

DRAFT Traffic Impact Study Colton Community Soccer Park



PREPARED FOR



June 2019

Balancing the Natural and Built Environment

PSOMAS

DRAFT
TRAFFIC IMPACT STUDY
FOR COLTON COMMUNITY SOCCER PARK
COLTON, CA

PREPARED FOR



PREPARED BY

P S O M A S

PSOMAS PROJECT No. 3COL020100

JUNE 2019

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1. INTRODUCTION

1.1. PROJECT DESCRIPTION

The proposed Colton Community Soccer Park Project will include construction of 8 lighted soccer fields on approximately 58 acres of City-owned land. The complex will also include parking, restroom facilities, a concession building, children's play area, multipurpose trails, and spectator seating. Access to the park will be from Congress Street, and the park is expected to be open in 2021. Figure 1 shows the project location and Figure 2 shows the project site plan.

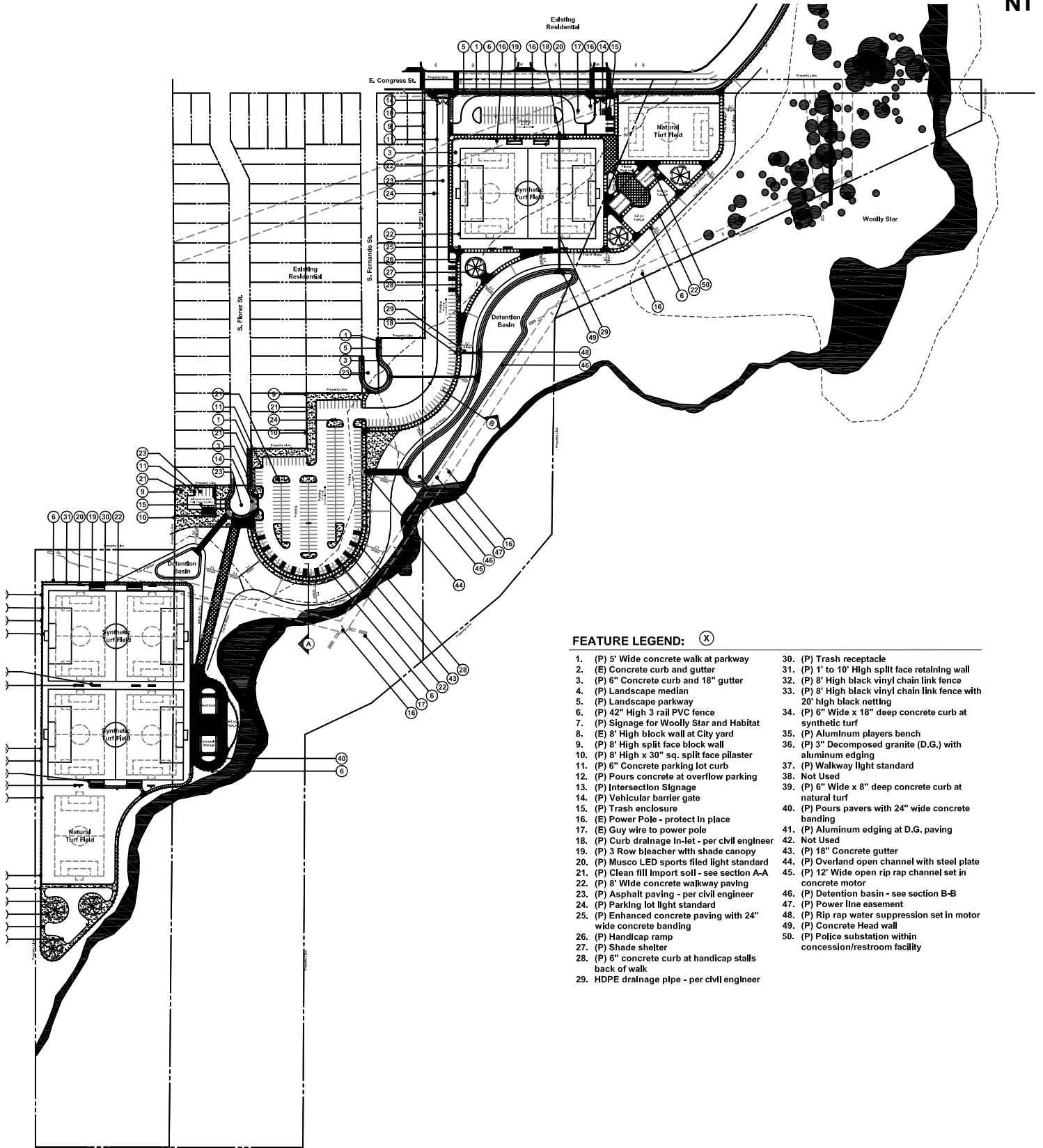
For this study, traffic impact analyses were conducted for existing conditions (2019), the anticipated opening year of 2021, and the long term year of 2041 (20 years after opening). In summary, the following scenarios were evaluated in this study:

