466	455	367	1720	862	196	766	714
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	62.5	44.0	29.3	65.0	45.5	45.6	62.5	24.2	17.9	64.2	32.0	32.0
Incr Delay (d2), s/veh	63.4	4.6	1.0	313.6	6.3	6.7	162.1	1.0	1.6	10.1	5.1	5.4
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	9.8	12.8	5.2	15.0	9.9	9.8	14.7	9.5	7.0	2.1	15.0	14.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	125.9	48.6	30.4	378.6	51.8	52.2	224.6	25.3	19.5	74.3	37.0	37.4
LnGrp LOS	F	D	C	F	D	D	F	C	B	E	D	D
Approach Vol, veh/h	1600			989			1712			1126		
Approach Delay, s/veh	62.5			186.1			80.5			40.7		
Approach LOS	E			F			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	49.4	22.0	69.1	22.0	44.4	14.5	76.6				
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	10.0	42.0	15.0	* 44	15.0	37.0	8.0	51.3				
Max Q Clear Time (g_c+112, s)	112.0	29.8	17.0	35.9	17.0	22.9	6.2	25.0				
Green Ext Time (p_c), s	0.0	5.8	0.0	3.9	0.0	3.1	0.0	7.6				

Intersection Summary

HCM 6th Ctrl Delay 86.2
HCM 6th LOS F

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.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

3: San Marcos Blvd/Woodward St & E Mission Rd

Year 2050 PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	970	60	350	540	80	70	260	710	30	190	90
Future Volume (veh/h)	110	970	60	350	540	80	70	260	710	30	190	90
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	117	1032	64	402	621	92	77	286	780	41	257	122
Peak Hour Factor	0.94	0.94	0.94	0.87	0.87	0.87	0.91	0.91	0.91	0.74	0.74	0.74
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	139	1083	469	371	1186	515	114	1263	548	78	769	352
Arrive On Green	0.08	0.31	0.31	0.11	0.34	0.34	0.06	0.36	0.36	0.04	0.33	0.33
Sat Flow, veh/h	1767	3526	1527	3428	3526	1530	1767	3526	1531	1767	2325	1066
Grp Volume(v), veh/h	117	1032	64	402	621	92	77	286	780	41	193	186
Grp Sat Flow(s),veh/h/ln	1767	1763	1527	1714	1763	1530	1767	1763	1531	1767	1763	1628
Q Serve(g_s), s	9.7	42.4	4.5	16.0	21.0	6.3	6.3	8.4	53.0	3.4	12.1	12.8
Cycle Q Clear(g_c), s	9.7	42.4	4.5	16.0	21.0	6.3	6.3	8.4	53.0	3.4	12.1	12.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	139	1083	469	371	1186	515	114	1263	548	78	583	539
V/C Ratio(X)	0.84	0.95	0.14	1.08	0.52	0.18	0.67	0.23	1.42	0.53	0.33	0.35
Avail Cap(c_a), veh/h	191	1096	475	371	1186	515	143	1263	548	96	583	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	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.2	50.2	37.1	66.0	39.5	34.7	67.7	33.2	47.5	69.2	37.2	37.4
Incr Delay (d2), s/veh	20.7	17.0	0.1	71.2	0.4	0.2	8.4	0.1	200.5	5.4	0.3	0.4
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	5.1	20.7	1.7	10.5	9.0	2.4	3.1	3.7	50.6	1.6	5.4	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.9	67.2	37.2	137.2	40.0	34.8	76.1	33.3	247.9	74.6	37.5	37.8
LnGrp LOS	F	E	D	F	D	C	E	C	F	E	D	D
Approach Vol, veh/h	1213			1115			1143			420		
Approach Delay, s/veh	67.6			74.6			182.6			41.3		
Approach LOS	E			E			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.0	52.4	16.6	55.9	18.7	56.8	12.5	60.0				
Change Period (Y+Rc), s	7.0	7.0	7.0	* 7	7.0	* 7	6.0	7.0				
Max Green Setting (Gmax), s	16.0	46.0	12.0	* 49	16.0	* 47	8.0	53.0				
Max Q Clear Time (g_c+11.0), s	11.0	44.4	8.3	14.8	11.7	23.0	5.4	55.0				
Green Ext Time (p_c), s	0.0	1.0	0.0	2.5	0.1	4.2	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 100.6
HCM 6th LOS F

Notes

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

HCM 6th Signalized Intersection Summary

5: E Mission Rd & Mulberry Dr

Year 2050 PM
02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	420	1290	0	20	790	290	0	0	0	250	0	200
Future Volume (veh/h)	420	1290	0	20	790	290	0	0	0	250	0	200
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		0.98	1.00		1.00	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	438	1344	0	22	814	299	0	0	0	298	0	238
Peak Hour Factor	0.96	0.96	0.92	0.92	0.97	0.97	0.92	0.92	0.92	0.84	0.92	0.84
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	501	3312	0	49	1435	523	0	1	0	677	0	289
Arrive On Green	0.28	0.65	0.00	0.03	0.40	0.40	0.00	0.00	0.00	0.19	0.00	0.19
Sat Flow, veh/h	1767	5233	0	1767	3631	1323	0	1856	0	3534	0	1512
Grp Volume(v), veh/h	438	1344	0	22	757	356	0	0	0	298	0	238
Grp Sat Flow(s),veh/h/ln	1767	1689	0	1767	1689	1577	0	1856	0	1767	0	1512
Q Serve(g_s), s	35.4	18.8	0.0	1.8	26.2	26.5	0.0	0.0	0.0	11.2	0.0	22.7
Cycle Q Clear(g_c), s	35.4	18.8	0.0	1.8	26.2	26.5	0.0	0.0	0.0	11.2	0.0	22.7
Prop In Lane	1.00		0.00	1.00		0.84	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	501	3312	0	49	1335	623	0	1	0	677	0	289
V/C Ratio(X)	0.87	0.41	0.00	0.44	0.57	0.57	0.00	0.00	0.00	0.44	0.00	0.82
Avail Cap(c_a), veh/h	501	3312	0	82	1335	623	0	111	0	919	0	393
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	0.00	0.00	0.00	0.89	0.00	0.89
Uniform Delay (d), s/veh	51.2	12.2	0.0	71.8	35.4	35.4	0.0	0.0	0.0	53.5	0.0	58.2
Incr Delay (d2), s/veh	18.8	0.4	0.0	6.1	1.7	3.8	0.0	0.0	0.0	0.4	0.0	8.8
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	17.9	6.7	0.0	0.9	10.9	10.6	0.0	0.0	0.0	4.9	0.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	12.6	0.0	77.9	37.1	39.2	0.0	0.0	0.0	53.9	0.0	67.0
LnGrp LOS	E	B	A	E	D	D	A	A	A	D	A	E
Approach Vol, veh/h	1782				1135				0			
Approach Delay, s/veh	26.7				38.6				0.0			
Approach LOS	C				D				E			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	104.6		35.2	49.0	65.8		0.0				
Change Period (Y+Rc), s	6.0	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	7.0	69.5		39.0	42.5	33.5		9.0				
Max Q Clear Time (g_c+I1), s	3.8	20.8		24.7	37.4	28.5		0.0				
Green Ext Time (p_c), s	0.0	12.1		1.6	0.7	2.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay 35.7
HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

6: Woodland Pkwy & E Mission Rd

Year 2050 PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	390	980	300	170	660	60	240	420	120	50	340	160
Future Volume (veh/h)	390	980	300	170	660	60	240	420	120	50	340	160
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		0.96	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	402	1010	0	179	695	63	270	472	135	52	351	165
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.89	0.89	0.89	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	397	1279		274	1029	92	274	751	323	141	751	323
Arrive On Green	0.22	0.36	0.00	0.08	0.22	0.22	0.08	0.21	0.21	0.08	0.21	0.21
Sat Flow, veh/h	1767	3526	1572	3428	4714	424	3428	3526	1516	1767	3526	1516
Grp Volume(v), veh/h	402	1010	0	179	496	262	270	472	135	52	351	165
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1689	1761	1714	1763	1516	1767	1763	1516
Q Serve(g_s), s	22.5	25.6	0.0	5.1	13.5	13.7	7.9	12.2	7.7	2.8	8.7	9.6
Cycle Q Clear(g_c), s	22.5	25.6	0.0	5.1	13.5	13.7	7.9	12.2	7.7	2.8	8.7	9.6
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	397	1279		274	737	384	274	751	323	141	751	323
V/C Ratio(X)	1.01	0.79		0.65	0.67	0.68	0.99	0.63	0.42	0.37	0.47	0.51
Avail Cap(c_a), veh/h	397	1565		274	1011	527	274	1161	499	141	1161	499
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	28.5	0.0	44.8	35.9	36.0	46.1	35.8	34.1	43.7	34.5	34.8
Incr Delay (d2), s/veh	48.6	2.3	0.0	11.6	1.1	2.1	51.2	0.9	0.9	7.3	0.5	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	10.4	0.0	2.5	5.4	5.8	5.2	5.2	2.9	1.5	3.7	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.5	30.8	0.0	56.4	37.0	38.1	97.2	36.7	34.9	51.0	34.9	36.1
LnGrp LOS	F	C		E	D	D	F	D	C	D	C	D
Approach Vol, veh/h	1412		A	937			877			568		
Approach Delay, s/veh	46.9			41.0			55.1			36.7		
Approach LOS	D			D			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	44.5	42.9	14.5	28.4	29.0	28.4	14.5	28.4				
Change Period (Y+Rc), s	6.5	6.5	6.5	7.0	6.5	6.5	6.5	7.0				
Max Green Setting (Gmax), s	44.5	44.5	8.0	33.0	22.5	30.0	8.0	33.0				
Max Q Clear Time (g_c+I1), s	27.6	27.6	9.9	11.6	24.5	15.7	4.8	14.2				
Green Ext Time (p_c), s	0.0	6.1	0.0	2.6	0.0	3.9	0.0	3.4				