- Existing Conditions (2019)
- Existing Plus Project
- Existing Plus Opening Year 2021 Cumulative Growth
- Existing Plus Opening Year 2021 Cumulative Growth Plus Project
- Long Term (2041)
- Long Term Plus Project (2041)

The project study area and traffic impact analysis methodology used in this study are described in the following sections.

Figure 1. Site Location





FEATURE LEGEND: (X)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. (P) 5' Wide concrete walk at parkway 2. (E) Concrete curb and gutter 3. (P) 6" Concrete curb and 18" gutter 4. (P) Landscape median 5. (P) Landscape parkway 6. (P) 42" High 3 rail PVC fence 7. (P) Signage for Woolly Star and Habitat 8. (E) 8' High block wall at City yard 9. (P) 8' High split face block wall 10. (P) 8' High x 30" sq. split face pilaster 11. (P) 6" Concrete parking lot curb 12. (P) Pours concrete at overflow parking 13. (P) Intersection Signage 14. (P) Vehicular barrier gate 15. (P) Trash enclosure 16. (E) Power Pole - protect in place 17. (E) Guy wire to power pole 18. (P) Curb drainage in-let - per civil engineer 19. (P) 3 Row bleacher with shade canopy 20. (P) Musco LED sports filed light standard 21. (P) Clean fill import soil - see section A-A 22. (P) 8' Wide concrete walkway paving 23. (P) Asphalt paving - per civil engineer 24. (P) Parking lot light standard 25. (P) Enhanced concrete paving with 24" wide concrete banding 26. (P) Handcap ramp 27. (P) Shade shelter 28. (P) 6" concrete curb at handicap stalls back of walk 29. HDPE drainage pipe - per civil engineer | <ol style="list-style-type: none"> 30. (P) Trash receptacle 31. (P) 1' to 10" High split face retaining wall 32. (P) 8' High black vinyl chain link fence 33. (P) 8' High black vinyl chain link fence with 20' high black netting 34. (P) 6" Wide x 18" deep concrete curb at synthetic turf 35. (P) Aluminum players bench 36. (P) 3" Decomposed granite (D.G.) with aluminum edging 37. (P) Walkway light standard 38. Not Used 39. (P) 6" Wide x 8" deep concrete curb at natural turf 40. (P) Pours pavers with 24" wide concrete banding 41. (P) Aluminum edging at D.G. paving 42. Not Used 43. (P) 18" Concrete gutter 44. (P) Overland open channel with steel plate 45. (P) 12' Wide open rip rap channel set in concrete motor 46. (P) Detention basin - see section B-B 47. (P) Power line easement 48. (P) Rip rap water suppression set in motor 49. (P) Concrete Head wall 50. (P) Police substation within concession/restroom facility |
|---|--|

1.2. STUDY AREA

The study area includes five existing intersections and one new project intersection. Turning movement counts (TMCs) were collected at each of the existing study intersections for the weekday PM peak and the Saturday midday peak periods. The study intersections are listed below.

1. M Street/La Cadena Drive (signalized, existing)
2. M Street/Fogg Street (unsignalized, existing)
3. M Street/Mt. Vernon Avenue (signalized, existing)
4. La Cadena Drive/7th Street/Maple Street (signalized, existing)
5. Congress Street/Cedar Street (unsignalized, existing)
6. Congress Street/New Park Access (unsignalized, new)

In addition to the study intersections, two segments of Mt. Vernon Avenue were analyzed because the project is expected to add 50 or more peak hour trips along each of the segments, which meets the threshold for the *San Bernardino County Congestion Management Program*¹ (CMP) analysis of arterial roadways. The two study segments of Mt. Vernon Avenue are:

- A. M Street to I-10
- B. I-10 to Fairway Drive

Figure 3 on page 8 shows the study intersections and the CMP segments within the study area. Note that per the CMP, the segments do not need to be evaluated because they are urban segments with traffic signals located less than two miles apart; however, per direction from the City, the segments were evaluated in this study.

1.3. ANALYSIS METHODOLOGY

Level of Service (LOS) is the typical measure used to characterize the quality of traffic operations at an intersection or roadway segment. LOS A represents relatively free operating conditions, whereas LOS F has unstable flow and congestion with volumes at or near the capacity of the facility. Excessive delays and queues can occur when the LOS is not acceptable.

The traffic generated by the project or by the project in combination with other projects in the area could worsen the LOS of a facility. To assess the potential traffic impacts due to the project and due to background traffic growth, the following scenarios were evaluated:

- Existing Conditions (2019)
- Existing Plus Project
- Existing Plus Opening Year 2021 Cumulative Growth
- Existing Plus Opening Year 2021 Cumulative Growth Plus Project
- Long Term (2041)
- Long Term Plus Project (2041)

This TIS follows the guidelines in the *San Bernardino County Congestion Management Program*. Per the CMP, a transportation impact is significant “if the traffic level of service (LOS) at an intersection or on a segment drops below the adopted LOS standard (LOS E), or if the current LOS is F and the quantitative measure of LOS increases by 10 percent or more.” The acceptable level of service for the City of Colton is LOS D, so the project is assumed to result in a significant impact if an intersection or segment LOS drops below D, or if the current LOS is E or F and the quantitative measure increases by 10 percent or more. The evaluation methodologies are discussed further in the following sections.

1.3.1. Intersections

The study intersections were evaluated using the *Highway Capacity Manual² (HCM)* methodology via *Synchro 10*. The intersection analyses were completed using Passenger Car Equivalents (PCEs). For the intersection of La Cadena Drive/7th Street/Maple Street, *SimTraffic* was used to evaluate the delays and LOS because *Synchro* is unable to evaluate intersections with more than four legs.

For two-way stop controlled intersections, the intersection LOS is not defined. Therefore, the delay and LOS for the worst stop-controlled movement was evaluated at locations which operate with two-way stop control.

1.3.2. Arterial Segments

The two CMP segments of Mt. Vernon Avenue included in the study were also evaluated based on *HCM* methodology. Table 1 shows the thresholds for LOS C, D, and E for two-lane and four-lane roadways posted at 35 mph and 40 mph. The thresholds are in vehicles per day (vpd) as indicated in the *HCM*.

Table 1. Daily Traffic Volume (vpd) LOS Thresholds

Facility Type	Speed Limit	LOS C	LOS D	LOS E
Two-Lane Roadway	35 mph	3,700	13,200	18,000
	40 mph	5,700	14,500	18,100
Four-Lane Roadway	35 mph	7,000	27,700	36,100
	40 mph	11,700	30,600	36,500

2. EXISTING STUDY AREA CONDITIONS

2.1. ROADWAY NETWORK

There are three existing major roadways in the study area, as discussed below:

La Cadena Drive is a four-lane roadway through much of the project area, narrowing to two lanes south of 7th Street. The roadway is classified as major arterial by the City of Colton³, and has a posted speed limit of 45 mph through the study area.