Intersection Summary

HCM 6th Ctrl Delay 45.8
HCM 6th LOS D

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

7: Woodland Pkwy & Rancheros Dr

Year 2050 PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	140	550	70	150	40	180	530	70	30	380	430
Future Volume (veh/h)	210	140	550	70	150	40	180	530	70	30	380	430
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	228	152	598	80	170	45	182	535	71	33	418	473
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.99	0.99	0.99	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	285	560	700	158	327	87	279	1191	157	84	505	659
Arrive On Green	0.16	0.30	0.30	0.09	0.23	0.23	0.16	0.38	0.38	0.05	0.27	0.27
Sat Flow, veh/h	1767	1856	1497	1767	1402	371	1767	3112	411	1767	1856	1492
Grp Volume(v), veh/h	228	152	598	80	0	215	182	302	304	33	418	473
Grp Sat Flow(s), veh/h/ln	1767	1856	1497	1767	0	1773	1767	1763	1760	1767	1856	1492
Q Serve(g_s), s	18.6	9.3	45.3	6.5	0.0	15.9	14.5	19.2	19.3	2.7	31.8	39.5
Cycle Q Clear(g_c), s	18.6	9.3	45.3	6.5	0.0	15.9	14.5	19.2	19.3	2.7	31.8	39.5
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	285	560	700	158	0	414	279	675	674	84	505	659
V/C Ratio(X)	0.80	0.27	0.85	0.51	0.00	0.52	0.65	0.45	0.45	0.39	0.83	0.72
Avail Cap(c_a), veh/h	285	560	700	158	0	414	279	675	674	84	505	659
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	0.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	60.6	39.8	36.4	65.1	0.0	50.2	59.3	34.5	34.5	69.4	51.3	35.3
Incr Delay (d2), s/veh	20.5	1.2	12.6	11.2	0.0	4.6	11.3	2.1	2.2	11.6	12.7	5.7
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	0.0	4.5	22.0	3.4	0.0	7.6	7.4	8.7	8.7	1.5	16.5	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.1	41.0	49.0	76.3	0.0	54.8	70.5	36.6	36.7	80.9	64.0	41.0
LnGrp LOS	F	D	D	E	A	D	E	D	D	F	E	D
Approach Vol, veh/h	978				295				788			
Approach Delay, s/veh	55.2				60.6				44.5			
Approach LOS	E				E				D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.0	64.1	20.3	52.6	29.6	47.5	30.6	42.3				
Change Period (Y+Rc), s	5.9	* 6.7	6.9	* 7.3	* 5.9	* 6.7	6.4	* 7.3				
Max Green Setting (Gmax), s	7.5	* 57	13.4	* 45	* 24	* 41	24.2	* 35				
Max Q Clear Time (g_c+I_1), s	14.5	21.3	8.5	47.3	16.5	41.5	20.6	17.9				
Green Ext Time (p_c), s	0.0	4.0	0.1	0.0	0.3	0.0	0.2	1.1				

Intersection Summary

HCM 6th Ctrl Delay 52.2
HCM 6th LOS D

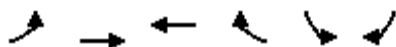
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

8: Barham Dr & Woodland Pkwy

Year 2050 PM
02/08/2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	500	690	210	170	470	290
Future Volume (veh/h)	500	690	210	170	470	290
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	556	767	244	198	408	415
Peak Hour Factor	0.90	0.90	0.86	0.86	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	585	1188	497	822	475	422
Arrive On Green	0.33	0.64	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1767	1856	1856	1491	1767	1572
Grp Volume(v), veh/h	556	767	244	198	408	415
Grp Sat Flow(s), veh/h/ln	1767	1856	1856	1491	1767	1572
Q Serve(g_s), s	46.1	38.0	16.6	10.6	32.9	39.3
Cycle Q Clear(g_c), s	46.1	38.0	16.6	10.6	32.9	39.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	585	1188	497	822	475	422
V/C Ratio(X)	0.95	0.65	0.49	0.24	0.86	0.98
Avail Cap(c_a), veh/h	705	1188	497	822	475	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	16.6	46.3	18.6	52.2	54.5
Incr Delay (d2), s/veh	20.6	2.7	3.4	0.7	14.7	39.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.6	16.7	8.2	12.2	16.4	34.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	69.6	19.3	49.7	19.3	66.8	93.5
LnGrp LOS	E	B	D	B	E	F
Approach Vol, veh/h		1323	442		823	
Approach Delay, s/veh		40.4	36.1		80.3	
Approach LOS		D	D		F	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.0		47.0	55.8	47.2
Change Period (Y+Rc), s		* 7		6.7	* 6.2	* 7
Max Green Setting (Gmax), s		* 96		40.3	* 60	* 30
Max Q Clear Time (g_c+I1), s		40.0		41.3	48.1	18.6
Green Ext Time (p_c), s		7.0		0.0	1.6	1.7

Intersection Summary

HCM 6th Ctrl Delay 52.4
HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

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

APPENDIX G

LONG-TERM (HORIZON YEAR 2050) + PROJECT INTERSECTION ANALYSIS WORKSHEETS

HCM 6th Signalized Intersection Summary

1: Mulberry Dr & Borden Rd

Year 2050 + P AM

02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	300	271	362	580	40	111	172	141	60	286	30
Future Volume (veh/h)	20	300	271	362	580	40	111	172	141	60	286	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	22	333	301	398	637	44	176	273	224	80	381	40
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.63	0.63	0.63	0.75	0.75	0.75
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	134	306	277	422	668	46	181	703	294	181	638	66
Arrive On Green	0.08	0.35	0.35	0.12	0.39	0.39	0.10	0.20	0.20	0.10	0.20	0.20
Sat Flow, veh/h	1767	885	800	3428	1712	118	1767	3526	1474	1767	3199	333
Grp Volume(v), veh/h	22	0	634	398	0	681	176	273	224	80	209	212
Grp Sat Flow(s),veh/h/ln	1767	0	1685	1714	0	1831	1767	1763	1474	1767	1763	1769
Q Serve(g_s), s	1.1	0.0	32.0	10.7	0.0	33.4	9.2	6.2	13.3	3.9	9.9	10.1
Cycle Q Clear(g_c), s	1.1	0.0	32.0	10.7	0.0	33.4	9.2	6.2	13.3	3.9	9.9	10.1
Prop In Lane	1.00		0.47	1.00		0.06	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	134	0	583	422	0	714	181	703	294	181	352	353
V/C Ratio(X)	0.16	0.00	1.09	0.94	0.00	0.95	0.97	0.39	0.76	0.44	0.59	0.60
Avail Cap(c_a), veh/h	134	0	583	422	0	714	181	1006	420	181	503	505
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	40.0	0.0	30.3	40.3	0.0	27.4	41.4	32.2	35.0	39.0	33.6	33.7
Incr Delay (d2), s/veh	2.6	0.0	63.4	31.5	0.0	24.1	59.5	0.4	5.0	7.6	1.6	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	0.6	0.0	22.5	6.2	0.0	18.2	6.8	2.6	5.0	2.0	4.2	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.7	0.0	93.7	71.8	0.0	51.5	100.9	32.5	40.0	46.6	35.2	35.4
LnGrp LOS	D	A	F	E	A	D	F	C	D	D	D	D
Approach Vol, veh/h		656			1079			673			501	
Approach Delay, s/veh		92.0			59.0			52.9			37.1	
Approach LOS		F			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	24.5	16.0	37.7	14.4	24.5	11.9	41.8				
Change Period (Y+Rc), s	* 4.9	* 6	* 4.6	* 5.7	* 4.9	* 6	* 4.9	* 5.7				
Max Green Setting (Gmax), s	* 9.5	* 26	* 11	* 32	* 9.5	* 26	* 7	* 36				
Max Q Clear Time (g_c+I1), s	5.9	15.3	12.7	34.0	11.2	12.1	3.1	35.4				
Green Ext Time (p_c), s	0.0	1.8	0.0	0.0	0.0	1.9	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay 61.3

HCM 6th LOS E

Notes

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

HCM 6th Signalized Intersection Summary

Year 2050 + P AM

2: N Twin Oaks Valley Rd & W San Marcos Blvd/E San Marcos Blvd

02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	390	380	586	500	40	240	430	534	110	850	260
Future Volume (veh/h)	160	390	380	586	500	40	240	430	534	110	850	260
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		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	182	443	432	644	549	44	279	500	621	116	895	274
Peak Hour Factor	0.88	0.88	0.88	0.91	0.91	0.91	0.86	0.86	0.86	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	230	1058	984	416	1169	93	220	1536	860	203	1129	345
Arrive On Green	0.07	0.30	0.30	0.12	0.35	0.35	0.06	0.44	0.44	0.06	0.43	0.43
Sat Flow, veh/h	3428	3526	2687	3428	3299	264	3428	3526	1535	3428	2643	807
Grp Volume(v), veh/h	182	443	432	644	293	300	279	500	621	116	596	573
Grp Sat Flow(s),veh/h/ln	1714	1763	1344	1714	1763	1800	1714	1763	1535	1714	1763	1687
Q Serve(g_s), s	7.3	14.1	17.0	17.0	18.0	18.1	9.0	13.1	42.1	4.6	41.0	41.2
Cycle Q Clear(g_c), s	7.3	14.1	17.0	17.0	18.0	18.1	9.0	13.1	42.1	4.6	41.0	41.2
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	230	1058	984	416	624	637	220	1536	860	203	753	721
V/C Ratio(X)	0.79	0.42	0.44	1.55	0.47	0.47	1.27	0.33	0.72	0.57	0.79	0.79
Avail Cap(c_a), veh/h	269	1058	984	416	624	637	220	1536	860	203	753	721
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	64.3	39.2	33.7	61.5	35.0	35.0	65.5	26.0	23.1	64.1	34.7	34.8
Incr Delay (d2), s/veh	12.7	1.2	1.4	257.8	2.5	2.5	150.6	0.6	5.2	11.1	8.4	8.8
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	8.6	6.3	5.6	22.3	8.2	8.5	8.5	5.5	15.5	2.3	18.6	18.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.1	40.5	35.1	319.3	37.5	37.5	216.1	26.5	28.3	75.2	43.1	43.6
LnGrp LOS	E	D	D	F	D	D	F	C	C	E	D	D
Approach Vol, veh/h	1057			1237			1400			1285		
Approach Delay, s/veh	44.6			184.2			65.1			46.2		
Approach LOS	D			F			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	40.0	49.4	16.0	68.1	16.4	57.0	14.8	69.3				
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	42.0	42.0	9.0	* 43	11.0	48.0	8.3	44.0				
Max Q Clear Time (g_c+119, s)	19.0	19.0	11.0	43.2	9.3	20.1	6.6	44.1				
Green Ext Time (p_c), s	0.0	5.0	0.0	0.1	0.1	3.9	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 85.5

HCM 6th LOS F

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.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

3: San Marcos Blvd/Woodward St & E Mission Rd

Year 2050 + P AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	533	70	666	831	100	30	70	534	50	390	100
Future Volume (veh/h)	40	533	70	666	831	100	30	70	534	50	390	100
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		0.98	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	52	692	91	757	944	114	38	90	685	61	476	122
Peak Hour Factor	0.77	0.77	0.77	0.88	0.88	0.88	0.78	0.78	0.78	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	85	772	332	815	1439	626	95	1082	469	89	819	208
Arrive On Green	0.05	0.22	0.22	0.24	0.41	0.41	0.05	0.31	0.31	0.05	0.30	0.30
Sat Flow, veh/h	1767	3526	1517	3428	3526	1534	1767	3526	1527	1767	2764	703
Grp Volume(v), veh/h	52	692	91	757	944	114	38	90	685	61	302	296
Grp Sat Flow(s),veh/h/ln	1767	1763	1517	1714	1763	1534	1767	1763	1527	1767	1763	1704
Q Serve(g_s), s	4.2	27.7	7.2	31.3	31.4	6.9	3.0	2.6	44.5	4.9	21.1	21.4
Cycle Q Clear(g_c), s	4.2	27.7	7.2	31.3	31.4	6.9	3.0	2.6	44.5	4.9	21.1	21.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	85	772	332	815	1439	626	95	1082	469	89	522	505
V/C Ratio(X)	0.61	0.90	0.27	0.93	0.66	0.18	0.40	0.08	1.46	0.68	0.58	0.59
Avail Cap(c_a), veh/h	110	802	345	875	1495	650	171	1082	469	104	522	505
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	67.7	55.0	47.1	54.1	34.7	27.4	66.3	35.8	50.3	67.7	43.3	43.4
Incr Delay (d2), s/veh	6.8	12.5	0.4	15.4	1.0	0.1	2.7	0.0	219.2	14.2	1.6	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	2.0	13.3	2.8	14.9	13.3	2.6	1.4	1.2	45.5	2.6	9.5	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.5	67.5	47.5	69.5	35.7	27.6	69.0	35.8	269.5	81.9	44.9	45.2
LnGrp LOS	E	E	D	E	D	C	E	D	F	F	D	D
Approach Vol, veh/h	835			1815			813			659		
Approach Delay, s/veh	65.8			49.3			234.3			48.5		
Approach LOS	E			D			F			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	41.5	38.8	14.8	50.0	14.0	66.2	13.3	51.5				
Change Period (Y+Rc), s	7.0	7.0	7.0	* 7	7.0	* 7	6.0	7.0				
Max Green Setting (Gmax), s	37.0	33.0	14.0	* 39	9.0	* 62	8.5	44.5				
Max Q Clear Time (g_c+Rc), s	30.3	29.7	5.0	23.4	6.2	33.4	6.9	46.5				
Green Ext Time (p_c), s	1.1	1.5	0.0	3.3	0.0	7.3	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 89.0