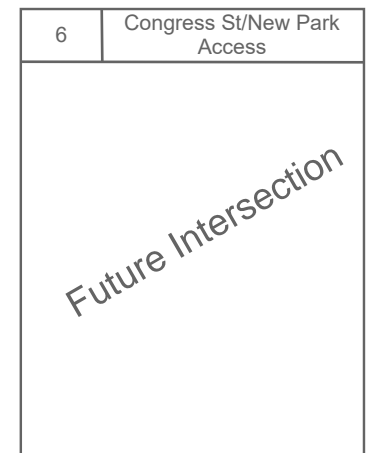
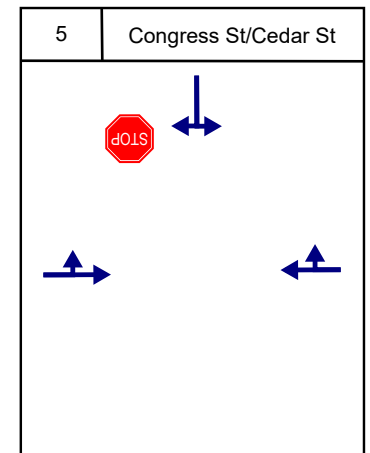
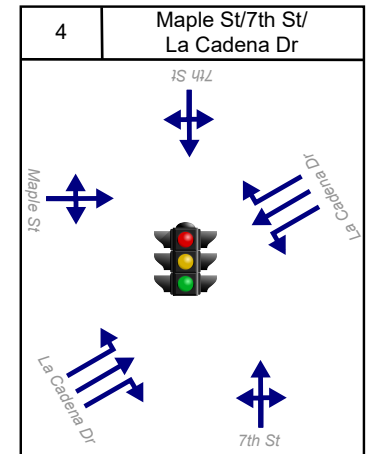
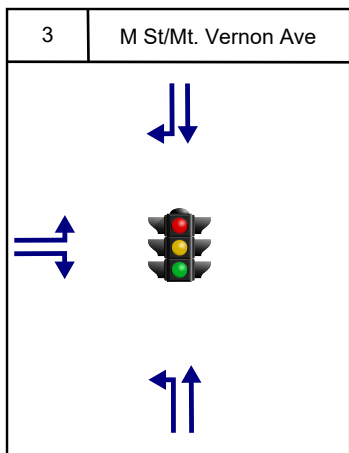
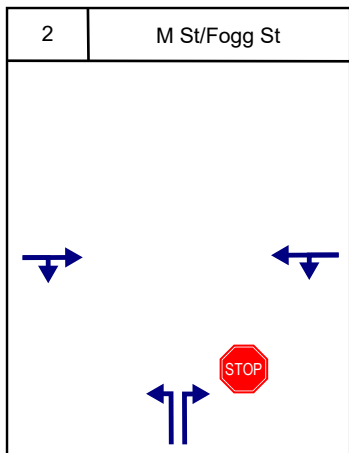
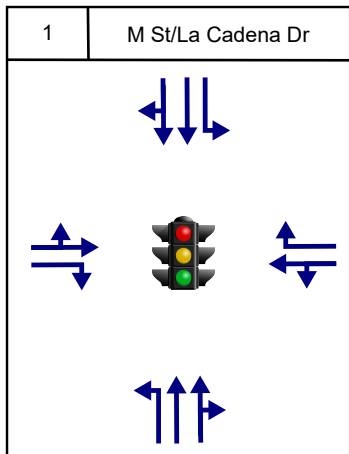
M Street is two-lane road through much of the project area, but the roadway widens to four lanes east of Fogg Street. The roadway is classified as a collector street by the City of Colton, and has a posted speed limit of 40 mph.

Mt. Vernon Avenue is a two-lane roadway in the project vicinity which provides access to I-10 and I-215. The roadway is classified as a major arterial by the City of Colton and has a posted speed limit of 35 mph south of I-10. North of I-10, the roadway is also classified as a major arterial, but it is a four- or five-lane roadway with a posted speed of 40 mph.

Figure 3 shows the location of the five existing study intersections, the existing intersection geometry, the existing traffic control, and the location of the two study segments.

2.2. TRAFFIC VOLUMES

Traffic volume data was collected at the study intersections by National Data & Surveying Services for Psomas from 4:00 PM to 6:00 PM on Thursday, April 4, 2019 and from 10:00 AM to 2:00 PM on Saturday, April 6, 2019. The overall peak hours for the study area were found to be from 4:30 to 5:30 PM on Thursday and from 12:30 to 1:30 PM on Saturday. Figure 4 shows the existing vehicular traffic volumes, Figure 5 shows the existing heavy truck volumes, and Figure 6 shows the intersection volumes in passenger car equivalents (PCEs). The collected traffic volume data is included in Appendix A.



1	M St/La Cadena Dr	
	14 (13)	70 (63)
	632 (295)	
↑ La Cadena Dr	36 (20)	79 (61)
	10 (6)	4 (7)
	3 (6)	59 (34)
↓	3 (0)	99 (33)
	894 (379)	
	M St	

2	M St/Fogg St	
↑ Fogg St	261 (128)	167 (104)
	4 (2)	48 (25)
↓	4 (1)	33 (32)
	M St	

3	M St/Mt Vernon Ave	
	74 (27)	838 (492)
↑ Mt Vernon Ave	123 (63)	
	194 (113)	863 (558)
↓	137 (86)	
	M St	

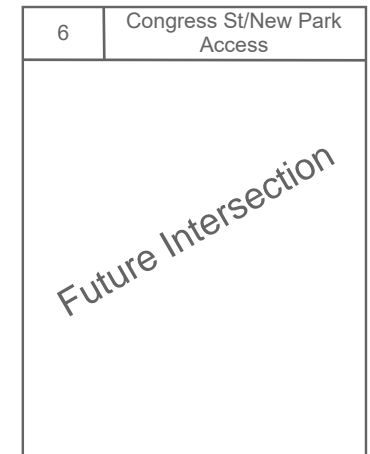
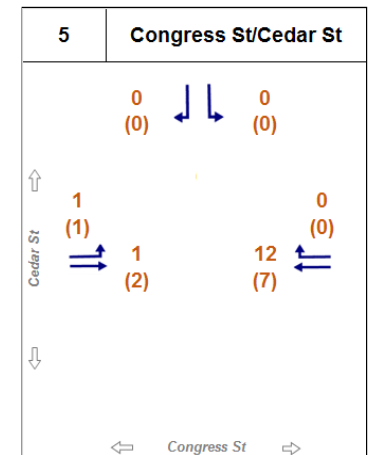
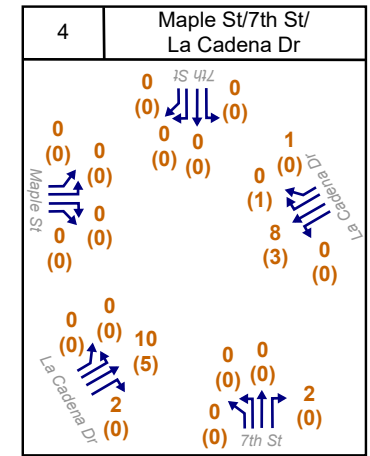
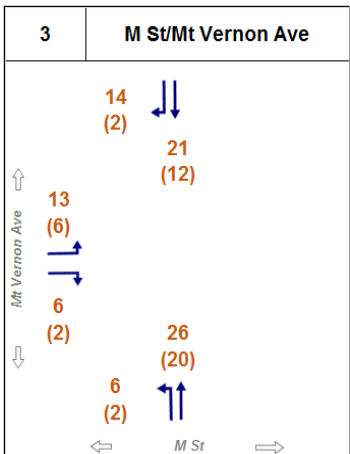
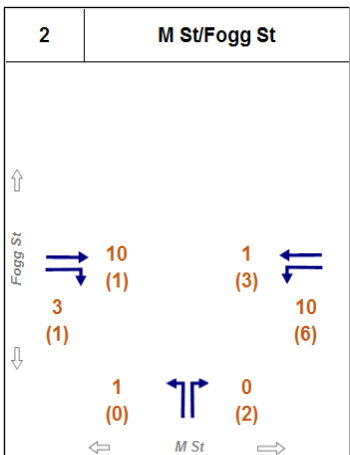
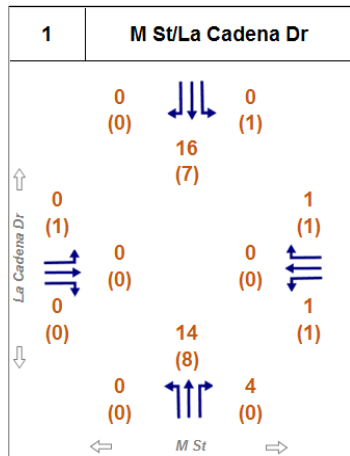