HCM 6th LOS F

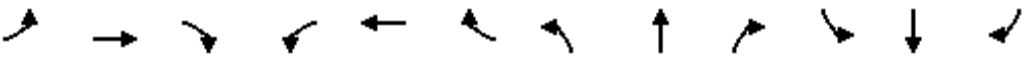
Notes

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

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑↑↓			↗
Traffic Vol, veh/h	0	1142	1550	55	0	22
Future Vol, veh/h	0	1142	1550	55	0	22
Conflicting Peds, #/hr	10	0	0	10	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	1241	1685	60	0	24
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	893
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.16
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.93
Pot Cap-1 Maneuver	0	-	-	-	0	243
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	238
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		21.8		
HCM LOS	C					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	238		
HCM Lane V/C Ratio	-	-	-	0.1		
HCM Control Delay (s)	-	-	-	21.8		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0.3		

HCM 6th Signalized Intersection Summary 5: E Mission Rd & Mulberry Dr

Year 2050 + P AM
02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	1022	0	10	1249	280	0	0	0	510	0	369
Future Volume (veh/h)	160	1022	0	10	1249	280	0	0	0	510	0	369
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		0.98	1.00		1.00	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	198	1262	0	11	1542	346	0	0	0	607	0	439
Peak Hour Factor	0.81	0.81	0.92	0.92	0.81	0.81	0.92	0.92	0.92	0.84	0.92	0.84
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	216	3003	0	30	1999	445	0	1	0	931	0	401
Arrive On Green	0.12	0.59	0.00	0.02	0.48	0.48	0.00	0.00	0.00	0.26	0.00	0.26
Sat Flow, veh/h	1767	5233	0	1767	4124	919	0	1856	0	3534	0	1523
Grp Volume(v), veh/h	198	1262	0	11	1261	627	0	0	0	607	0	439
Grp Sat Flow(s),veh/h/ln	1767	1689	0	1767	1689	1665	0	1856	0	1767	0	1523
Q Serve(g_s), s	16.6	20.3	0.0	0.9	46.1	46.7	0.0	0.0	0.0	22.9	0.0	39.5
Cycle Q Clear(g_c), s	16.6	20.3	0.0	0.9	46.1	46.7	0.0	0.0	0.0	22.9	0.0	39.5
Prop In Lane	1.00		0.00	1.00		0.55	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	3003	0	30	1637	807	0	1	0	931	0	401
V/C Ratio(X)	0.92	0.42	0.00	0.36	0.77	0.78	0.00	0.00	0.00	0.65	0.00	1.09
Avail Cap(c_a), veh/h	216	3003	0	82	1637	807	0	111	0	931	0	401
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	0.00	0.00	0.00	0.52	0.00	0.52
Uniform Delay (d), s/veh	65.1	16.6	0.0	72.9	31.8	32.0	0.0	0.0	0.0	49.1	0.0	55.2
Incr Delay (d2), s/veh	43.2	0.4	0.0	7.1	3.6	7.3	0.0	0.0	0.0	0.9	0.0	61.3
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	9.9	7.6	0.0	0.5	18.8	19.6	0.0	0.0	0.0	10.0	0.0	22.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.3	17.0	0.0	80.0	35.3	39.2	0.0	0.0	0.0	50.0	0.0	116.6
LnGrp LOS	F	B	A	F	D	D	A	A	A	D	A	F
Approach Vol, veh/h	1460			1899			0			1046		
Approach Delay, s/veh	29.4			36.9			0.0			77.9		
Approach LOS	C			D						E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	95.4		46.0	24.8	79.2		0.0				
Change Period (Y+Rc), s	6.0	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	7.0	69.0		39.5	18.3	57.2		9.0				
Max Q Clear Time (g_c+I1), s	2.9	22.3		41.5	18.6	48.7		0.0				
Green Ext Time (p_c), s	0.0	11.0		0.0	0.0	6.6		0.0				

Intersection Summary

HCM 6th Ctrl Delay 44.1
HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

6: Woodland Pkwy & E Mission Rd

Year 2050 + P AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	331	562	269	200	714	30	343	200	70	100	550	392
Future Volume (veh/h)	331	562	269	200	714	30	343	200	70	100	550	392
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		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	419	711	0	230	821	34	373	217	76	111	611	436
Peak Hour Factor	0.79	0.79	0.79	0.87	0.87	0.87	0.92	0.92	0.92	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	329	1037		371	1077	44	282	1014	439	142	1007	436
Arrive On Green	0.19	0.29	0.00	0.11	0.22	0.22	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	1767	3526	1572	3428	4981	206	3428	3526	1526	1767	3526	1525
Grp Volume(v), veh/h	419	711	0	230	556	299	373	217	76	111	611	436
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1689	1810	1714	1763	1526	1767	1763	1525
Q Serve(g_s), s	21.5	20.6	0.0	7.4	17.8	17.9	9.5	5.4	4.3	7.1	17.3	33.0
Cycle Q Clear(g_c), s	21.5	20.6	0.0	7.4	17.8	17.9	9.5	5.4	4.3	7.1	17.3	33.0
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	329	1037		371	731	391	282	1014	439	142	1007	436
V/C Ratio(X)	1.27	0.69		0.62	0.76	0.76	1.32	0.21	0.17	0.78	0.61	1.00
Avail Cap(c_a), veh/h	329	1175		371	863	462	282	1014	439	142	1007	436
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	36.0	0.0	49.2	42.4	42.5	53.0	31.2	30.8	52.1	35.6	41.2
Incr Delay (d2), s/veh	144.7	1.4	0.0	7.6	3.4	6.3	167.8	0.1	0.2	33.5	1.0	43.2
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	22.3	8.7	0.0	3.5	7.5	8.4	10.6	2.3	1.6	4.4	7.4	17.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	191.7	37.4	0.0	56.8	45.8	48.8	220.8	31.3	31.0	85.6	36.7	84.4
LnGrp LOS	F	D		E	D	D	F	C	C	F	D	F
Approach Vol, veh/h	1130		A		1085		666				1158	
Approach Delay, s/veh	94.7				49.0		137.4				59.3	
Approach LOS	F				D		F				E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	40.0	40.5	16.0	40.0	28.0	31.5	15.8	40.2				
Change Period (Y+Rc), s	6.5	6.5	6.5	7.0	6.5	6.5	6.5	7.0				
Max Green Setting (Gmax), s	42.5	38.5	9.5	33.0	21.5	29.5	9.3	33.2				
Max Q Clear Time (g_c+I), s	19.4	22.6	11.5	35.0	23.5	19.9	9.1	7.4				
Green Ext Time (p_c), s	0.2	4.0	0.0	0.0	0.0	3.5	0.0	1.6				

Intersection Summary

HCM 6th Ctrl Delay 79.3

HCM 6th LOS E

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

7: Woodland Pkwy & Rancheros Dr

Year 2050 + P AM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	70	400	120	210	10	180	431	90	20	519	550
Future Volume (veh/h)	212	70	400	120	210	10	180	431	90	20	519	550
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	238	79	449	154	269	13	186	444	93	24	633	671
Peak Hour Factor	0.89	0.89	0.89	0.78	0.78	0.78	0.97	0.97	0.97	0.82	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	245	460	539	213	409	20	191	1184	246	74	640	736
Arrive On Green	0.14	0.25	0.25	0.12	0.23	0.23	0.11	0.41	0.41	0.04	0.34	0.34
Sat Flow, veh/h	1767	1856	1487	1767	1752	85	1767	2882	598	1767	1856	1502
Grp Volume(v), veh/h	238	79	449	154	0	282	186	270	267	24	633	671
Grp Sat Flow(s),veh/h/ln	1767	1856	1487	1767	0	1837	1767	1763	1718	1767	1856	1502
Q Serve(g_s), s	20.1	5.0	37.2	12.6	0.0	20.9	15.7	16.0	16.3	2.0	50.9	51.7
Cycle Q Clear(g_c), s	20.1	5.0	37.2	12.6	0.0	20.9	15.7	16.0	16.3	2.0	50.9	51.7
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	245	460	539	213	0	429	191	724	705	74	640	736
V/C Ratio(X)	0.97	0.17	0.83	0.72	0.00	0.66	0.97	0.37	0.38	0.32	0.99	0.91
Avail Cap(c_a), veh/h	245	460	539	213	0	429	191	724	705	74	640	736
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	0.00	1.00	1.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	64.3	44.3	44.5	63.5	0.0	52.1	66.7	30.8	30.8	69.8	48.9	36.1
Incr Delay (d2), s/veh	50.6	0.8	14.1	19.0	0.0	7.7	58.8	1.5	1.5	8.1	27.8	13.6
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	12.5	2.4	17.5	6.8	0.0	10.6	10.2	7.1	7.1	1.1	28.2	25.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	114.9	45.1	58.6	82.6	0.0	59.8	125.5	32.2	32.4	77.9	76.7	49.7
LnGrp LOS	F	D	E	F	A	E	F	C	C	E	E	D
Approach Vol, veh/h	766			436			723			1328		
Approach Delay, s/veh	74.7			67.8			56.3			63.1		
Approach LOS	E			E			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	62.2	68.3	25.0	44.5	22.1	58.4	27.2	42.3				
Change Period (Y+Rc), s	* 5.9	* 6.7	6.9	* 7.3	* 5.9	* 6.7	6.4	* 7.3				
Max Green Setting (Gmax), s	* 60.3	* 62	18.1	* 37	* 16	* 52	20.8	* 35				
Max Q Clear Time (g_c+I), s	14.0	18.3	14.6	39.2	17.7	53.7	22.1	22.9				
Green Ext Time (p_c), s	0.0	3.5	0.1	0.0	0.0	0.0	0.0	1.3				

Intersection Summary

HCM 6th Ctrl Delay 65.0

HCM 6th LOS E

Notes

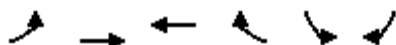
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