LEGEND	
⊗	Intersection Number (Existing)
⊗	Intersection Number (New)
XX	Weekday PM Peak Hour Traffic Volumes (veh/hr)
(XX)	Saturday Midday Peak Hour Traffic Volumes (veh/hr)
xx,xxx	Weekday Daily Traffic Volumes (veh/dy)
(xx,xxx)	Saturday Daily Traffic Volumes (veh/dy)

4	Maple St/7th St/ La Cadena Dr	
	1 (3)	1 (5)
	4 (1)	16 (5)
↑ Maple St	5 (0)	5 (2)
	5 (2)	0 (0)
↓ La Cadena Dr	5 (0)	5 (2)
	18 (7)	667 (237)
	32 (4)	0 (0)
	4 (2)	4 (2)
	32 (4)	29 (14)
	7th St	

5	Congress St/Cedar St	
	1 (0)	1 (1)
↑ Cedar St	3 (1)	2 (3)
	32 (32)	46 (24)
↓		
	Congress St	

6	Congress St/New Park Access	
Future Intersection		



1		M St/La Cadena Dr	
	14 (13)	↕↕	70 (65)
		656 (306)	
↑ La Cadena Dr	36 (22)	↔↔	81 (63)
	10 (6)		4 (7)
	3 (6)		61 (36)
↓		915 (391)	
	3 (0)	↕↕	105 (33)
			M St

2		M St/Fogg St	
	276 (130)	↔↔	169 (109)
	9 (4)		63 (34)
↑ Fogg St			
	6 (1)	↕↕	33 (35)
↓			M St

3		M St/Mt Vernon Ave	
	95 (30)	↕↕	870 (510)
	143 (72)	↔↔	
↑ Mt Vernon Ave			
	203 (116)		902 (588)
↓			146 (89)
		↕↕	
			M St