8: Barham Dr & Woodland Pkwy

Year 2050 + P AM
02/08/2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	311	550	240	160	239	450
Future Volume (veh/h)	311	550	240	160	239	450
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	331	585	264	176	291	549
Peak Hour Factor	0.94	0.94	0.91	0.91	0.82	0.82
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	359	1113	660	1020	545	485
Arrive On Green	0.20	0.60	0.36	0.36	0.31	0.31
Sat Flow, veh/h	1767	1856	1856	1503	1767	1572
Grp Volume(v), veh/h	331	585	264	176	291	549
Grp Sat Flow(s), veh/h/ln	1767	1856	1856	1503	1767	1572
Q Serve(g_s), s	27.6	27.6	16.0	6.7	20.4	46.3
Cycle Q Clear(g_c), s	27.6	27.6	16.0	6.7	20.4	46.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	359	1113	660	1020	545	485
V/C Ratio(X)	0.92	0.53	0.40	0.17	0.53	1.13
Avail Cap(c_a), veh/h	528	1113	660	1020	545	485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.6	17.5	36.3	9.6	42.9	51.8
Incr Delay (d2), s/veh	16.8	1.8	1.8	0.4	3.7	82.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	12.3	7.7	9.9	9.5	45.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	75.4	19.3	38.1	9.9	46.6	133.9
LnGrp LOS	E	B	D	A	D	F
Approach Vol, veh/h		916	440		840	
Approach Delay, s/veh		39.6	26.8		103.6	
Approach LOS		D	C		F	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		97.0		53.0	36.6	60.4
Change Period (Y+Rc), s		* 7		6.7	* 6.2	* 7
Max Green Setting (Gmax), s		* 90		46.3	* 45	* 39
Max Q Clear Time (g_c+I1), s		29.6		48.3	29.6	18.0
Green Ext Time (p_c), s		4.6		0.0	0.9	2.1

Intersection Summary

HCM 6th Ctrl Delay	61.5
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

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

HCM 6th Signalized Intersection Summary

1: Mulberry Dr & Borden Rd

Year 2050 + P PM

02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	510	91	152	310	40	121	256	313	30	174	20
Future Volume (veh/h)	20	510	91	152	310	40	121	256	313	30	174	20
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		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	23	580	103	179	365	47	130	275	337	33	189	22
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	130	566	101	287	607	78	152	893	377	130	762	87
Arrive On Green	0.07	0.37	0.37	0.08	0.38	0.38	0.09	0.25	0.25	0.07	0.24	0.24
Sat Flow, veh/h	1767	1527	271	3428	1605	207	1767	3526	1488	1767	3166	362
Grp Volume(v), veh/h	23	0	683	179	0	412	130	275	337	33	104	107
Grp Sat Flow(s),veh/h/ln	1767	0	1798	1714	0	1812	1767	1763	1488	1767	1763	1765
Q Serve(g_s), s	1.2	0.0	35.9	4.9	0.0	17.7	7.0	6.1	21.2	1.7	4.6	4.8
Cycle Q Clear(g_c), s	1.2	0.0	35.9	4.9	0.0	17.7	7.0	6.1	21.2	1.7	4.6	4.8
Prop In Lane	1.00		0.15	1.00		0.11	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	130	0	667	287	0	685	152	893	377	130	424	425
V/C Ratio(X)	0.18	0.00	1.02	0.62	0.00	0.60	0.86	0.31	0.89	0.25	0.24	0.25
Avail Cap(c_a), veh/h	130	0	667	287	0	685	152	1027	433	130	492	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	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	42.1	0.0	30.5	42.9	0.0	24.2	43.7	29.3	34.9	42.4	29.6	29.7
Incr Delay (d2), s/veh	3.0	0.0	41.2	9.8	0.0	3.9	42.9	0.2	18.9	4.7	0.3	0.3
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	0.6	0.0	22.3	2.4	0.0	7.9	4.8	2.5	9.3	0.9	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	0.0	71.6	52.7	0.0	28.1	86.6	29.5	53.8	47.0	29.9	30.0
LnGrp LOS	D	A	F	D	A	C	F	C	D	D	C	C
Approach Vol, veh/h		706			591			742			244	
Approach Delay, s/veh		70.7			35.6			50.5			32.3	
Approach LOS		E			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	30.5	12.7	41.6	13.2	29.3	12.0	42.3				
Change Period (Y+Rc), s	* 4.9	* 6	* 4.6	* 5.7	* 4.9	* 6	* 4.9	* 5.7				
Max Green Setting (Gmax), s	* 7.1	* 28	* 8.1	* 36	* 8.3	* 27	* 7.1	* 36				
Max Q Clear Time (g_c+I1), s	3.7	23.2	6.9	37.9	9.0	6.8	3.2	19.7				
Green Ext Time (p_c), s	0.0	1.3	0.1	0.0	0.0	1.0	0.0	2.1				

Intersection Summary

HCM 6th Ctrl Delay 51.0

HCM 6th LOS D

Notes

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

HCM 6th Signalized Intersection Summary

Year 2050 + P PM

2: N Twin Oaks Valley Rd & W San Marcos Blvd/E San Marcos Blvd

02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔↔	↔↔	↑↑		↔↔	↑↑	↔	↔↔	↑↑	
Traffic Volume (veh/h)	370	740	410	405	460	100	470	830	370	100	680	290
Future Volume (veh/h)	370	740	410	405	460	100	470	830	370	100	680	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		0.97	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	389	779	432	422	479	104	485	856	381	105	716	305
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.97	0.97	0.97	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	367	1058	1113	245	757	163	380	1720	862	196	1029	438
Arrive On Green	0.11	0.30	0.30	0.07	0.26	0.26	0.11	0.49	0.49	0.06	0.43	0.43
Sat Flow, veh/h	3428	3526	2687	3428	2866	618	3428	3526	1537	3428	2389	1017
Grp Volume(v), veh/h	389	779	432	422	293	290	485	856	381	105	528	493
Grp Sat Flow(s),veh/h/ln	1714	1763	1344	1714	1763	1721	1714	1763	1537	1714	1763	1643
Q Serve(g_s), s	15.0	27.8	15.8	10.0	20.6	20.9	15.5	23.0	20.3	4.2	34.1	34.1
Cycle Q Clear(g_c), s	15.0	27.8	15.8	10.0	20.6	20.9	15.5	23.0	20.3	4.2	34.1	34.1
Prop In Lane	1.00		1.00	1.00		0.36	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	367	1058	1113	245	466	455	380	1720	862	196	759	708
V/C Ratio(X)	1.06	0.74	0.39	1.72	0.63	0.64	1.28	0.50	0.44	0.54	0.70	0.70
Avail Cap(c_a), veh/h	367	1058	1113	245	466	455	380	1720	862	196	759	708
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	62.5	44.0	29.0	65.0	45.5	45.6	62.3	24.2	18.1	64.2	32.4	32.4
Incr Delay (d2), s/veh	63.4	4.6	1.0	342.1	6.3	6.7	143.9	1.0	1.6	10.1	5.2	5.6
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	9.8	12.8	5.1	16.0	9.9	9.8	14.2	9.5	7.3	2.1	15.1	14.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	125.9	48.6	30.0	407.1	51.8	52.2	206.2	25.3	19.7	74.3	37.6	38.0
LnGrp LOS	F	D	C	F	D	D	F	C	B	E	D	D
Approach Vol, veh/h	1600			1005			1722			1126		
Approach Delay, s/veh	62.4			201.1			75.0			41.2		
Approach LOS	E			F			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	49.4	22.5	68.6	22.0	44.4	14.5	76.6				
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	40.0	42.0	15.5	* 44	15.0	37.0	8.0	51.3				
Max Q Clear Time (g_c+1/2, s)	11.0	29.8	17.5	36.1	17.0	22.9	6.2	25.0				
Green Ext Time (p_c), s	0.0	5.8	0.0	3.6	0.0	3.1	0.0	7.6				

Intersection Summary

HCM 6th Ctrl Delay 87.6

HCM 6th LOS F

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.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

3: San Marcos Blvd/Woodward St & E Mission Rd

Year 2050 + P PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	972	60	365	543	80	70	260	720	30	190	90
Future Volume (veh/h)	110	972	60	365	543	80	70	260	720	30	190	90
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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	117	1034	64	420	624	92	77	286	791	41	257	122
Peak Hour Factor	0.94	0.94	0.94	0.87	0.87	0.87	0.91	0.91	0.91	0.74	0.74	0.74
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	140	1004	434	372	1107	480	115	1338	582	78	819	375
Arrive On Green	0.08	0.28	0.28	0.11	0.31	0.31	0.06	0.38	0.38	0.04	0.35	0.35
Sat Flow, veh/h	1767	3526	1525	3428	3526	1528	1767	3526	1532	1767	2326	1066
Grp Volume(v), veh/h	117	1034	64	420	624	92	77	286	791	41	193	186
Grp Sat Flow(s),veh/h/ln	1767	1763	1525	1714	1763	1528	1767	1763	1532	1767	1763	1629
Q Serve(g_s), s	9.6	42.0	4.6	16.0	21.8	6.5	6.3	8.1	56.0	3.3	11.7	12.4
Cycle Q Clear(g_c), s	9.6	42.0	4.6	16.0	21.8	6.5	6.3	8.1	56.0	3.3	11.7	12.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	140	1004	434	372	1107	480	115	1338	582	78	621	574
V/C Ratio(X)	0.84	1.03	0.15	1.13	0.56	0.19	0.67	0.21	1.36	0.53	0.31	0.33
Avail Cap(c_a), veh/h	240	1004	434	372	1107	480	192	1338	582	108	621	574
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	67.0	52.8	39.4	65.8	42.2	36.9	67.4	30.9	45.8	69.0	34.8	35.0
Incr Delay (d2), s/veh	12.1	36.4	0.2	86.6	0.7	0.2	6.6	0.1	172.8	5.4	0.3	0.3
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	4.8	23.1	1.8	11.3	9.4	2.5	3.1	3.5	49.0	1.6	5.2	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.1	89.1	39.5	152.4	42.8	37.1	74.1	31.0	218.6	74.4	35.0	35.3
LnGrp LOS	E	F	D	F	D	D	E	C	F	E	D	D
Approach Vol, veh/h	1215		1136			1154			420			
Approach Delay, s/veh	85.6		82.9			162.4			39.0			
Approach LOS	F		F			F			D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.0	49.0	16.6	58.9	18.7	53.3	12.5	63.0				
Change Period (Y+Rc), s	7.0	7.0	7.0	* 7	7.0	* 7	6.0	7.0				
Max Green Setting (Gmax), s	16.0	42.0	16.0	* 49	20.0	* 39	9.0	56.0				
Max Q Clear Time (g_c+11.0), s	16.0	44.0	8.3	14.4	11.6	23.8	5.3	58.0				
Green Ext Time (p_c), s	0.0	0.0	0.1	2.5	0.2	3.6	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 102.4

HCM 6th LOS F

Notes

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

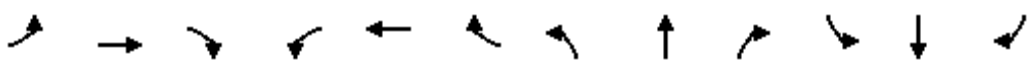
Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑↑	↑↑↑↓			↗
Traffic Vol, veh/h	0	1753	930	40	0	59
Future Vol, veh/h	0	1753	930	40	0	59
Conflicting Peds, #/hr	10	0	0	10	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	1905	1011	43	0	64
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	547
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.16
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.93
Pot Cap-1 Maneuver	0	-	-	-	0	410
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	402
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		15.6		
HCM LOS	C					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	402		
HCM Lane V/C Ratio	-	-	-	0.16		
HCM Control Delay (s)	-	-	-	15.6		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	0.6		

HCM 6th Signalized Intersection Summary

5: E Mission Rd & Mulberry Dr

Year 2050 + P PM

02/08/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	442	1321	0	20	811	290	0	0	0	250	0	207
Future Volume (veh/h)	442	1321	0	20	811	290	0	0	0	250	0	207
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		0.97	1.00		1.00	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	460	1376	0	22	836	299	0	0	0	298	0	246
Peak Hour Factor	0.96	0.96	0.92	0.92	0.97	0.97	0.92	0.92	0.92	0.84	0.92	0.84
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	501	3291	0	49	1431	508	0	1	0	691	0	296
Arrive On Green	0.28	0.65	0.00	0.03	0.39	0.39	0.00	0.00	0.00	0.20	0.00	0.20
Sat Flow, veh/h	1767	5233	0	1767	3659	1300	0	1856	0	3534	0	1513
Grp Volume(v), veh/h	460	1376	0	22	771	364	0	0	0	298	0	246
Grp Sat Flow(s),veh/h/ln	1767	1689	0	1767	1689	1582	0	1856	0	1767	0	1513
Q Serve(g_s), s	37.8	19.6	0.0	1.8	27.0	27.3	0.0	0.0	0.0	11.1	0.0	23.4
Cycle Q Clear(g_c), s	37.8	19.6	0.0	1.8	27.0	27.3	0.0	0.0	0.0	11.1	0.0	23.4
Prop In Lane	1.00		0.00	1.00		0.82	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	501	3291	0	49	1321	619	0	1	0	691	0	296
V/C Ratio(X)	0.92	0.42	0.00	0.44	0.58	0.59	0.00	0.00	0.00	0.43	0.00	0.83
Avail Cap(c_a), veh/h	501	3291	0	82	1321	619	0	111	0	919	0	393
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	0.00	0.00	0.00	0.88	0.00	0.88
Uniform Delay (d), s/veh	52.1	12.6	0.0	71.8	36.0	36.1	0.0	0.0	0.0	53.0	0.0	58.0
Incr Delay (d2), s/veh	24.4	0.4	0.0	6.1	1.9	4.1	0.0	0.0	0.0	0.4	0.0	9.7
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	19.7	7.1	0.0	0.9	11.2	11.0	0.0	0.0	0.0	4.9	0.0	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.5	13.0	0.0	77.9	37.9	40.2	0.0	0.0	0.0	53.4	0.0	67.6
LnGrp LOS	E	B	A	E	D	D	A	A	A	D	A	E
Approach Vol, veh/h	1836			1157			0			544		
Approach Delay, s/veh	28.9			39.4			0.0			59.8		
Approach LOS	C			D						E		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	104.0		35.8	49.0	65.2		0.0				
Change Period (Y+Rc), s	6.0	6.5		6.5	6.5	6.5		6.5				
Max Green Setting (Gmax), s	7.0	69.5		39.0	42.5	33.5		9.0				
Max Q Clear Time (g_c+I1), s	3.8	21.6		25.4	39.8	29.3		0.0				
Green Ext Time (p_c), s	0.0	12.6		1.6	0.4	2.5		0.0				

Intersection Summary

HCM 6th Ctrl Delay 37.1

HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

6: Woodland Pkwy & E Mission Rd

Year 2050 + P PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	391	985	325	170	663	60	257	420	120	50	340	161
Future Volume (veh/h)	391	985	325	170	663	60	257	420	120	50	340	161
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		0.96	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	403	1015	0	179	698	63	289	472	135	52	351	166
Peak Hour Factor	0.97	0.97	0.97	0.95	0.95	0.95	0.89	0.89	0.89	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	396	1281		273	1031	92	273	751	323	141	751	323
Arrive On Green	0.22	0.36	0.00	0.08	0.22	0.22	0.08	0.21	0.21	0.08	0.21	0.21
Sat Flow, veh/h	1767	3526	1572	3428	4716	422	3428	3526	1516	1767	3526	1516
Grp Volume(v), veh/h	403	1015	0	179	498	263	289	472	135	52	351	166
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1714	1689	1761	1714	1763	1516	1767	1763	1516
Q Serve(g_s), s	22.5	25.8	0.0	5.1	13.6	13.7	8.0	12.2	7.7	2.8	8.7	9.7
Cycle Q Clear(g_c), s	22.5	25.8	0.0	5.1	13.6	13.7	8.0	12.2	7.7	2.8	8.7	9.7
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	396	1281		273	738	385	273	751	323	141	751	323
V/C Ratio(X)	1.02	0.79		0.65	0.67	0.68	1.06	0.63	0.42	0.37	0.47	0.51
Avail Cap(c_a), veh/h	396	1564		273	1010	527	273	1160	499	141	1160	499
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	28.6	0.0	44.8	35.9	36.0	46.2	35.9	34.1	43.8	34.5	34.9
Incr Delay (d2), s/veh	49.5	2.4	0.0	11.6	1.1	2.1	70.2	0.9	0.9	7.3	0.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	10.5	0.0	2.5	5.4	5.9	6.0	5.2	2.9	1.5	3.7	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.4	30.9	0.0	56.4	37.0	38.1	116.4	36.7	35.0	51.0	34.9	36.1
LnGrp LOS	F	C		E	D	D	F	D	C	D	C	D
Approach Vol, veh/h	1418		A	940			896			569		
Approach Delay, s/veh	47.2			41.0			62.2			36.8		
Approach LOS	D			D			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	44.5	42.9	14.5	28.4	29.0	28.4	14.5	28.4				
Change Period (Y+Rc), s	6.5	6.5	6.5	7.0	6.5	6.5	6.5	7.0				
Max Green Setting (Gmax), s	44.5	44.5	8.0	33.0	22.5	30.0	8.0	33.0				
Max Q Clear Time (g_c+I1), s	27.8	27.8	10.0	11.7	24.5	15.7	4.8	14.2				
Green Ext Time (p_c), s	0.0	6.1	0.0	2.6	0.0	3.9	0.0	3.4				

Intersection Summary

HCM 6th Ctrl Delay 47.6
HCM 6th LOS D

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

7: Woodland Pkwy & Rancheros Dr

Year 2050 + P PM
02/08/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	226	140	550	70	150	40	180	531	70	30	405	430
Future Volume (veh/h)	226	140	550	70	150	40	180	531	70	30	405	430
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	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	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	246	152	598	80	170	45	182	536	71	33	445	473
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.99	0.99	0.99	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	285	560	700	158	327	87	279	1191	157	84	505	659
Arrive On Green	0.16	0.30	0.30	0.09	0.23	0.23	0.16	0.38	0.38	0.05	0.27	0.27
Sat Flow, veh/h	1767	1856	1497	1767	1402	371	1767	3112	411	1767	1856	1492
Grp Volume(v), veh/h	246	152	598	80	0	215	182	303	304	33	445	473
Grp Sat Flow(s),veh/h/ln	1767	1856	1497	1767	0	1773	1767	1763	1760	1767	1856	1492
Q Serve(g_s), s	20.3	9.3	45.3	6.5	0.0	15.9	14.5	19.2	19.4	2.7	34.5	39.5
Cycle Q Clear(g_c), s	20.3	9.3	45.3	6.5	0.0	15.9	14.5	19.2	19.4	2.7	34.5	39.5
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	285	560	700	158	0	414	279	675	674	84	505	659
V/C Ratio(X)	0.86	0.27	0.85	0.51	0.00	0.52	0.65	0.45	0.45	0.39	0.88	0.72
Avail Cap(c_a), veh/h	285	560	700	158	0	414	279	675	674	84	505	659
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	0.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	61.3	39.8	36.4	65.1	0.0	50.2	59.3	34.5	34.6	69.4	52.3	35.3
Incr Delay (d2), s/veh	27.5	1.2	12.6	11.2	0.0	4.6	11.3	2.2	2.2	11.4	17.1	5.6
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	1.3	4.5	22.0	3.4	0.0	7.6	7.4	8.7	8.7	1.5	18.3	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.8	41.0	49.0	76.3	0.0	54.8	70.5	36.7	36.7	80.8	69.4	40.9
LnGrp LOS	F	D	D	E	A	D	E	D	D	F	E	D
Approach Vol, veh/h	996				295				789			
Approach Delay, s/veh	57.6				60.6				44.5			
Approach LOS	E				E				D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.0	64.1	20.3	52.6	29.6	47.5	30.6	42.3				
Change Period (Y+Rc), s	5.9	* 6.7	6.9	* 7.3	* 5.9	* 6.7	6.4	* 7.3				
Max Green Setting (Gmax), s	7.5	* 57	13.4	* 45	* 24	* 41	24.2	* 35				
Max Q Clear Time (g_c+I), s	14.5	21.4	8.5	47.3	16.5	41.5	22.3	17.9				
Green Ext Time (p_c), s	0.0	4.0	0.1	0.0	0.3	0.0	0.1	1.1				

Intersection Summary

HCM 6th Ctrl Delay 53.9
HCM 6th LOS D

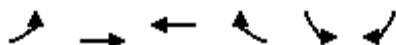
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

HCM 6th Signalized Intersection Summary

8: Barham Dr & Woodland Pkwy

Year 2050 + P PM
02/08/2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	501	690	210	170	494	291
Future Volume (veh/h)	501	690	210	170	494	291
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.95	1.00	1.00
Parking Bus, Adj	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	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	557	767	244	198	422	430
Peak Hour Factor	0.90	0.90	0.86	0.86	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	587	1188	495	820	475	422
Arrive On Green	0.33	0.64	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1767	1856	1856	1491	1767	1572
Grp Volume(v), veh/h	557	767	244	198	422	430
Grp Sat Flow(s), veh/h/ln	1767	1856	1856	1491	1767	1572
Q Serve(g_s), s	46.1	38.0	16.7	10.7	34.4	40.3
Cycle Q Clear(g_c), s	46.1	38.0	16.7	10.7	34.4	40.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	587	1188	495	820	475	422
V/C Ratio(X)	0.95	0.65	0.49	0.24	0.89	1.02
Avail Cap(c_a), veh/h	740	1188	495	820	475	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	16.6	46.4	18.7	52.7	54.8
Incr Delay (d2), s/veh	19.1	2.7	3.5	0.7	18.3	48.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.4	16.7	8.3	12.2	17.6	36.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	68.0	19.3	49.9	19.4	71.0	103.2
LnGrp LOS	E	B	D	B	E	F
Approach Vol, veh/h		1324	442		852	
Approach Delay, s/veh		39.8	36.2		87.3	
Approach LOS		D	D		F	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		103.0		47.0	56.0	47.0
Change Period (Y+Rc), s		* 7		6.7	* 6.2	* 7
Max Green Setting (Gmax), s		* 96		40.3	* 63	* 27
Max Q Clear Time (g_c+I1), s		40.0		42.3	48.1	18.7
Green Ext Time (p_c), s		7.0		0.0	1.7	1.4
Intersection Summary						
HCM 6th Ctrl Delay			54.6			
HCM 6th LOS			D			
Notes						
User approved volume balancing among the lanes for turning movement.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

APPENDIX H

BUS ROUTE SCHEDULE AND MAP

M-F • SA • SU
L-V • SÁ • DO

Destinations/Destinos

- Palomar College
- San Marcos Civic Center
- Mission Hills High School
- San Marcos Middle School

- Vista Transit Center
- Escondido Transit Center
- North Inland Live Well Center
- DMV

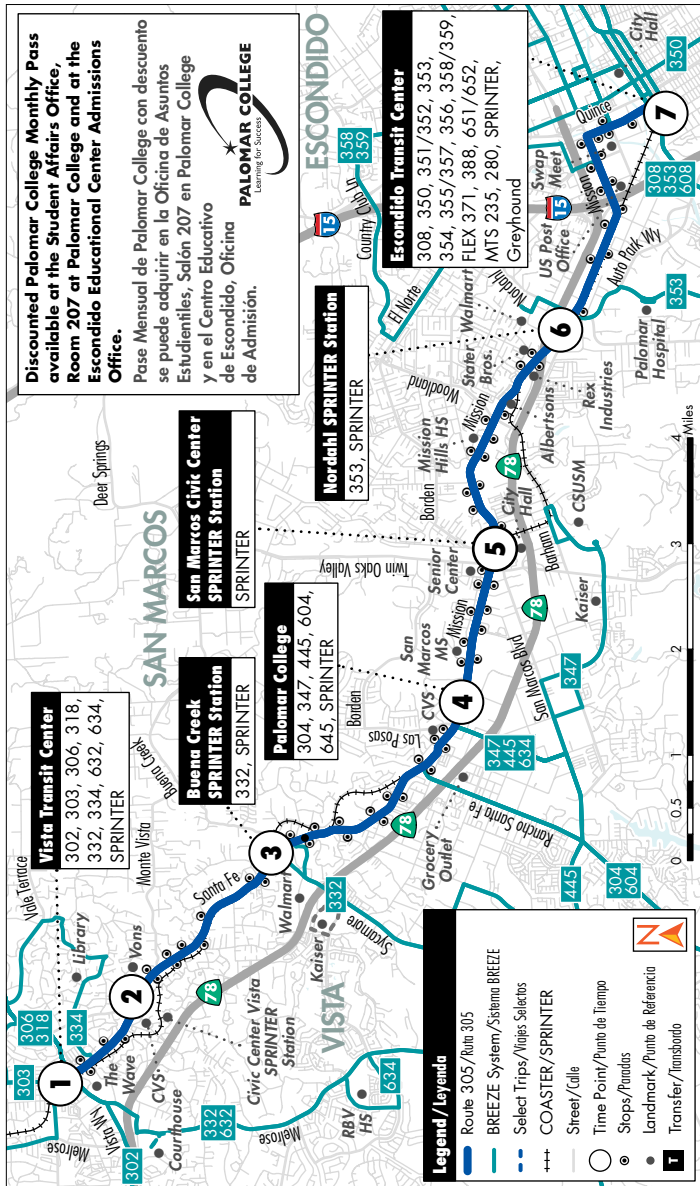
Discounted Palomar College Monthly Pass available at the Student Affairs Office, Room 207 at Palomar College and at the Escondido Educational Center Admissions Office.

Pase Mensual de Palomar College con descuento se puede adquirir en la Oficina de Asuntos Estudiantiles, Salón 207 en Palomar College y en el Centro Educativo de Escondido, Oficina de Admisión.



PALOMAR COLLEGE

Learning for Success



See pg. 6 for Holiday schedules/Ver pág. 276 para obtener los horarios de días festivos

Monday - Friday Eastbound to Escondido Transit Center <i>Lunes a Viernes • Dirección hacia el este al Centro de Tránsito Escondido</i>						
Vista Transit Center	S. Santa Fe & Civic Center Dr.	S. Santa Fe & Buena Creek Rd.	Palomar College Transit Center	Mission Rd. & San Marcos Bl.	Mission Rd. & Auto Pkwy.	Escondido Transit Center
1	2	3	4	5	6	7
4:32	4:36	4:41	4:50	4:54	5:00	5:08a
5:02	5:06	5:12	5:23	5:28	5:36	5:45
5:32	5:36	5:42	5:53	5:58	6:06	6:15
6:02	6:08	6:14	6:26	6:32	6:44	6:54
6:32	6:38	6:46	7:00	7:08	7:20	7:32
7:02	7:08	7:17	7:30	7:38	7:50	8:02
7:32	7:38	7:47	8:00	8:08	8:20	8:32
8:02	8:08	8:16	8:28	8:35	8:44	8:56
—	—	—	*8:42	*8:49	*8:58	*9:10
8:32	8:38	8:45	8:57	9:04	9:13	9:25
9:02	9:07	9:14	9:26	9:31	9:40	9:52
9:32	9:37	9:44	9:56	10:01	10:10	10:22
10:02	10:07	10:14	10:26	10:31	10:40	10:52
10:32	10:37	10:44	10:56	11:01	11:10	11:22
11:02	11:07	11:14	11:27	11:32	11:42	11:54
11:32	11:37	11:44	11:57	12:02	12:12	12:24p
12:02	12:07	12:14	12:27	12:32	12:42	12:54
12:32	12:37	12:44	12:57	1:02	1:12	1:24
1:02	1:07	1:14	1:27	1:32	1:42	1:54
1:32	1:37	1:44	1:57	2:02	2:12	2:24
2:02	2:07	2:14	2:27	2:34	2:44	2:58
2:32	2:38	2:45	2:58	3:05	3:15	3:29
3:02	3:08	3:15	3:28	3:35	3:46	4:00
3:32	3:38	3:45	3:58	4:05	4:16	4:30
4:02	4:08	4:15	4:28	4:35	4:46	4:58
4:32	4:38	4:45	4:58	5:05	5:16	5:28
5:02	5:08	5:15	5:28	5:35	5:44	5:55
5:32	5:38	5:45	5:58	6:04	6:13	6:23
6:02	6:08	6:15	6:27	6:33	6:41	6:51
6:32	6:37	6:44	6:56	7:02	7:10	7:20

* Operates Tuesdays only.
Opera solamente los Martes.

Please note, BREEZE "school tripper" bus service only runs while schools are in session for in-person learning and are subject to change based on bell times. NCTD will update trip planning applications and GoNCTD.com if this service changes.

Tenga en cuenta que el servicio de autobús "school tripper" de BREEZE solo opera mientras las escuelas se encuentren abiertas para clases presenciales y está sujeto a cambios en función de los horarios de entrada y salida. NCTD actualizará las aplicaciones de planificación de viaje y GoNCTD.com si este servicio cambia.

See pg. 6 for Holiday schedules/Ver pág. 276 para obtener los horarios de días festivos

Monday - Friday Eastbound to Escondido Transit Center <i>Lunes a Viernes • Dirección hacia el este al Centro de Tránsito Escondido</i>						
Vista Transit Center	S. Santa Fe & Civic Center Dr.	S. Santa Fe & Buena Creek Rd.	Palomar College Transit Center	Mission Rd. & San Marcos Bl.	Mission Rd. & Auto Pkwy.	Escondido Transit Center
1	2	3	4	5	6	7
7:02	7:07	7:14	7:25	7:30	7:38	7:46
7:32	7:37	7:44	7:55	8:00	8:08	8:16
8:02	8:07	8:12	8:22	8:27	8:34	8:42
8:32	8:37	8:42	8:52	8:57	9:04	9:12
9:02	9:07	9:12	9:22	9:27	9:34	9:42
9:32	9:37	9:42	9:52	9:57	10:04	10:12
10:02	10:07	10:12	10:22	10:27	10:33	10:41
11:12	11:16	11:21	11:30	11:34	11:39	11:47

See pg. 6 for Holiday schedules/Ver pág. 276 para obtener los horarios de días festivos

Monday - Friday Westbound to Vista Transit Center <i>Lunes a Viernes • Dirección hacia el oeste al Centro de Tránsito Vista</i>						
Escondido Transit Center	Mission Rd. & Auto Pkwy.	Mission Rd. & San Marcos Bl.	Palomar College Transit Center	S. Santa Fe & Buena Creek Rd.	S. Santa Fe & Civic Center Dr.	Vista Transit Center
7	6	5	4	3	2	1
4:21	4:27	4:32	4:37	4:42	4:47	4:55a
4:50	4:56	5:01	5:07	5:12	5:17	5:25
5:16	5:23	5:28	5:34	5:41	5:46	5:54
5:44	5:52	5:57	6:03	6:10	6:15	6:23
6:11	6:19	6:25	6:32	6:39	6:45	6:53
6:39	6:47	6:54	7:02	7:10	7:16	7:24
7:01	7:10	7:17	7:26	7:36	7:43	7:51
7:31	7:40	7:50	8:00	8:10	8:17	8:25
8:03	8:12	8:22	8:32	8:42	8:49	8:57
8:35	8:44	8:51	9:00	9:09	9:16	9:23
9:06	9:15	9:22	9:30	9:39	9:46	9:53
9:36	9:45	9:52	10:00	10:09	10:16	10:23
10:06	10:15	10:22	10:30	10:39	10:46	10:53
10:36	10:45	10:52	11:00	11:09	11:16	11:23
11:06	11:15	11:22	11:30	11:39	11:46	11:53
11:34	11:43	11:50	11:58	12:07	12:14	12:21p
12:03	12:12	12:19	12:27	12:36	12:43	12:50
12:33	12:42	12:49	12:57	1:07	1:14	1:21
1:03	1:12	1:20	1:28	1:39	1:46	1:54
–	*1:21	*1:29	*1:37	*1:48	*1:55	*2:03
1:33	1:42	1:50	1:58	2:09	2:16	2:24
1:57	2:06	2:14	2:22	2:33	2:40	2:48
–	**2:22	**2:31	**2:39	**2:51	**2:59	**3:10
2:26	2:35	2:44	2:52	3:04	3:12	3:23
2:51	3:00	3:09	3:18	3:34	3:42	3:53
3:17	3:26	3:40	3:51	4:08	4:16	4:27
3:51	4:00	4:09	4:19	4:35	4:43	4:54
4:23	4:32	4:41	4:51	5:05	5:13	5:24
4:54	5:03	5:12	5:20	5:33	5:41	5:52

* Operates Wednesdays only.
Opera solamente los Miércoles.

** Operates Monday, Tuesday, Thursday, and Friday.
Opera Lunes, Martes, Jueves y Viernes.

Please note, BREEZE "school tripper" bus service only runs while schools are in session for in-person learning and are subject to change based on bell times. NCTD will update trip planning applications and GoNCTD.com when this service returns.

Tenga en cuenta que el servicio de autobús "school tripper" de BREEZE solo funciona mientras las escuelas se encuentren abiertas para clases presenciales y está sujeto a cambios en función de los horarios de entrada y salida. NCTD actualizará las aplicaciones de planificación de viaje y GoNCTD.com cuando el servicio se reanude.

See pg. 6 for Holiday schedules/Ver pág. 276 para obtener los horarios de días festivos

Monday - Friday Westbound to Vista Transit Center <i>Lunes a Viernes • Dirección hacia el oeste al Centro de Tránsito Vista</i>						
Escondido Transit Center	Mission Rd. & Auto Pkwy.	Mission Rd. & San Marcos Bl.	Palomar College Transit Center	S. Santa Fe & Buena Creek Rd.	S. Santa Fe & Civic Center Dr.	Vista Transit Center
7	6	5	4	3	2	1
5:29	5:37	5:46	5:53	6:02	6:10	6:21
6:03	6:11	6:19	6:26	6:35	6:42	6:52
6:38	6:46	6:53	7:00	7:08	7:15	7:25
7:12	7:20	7:26	7:32	7:40	7:46	7:54
7:42	7:50	7:56	8:02	8:09	8:15	8:23
8:13	8:21	8:27	8:33	8:40	8:46	8:52
8:43	8:51	8:57	9:03	9:10	9:15	9:21
9:14	9:21	9:27	9:33	9:40	9:45	9:51
9:53	9:59	10:05	10:11	10:18	10:23	10:29
10:33	10:39	10:44	10:49	10:55	10:59	11:05

See pg. 6 for Holiday schedules/Ver pág. 276 para obtener los horarios de días festivos

Saturday & Sunday Eastbound to Escondido Transit Center <i>Sábado y Domingo • Dirección hacia el este al Centro de Tránsito Escondido</i>						
Vista Transit Center	S. Santa Fe & Civic Center Dr.	S. Santa Fe & Buena Creek Rd.	Palomar College Transit Center	Mission Rd. & San Marcos Bl.	Mission Rd. & Auto Pkwy.	Escondido Transit Center
1	2	3	4	5	6	7
5:32	5:38	5:43	5:51	5:55	6:03	6:09 ^a
6:02	6:08	6:13	6:21	6:25	6:33	6:39
6:32	6:38	6:43	6:51	6:56	7:04	7:10
7:02	7:08	7:13	7:21	7:26	7:34	7:41
7:32	7:38	7:44	7:54	7:59	8:07	8:14
8:02	8:08	8:14	8:24	8:29	8:37	8:45
8:32	8:38	8:44	8:54	8:59	9:07	9:15
9:02	9:08	9:14	9:24	9:29	9:38	9:47
9:32	9:39	9:45	9:55	10:00	10:09	10:18
10:02	10:09	10:15	10:25	10:30	10:39	10:48
10:32	10:39	10:45	10:55	11:00	11:10	11:19
11:02	11:09	11:15	11:25	11:30	11:40	11:49
11:32	11:39	11:45	11:55	12:00	12:10	12:19 ^p
12:02	12:09	12:15	12:25	12:30	12:38	12:47
12:32	12:39	12:45	12:55	1:00	1:08	1:17
1:02	1:09	1:15	1:25	1:30	1:38	1:47
1:32	1:39	1:45	1:55	2:00	2:08	2:17
2:02	2:09	2:15	2:24	2:30	2:38	2:47
2:32	2:39	2:45	2:54	3:00	3:08	3:17
3:02	3:09	3:15	3:24	3:30	3:38	3:47
3:32	3:39	3:45	3:54	4:00	4:08	4:17
4:02	4:09	4:15	4:24	4:30	4:38	4:47
4:32	4:39	4:45	4:54	5:00	5:08	5:17
5:02	5:09	5:15	5:24	5:30	5:37	5:46
5:32	5:39	5:45	5:54	5:59	6:06	6:14
6:02	6:09	6:15	6:24	6:29	6:36	6:44
6:32	6:39	6:45	6:54	6:59	7:06	7:14
7:02	7:09	7:14	7:22	7:27	7:34	7:42
7:32	7:39	7:44	7:52	7:57	8:04	8:11
8:02	8:09	8:14	8:22	8:27	8:34	8:41
8:32	8:38	8:43	8:51	8:55	9:02	9:09
9:02	9:08	9:13	9:21	9:25	9:32	9:39
9:32	9:38	9:43	9:51	9:55	10:02	10:09
10:02	10:08	10:13	10:21	10:25	10:31	10:37
11:12	11:18	11:23	11:31	11:35	11:41	11:47

See pg. 6 for Holiday schedules/Ver pág. 276 para obtener los horarios de días festivos

Saturday & Sunday Westbound to Vista Transit Center <i>Sábado y Domingo • Dirección hacia el oeste al Centro de Tránsito Vista</i>						
Escondido Transit Center	Mission Rd. & Auto Pkwy.	Mission Rd. & San Marcos Bl.	Palomar College Transit Center	S. Santa Fe & Buena Creek Rd.	S. Santa Fe & Civic Center Dr.	Vista Transit Center
7	6	5	4	3	2	1
5:16	5:24	5:29	5:34	5:43	5:49	5:55a
5:46	5:54	5:59	6:04	6:13	6:19	6:25
6:15	6:23	6:28	6:33	6:42	6:48	6:54
6:43	6:52	6:58	7:03	7:13	7:19	7:25
7:11	7:21	7:27	7:32	7:42	7:48	7:55
7:40	7:50	7:56	8:01	8:11	8:17	8:24
8:09	8:19	8:25	8:30	8:40	8:47	8:55
8:38	8:48	8:55	9:00	9:11	9:18	9:26
9:07	9:17	9:24	9:29	9:40	9:47	9:55
9:37	9:47	9:54	9:59	10:10	10:17	10:25
10:07	10:17	10:24	10:29	10:40	10:47	10:55
10:37	10:47	10:54	10:59	11:10	11:17	11:25
11:07	11:17	11:24	11:29	11:40	11:47	11:55
11:37	11:47	11:54	11:59	12:10	12:17	12:25p
12:06	12:16	12:23	12:28	12:39	12:46	12:54
12:36	12:46	12:53	12:58	1:09	1:16	1:24
1:06	1:16	1:23	1:28	1:39	1:46	1:54
1:36	1:46	1:53	1:58	2:09	2:16	2:24
2:06	2:16	2:23	2:28	2:39	2:46	2:54
2:36	2:46	2:53	2:58	3:09	3:16	3:24
3:06	3:16	3:23	3:28	3:39	3:46	3:54
3:36	3:46	3:53	3:58	4:09	4:16	4:24
4:06	4:16	4:23	4:28	4:39	4:46	4:54
4:36	4:46	4:53	4:58	5:09	5:16	5:24
5:07	5:17	5:24	5:29	5:40	5:47	5:55
5:38	5:48	5:55	6:00	6:11	6:17	6:24
6:10	6:19	6:26	6:31	6:41	6:47	6:54
6:41	6:50	6:56	7:01	7:11	7:17	7:24
7:12	7:21	7:27	7:32	7:42	7:48	7:55
7:42	7:51	7:57	8:02	8:12	8:18	8:24
8:13	8:22	8:28	8:33	8:43	8:49	8:55
8:44	8:51	8:57	9:02	9:12	9:18	9:24
9:15	9:22	9:28	9:32	9:40	9:46	9:52
10:33	10:40	10:46	10:50	10:58	11:04	11:09

SPRINTER SCHEDULE

Schedule subject to change / Los horarios están sujetos a cambios

EASTBOUND			OCEANSIDE TO ESCONDIDO																																				
STATIONS	READ DOWN	30 MIN FREQUENCY	MONDAY-SUNDAY (Half-shaded boxes indicate NO SATURDAY, SUNDAY, or HOLIDAY service)																																				
Oceanside Transit Center	↓	:03 :33	4:03a	4:33a	5:03a	5:33a	6:03a	6:33a	7:03a	7:33a	8:03a	8:33a	9:03a	9:33a	10:03a	10:33a	11:03a	11:33a	12:03p	12:33p	1:03p	1:33p	2:03p	2:33p	3:03p	3:33p	4:03p	4:33p	5:03p	5:33p	6:03p	6:33p	7:03p	7:33p	8:03p	8:33p			
Coast Highway	↓	:05 :35	4:05a	4:35a	5:05a	5:35a	6:05a	6:35a	7:05a	7:35a	8:05a	8:35a	9:05a	9:35a	10:05a	10:35a	11:05a	11:35a	12:05p	12:35p	1:05p	1:35p	2:05p	2:35p	3:05p	3:35p	4:05p	4:35p	5:05p	5:35p	6:05p	6:35p	7:05p	7:35p	8:05p	8:35p			
Crouch Street	↓	:07 :37	4:07a	4:37a	5:07a	5:37a	6:07a	6:37a	7:07a	7:37a	8:07a	8:37a	9:07a	9:37a	10:07a	10:37a	11:07a	11:37a	12:07p	12:37p	1:07p	1:37p	2:07p	2:37p	3:07p	3:37p	4:07p	4:37p	5:07p	5:37p	6:07p	6:37p	7:07p	7:37p	8:07p	8:37p			
El Camino Real	↓	:11 :41	4:11a	4:41a	5:11a	5:41a	6:11a	6:41a	7:11a	7:41a	8:11a	8:41a	9:11a	9:41a	10:11a	10:41a	11:11a	11:41a	12:11p	12:41p	1:11p	1:41p	2:11p	2:41p	3:11p	3:41p	4:11p	4:41p	5:11p	5:41p	6:11p	6:41p	7:11p	7:41p	8:11p	8:41p			
Rancho Del Oro	↓	:14 :44	4:14a	4:44a	5:14a	5:44a	6:14a	6:44a	7:14a	7:44a	8:14a	8:44a	9:14a	9:44a	10:14a	10:44a	11:14a	11:44a	12:14p	12:44p	1:14p	1:44p	2:14p	2:44p	3:14p	3:44p	4:14p	4:44p	5:14p	5:44p	6:14p	6:44p	7:14p	7:44p	8:14p	8:44p			
College Boulevard	↓	:17 :47	4:17a	4:47a	5:17a	5:47a	6:17a	6:47a	7:17a	7:47a	8:17a	8:47a	9:17a	9:47a	10:17a	10:47a	11:17a	11:47a	12:17p	12:47p	1:17p	1:47p	2:17p	2:47p	3:17p	3:47p	4:17p	4:47p	5:17p	5:47p	6:17p	6:47p	7:17p	7:47p	8:17p	8:47p			
Melrose Drive	↓	:22 :52	4:22a	4:52a	5:22a	5:52a	6:22a	6:52a	7:22a	7:52a	8:22a	8:52a	9:22a	9:52a	10:22a	10:52a	11:22a	11:52a	12:22p	12:52p	1:22p	1:52p	2:22p	2:52p	3:22p	3:52p	4:22p	4:52p	5:22p	5:52p	6:22p	6:52p	7:22p	7:52p	8:22p	8:52p			
Vista Transit Center	↓	:26 :56	4:26a	4:56a	5:26a	5:56a	6:26a	6:56a	7:26a	7:56a	8:26a	8:56a	9:26a	9:56a	10:26a	10:56a	11:26a	11:56a	12:26p	12:56p	1:26p	1:56p	2:26p	2:56p	3:26p	3:56p	4:26p	4:56p	5:26p	5:56p	6:26p	6:56p	7:26p	7:56p	8:26p	8:56p			
Civic Center-Vista	↓	:29 :59	4:29a	4:59a	5:29a	5:59a	6:29a	6:59a	7:29a	7:59a	8:29a	8:59a	9:29a	9:59a	10:29a	10:59a	11:29a	11:59a	12:29p	12:59p	1:29p	1:59p	2:29p	2:59p	3:29p	3:59p	4:29p	4:59p	5:29p	5:59p	6:29p	6:59p	7:29p	7:59p	8:29p	8:59p			
Buena Creek	↓	:35 :05	4:35a	5:05a	5:35a	6:05a	6:35a	7:05a	7:35a	8:05a	8:35a	9:05a	9:35a	10:05a	10:35a	11:05a	11:35a	12:05p	12:35p	1:05p	1:35p	2:05p	2:35p	3:05p	3:35p	4:05p	4:35p	5:05p	5:35p	6:05p	6:35p	7:05p	7:35p	8:05p	8:35p	9:05p			
Palomar College	↓	:40 :10	4:40a	5:10a	5:40a	6:10a	6:40a	7:10a	7:40a	8:10a	8:40a	9:10a	9:40a	10:10a	10:40a	11:10a	11:40a	12:10p	12:40p	1:10p	1:40p	2:10p	2:40p	3:10p	3:40p	4:10p	4:40p	5:10p	5:40p	6:10p	6:40p	7:10p	7:40p	8:10p	8:40p	9:10p			
San Marcos Civic Center	↓	:43 :13	4:43a	5:13a	5:43a	6:13a	6:43a	7:13a	7:43a	8:13a	8:43a	9:13a	9:43a	10:13a	10:43a	11:13a	11:43a	12:13p	12:43p	1:13p	1:43p	2:13p	2:43p	3:13p	3:43p	4:13p	4:43p	5:13p	5:43p	6:13p	6:43p	7:13p	7:43p	8:13p	8:43p	9:13p			
Cal State San Marcos	↓	:46 :16	4:46a	5:16a	5:46a	6:16a	6:46a	7:16a	7:46a	8:16a	8:46a	9:16a	9:46a	10:16a	10:46a	11:16a	11:46a	12:16p	12:46p	1:16p	1:46p	2:16p	2:46p	3:16p	3:46p	4:16p	4:46p	5:16p	5:46p	6:16p	6:46p	7:16p	7:46p	8:16p	8:46p	9:16p			
Nordahl Road	↓	:51 :21	4:51a	5:21a	5:51a	6:21a	6:51a	7:21a	7:51a	8:21a	8:51a	9:21a	9:51a	10:21a	10:51a	11:21a	11:51a	12:21p	12:51p	1:21p	1:51p	2:21p	2:51p	3:21p	3:51p	4:21p	4:51p	5:21p	5:51p	6:21p	6:51p	7:21p	7:51p	8:21p	8:51p	9:21p			
Escondido Transit Center	↓	:56 :26	4:56a	5:26a	5:56a	6:26a	6:56a	7:26a	7:56a	8:26a	8:56a	9:26a	9:56a	10:26a	10:56a	11:26a	11:56a	12:26p	12:56p	1:26p	1:56p	2:26p	2:56p	3:26p	3:56p	4:26p	4:56p	5:26p	5:56p	6:26p	6:56p	7:26p	7:56p	8:26p	8:56p	9:26p			

EASTBOUND						EB	
FRIDAY NIGHT ONLY						SATURDAY NIGHT ONLY	
9:03p	9:33p	10:03p	10:33p	11:03p	11:33p	9:33p	10:33p 11:33p
9:05p	9:35p	10:05p	10:35p	11:05p	11:35p	9:35p	10:35p 11:35p
9:07p	9:37p	10:07p	10:37p	11:07p	11:37p	9:37p	10:37p 11:37p
9:11p	9:41p	10:11p	10:41p	11:11p	11:41p	9:41p	10:41p 11:41p
9:14p	9:44p	10:14p	10:44p	11:14p	11:44p	9:44p	10:44p 11:44p
9:17p	9:47p	10:17p	10:47p	11:17p	11:47p	9:47p	10:47p 11:47p
9:22p	9:52p	10:22p	10:52p	11:22p	11:52p	9:52p	10:52p 11:52p
9:26p	9:56p	10:26p	10:56p	11:26p	11:56p	9:56p	10:56p 11:56p
9:29p	9:59p	10:29p	10:59p	11:29p	11:59p	9:59p	10:59p 11:59p
9:35p	10:05p	10:35p	11:05p	11:35p	12:05a	10:05p	11:05p 12:05a
9:40p	10:10p	10:40p	11:10p	11:40p	12:10a	10:10p	11:10p 12:10a
9:43p	10:13p	10:43p	11:13p	11:43p	12:13a	10:13p	11:13p 12:13a
9:46p	10:16p	10:46p	11:16p	11:46p	12:16a	10:16p	11:16p 12:16a
9:51p	10:21p	10:51p	11:21p	11:51p	12:21a	10:21p	11:21p 12:21a
9:56p	10:26p	10:56p	11:26p	11:56p	12:26a	10:26p	11:26p 12:26a

WESTBOUND			ESCONDIDO TO OCEANSIDE																																						
STATIONS	READ DOWN	30 MIN FREQUENCY	MONDAY-SUNDAY (Half-shaded boxes indicate NO SATURDAY, SUNDAY, or HOLIDAY service)																																						
Escondido Transit Center	↓	:03 :33	4:03a	4:33a	5:03a	5:33a	6:03a	6:33a	7:03a	7:33a	8:03a	8:33a	9:03a	9:33a	10:03a	10:33a	11:03a	11:33a	12:03p	12:33p	1:03p	1:33p	2:03p	2:33p	3:03p	3:33p	4:03p	4:33p	5:03p	5:33p	6:03p	6:33p	7:03p	7:33p	8:03p	8:33p					
Nordahl Road	↓	:06 :36	4:06a	4:36a	5:06a	5:36a	6:06a	6:36a	7:06a	7:36a	8:06a	8:36a	9:06a	9:36a	10:06a	10:36a	11:06a	11:36a	12:06p	12:36p	1:06p	1:36p	2:06p	2:36p	3:06p	3:36p	4:06p	4:36p	5:06p	5:36p	6:06p	6:36p	7:06p	7:36p	8:06p	8:36p					
Cal State San Marcos	↓	:11 :41	4:11a	4:41a	5:11a	5:41a	6:11a	6:41a	7:11a	7:41a	8:11a	8:41a	9:11a	9:41a	10:11a	10:41a	11:11a	11:41a	12:11p	12:41p	1:11p	1:41p	2:11p	2:41p	3:11p	3:41p	4:11p	4:41p	5:11p	5:41p	6:11p	6:41p	7:11p	7:41p	8:11p	8:41p					
San Marcos Civic Center	↓	:14 :44	4:14a	4:44a	5:14a	5:44a	6:14a	6:44a	7:14a	7:44a	8:14a	8:44a	9:14a	9:44a	10:14a	10:44a	11:14a	11:44a	12:14p	12:44p	1:14p	1:44p	2:14p	2:44p	3:14p	3:44p	4:14p	4:44p	5:14p	5:44p	6:14p	6:44p	7:14p	7:44p	8:14p	8:44p					
Palomar College	↓	:17 :47	4:17a	4:47a	5:17a	5:47a	6:17a	6:47a	7:17a	7:47a	8:17a	8:47a	9:17a	9:47a	10:17a	10:47a	11:17a	11:47a	12:17p	12:47p	1:17p	1:47p	2:17p	2:47p	3:17p	3:47p	4:17p	4:47p	5:17p	5:47p	6:17p	6:47p	7:17p	7:47p	8:17p	8:47p					
Buena Creek	↓	:22 :52	4:22a	4:52a	5:22a	5:52a	6:22a	6:52a	7:22a	7:52a	8:22a	8:52a	9:22a	9:52a	10:22a	10:52a	11:22a	11:52a	12:22p	12:52p	1:22p	1:52p	2:22p	2:52p	3:22p	3:52p	4:22p	4:52p	5:22p	5:52p	6:22p	6:52p	7:22p	7:52p	8:22p	8:52p					
Civic Center-Vista	↓	:27 :57	4:27a	4:57a	5:27a	5:57a	6:27a	6:57a	7:27a	7:57a	8:27a	8:57a	9:27a	9:57a	10:27a	10:57a	11:27a	11:57a	12:27p	12:57p	1:27p	1:57p	2:27p	2:57p	3:27p	3:57p	4:27p	4:57p	5:27p	5:57p	6:27p	6:57p	7:27p	7:57p	8:27p	8:57p					
Vista Transit Center	↓	:30 :00	4:30a	5:00a	5:30a	6:00a	6:30a	7:00a	7:30a	8:00a	8:30a	9:00a	9:30a	10:00a	10:30a	11:00a	11:30a	12:00p	12:30p	1:00p	1:30p	2:00p	2:30p	3:00p	3:30p	4:00p	4:30p	5:00p	5:30p	6:00p	6:30p	7:00p	7:30p	8:00p	8:30p	9:00p					
Melrose Drive	↓	:35 :05	4:35a	5:05a	5:35a	6:05a	6:35a	7:05a	7:35a	8:05a	8:35a	9:05a	9:35a	10:05a	10:35a	11:05a	11:35a	12:05p	12:35p	1:05p	1:35p	2:05p	2:35p	3:05p	3:35p	4:05p	4:35p	5:05p	5:35p	6:05p	6:35p	7:05p	7:35p	8:05p	8:35p	9:05p					
College Boulevard	↓	:40 :10	4:40a	5:10a	5:40a	6:10a	6:40a	7:10a	7:40a	8:10a	8:40a	9:10a	9:40a	10:10a	10:40a	11:10a	11:40a	12:10p	12:40p	1:10p	1:40p	2:10p	2:40p	3:10p	3:40p	4:10p	4:40p	5:10p	5:40p	6:10p	6:40p	7:10p	7:40p	8:10p	8:40p	9:10p					
Rancho Del Oro	↓	:43 :13	4:43a	5:13a	5:43a	6:13a	6:43a	7:13a	7:43a	8:13a	8:43a	9:13a	9:43a	10:13a	10:43a	11:13a	11:43a	12:13p	12:43p	1:13p	1:43p	2:13p	2:43p	3:13p	3:43p	4:13p	4:43p	5:13p	5:43p	6:13p	6:43p	7:13p	7:43p	8:13p	8:43p	9:13p					
El Camino Real	↓	:46 :16	4:46a	5:16a	5:46a	6:16a	6:46a	7:16a	7:46a	8:16a	8:46a	9:16a	9:46a	10:16a	10:46a	11:16a	11:46a	12:16p	12:46p	1:16p	1:46p	2:16p	2:46p	3:16p	3:46p	4:16p	4:46p	5:16p	5:46p	6:16p	6:46p	7:16p	7:46p	8:16p	8:46p	9:16p					
Crouch Street	↓	:49 :19	4:49a	5:19a	5:49a	6:19a	6:49a	7:19a	7:49a	8:19a	8:49a	9:19a	9:49a	10:19a	10:49a	11:19a	11:49a	12:19p	12:49p	1:19p	1:49p	2:19p	2:49p	3:19p	3:49p	4:19p	4:49p	5:19p	5:49p	6:19p	6:49p	7:19p	7:49p	8:19p	8:49p	9:19p					
Coast Highway	↓	:52 :22	4:52a	5:22a	5:52a	6:22a	6:52a	7:22a	7:52a	8:22a	8:52a	9:22a	9:52a	10:22a	10:52a	11:22a	11:52a	12:22p	12:52p	1:22p	1:52p	2:22p	2:52p	3:22p	3:52p	4:22p	4:52p	5:22p	5:52p	6:22p	6:52p	7:22p	7:52p	8:22p	8:52p	9:22p					
Oceanside Transit Center	↓	:56 :26	4:56a	5:26a	5:56a	6:26a	6:56a	7:26a	7:56a	8:26a	8:56a	9:26a	9:56a	10:26a	10:56a	11:26a	11:56a	12:26p	12:56p	1:26p	1:56p	2:26p	2:56p	3:26p	3:56p	4:26p	4:56p	5:26p	5:56p	6:26p	6:56p	7:26p	7:56p	8:26p	8:56p	9:26p					