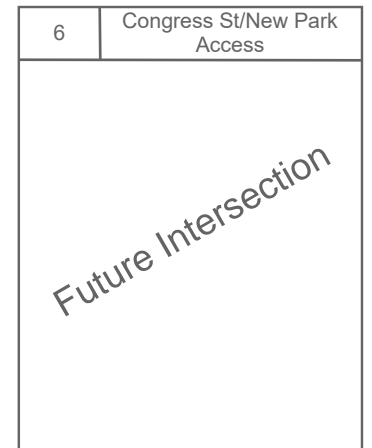
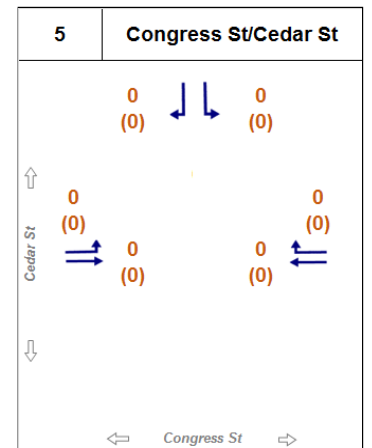
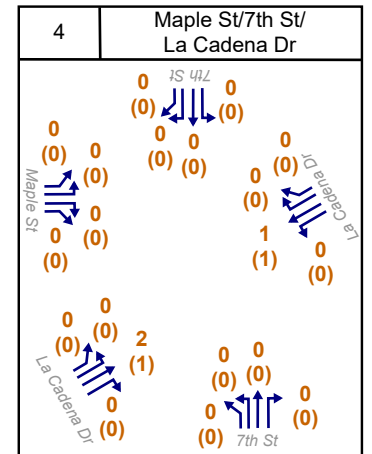
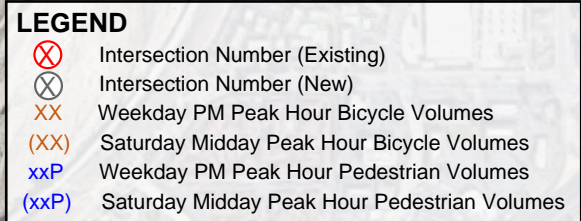
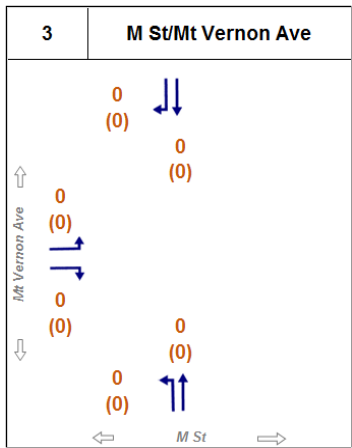
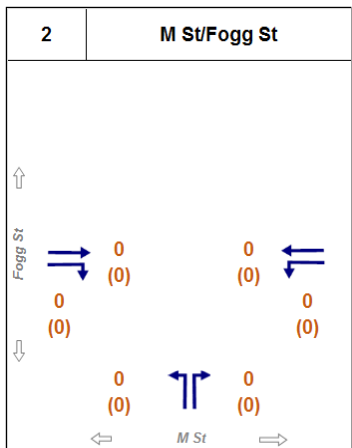
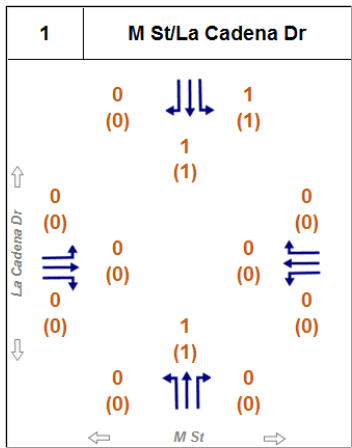
4		Maple St/7th St/ La Cadena Dr	
	1 (3)	↕↕	1 (5)
	4 (1)	↔↔	14 (9)
↑ Maple St	16 (5)		3 (7)
	0 (0)		569 (231)
	5 (2)		30 (7)
↓ La Cadena Dr			
	5 (0)	↕↕	682 (245)
	21 (7)		0 (0)
			4 (2)
			32 (4)
			7th St

5		Congress St/Cedar St	
	1 (0)	↕↕	1 (1)
	5 (3)	↔↔	2 (3)
↑ Cedar St			
	34 (35)		64 (35)
↓			
			Congress St

6		Congress St/New Park Access	
Future Intersection			

The daily volume on Mt. Vernon Avenue north of I-10 was collected on May 2, 2019; note that although Figure 4 shows the exact volume collected, other figures throughout this report will show the daily volumes rounded to the nearest 100, as is typical for estimated volumes. The volume on Mt. Vernon Avenue south of I-10 was estimated from the turning movement counts at the M Street intersection and the percentage of the overall traffic in the peak hour on the segment of Mt. Vernon Avenue north of I-10. Saturday volumes on Mt. Vernon Avenue north of I-10 were estimated based on the ratio for the daily volumes on the segment south of I-10.

In addition to the vehicular volumes, pedestrian and bicycle volumes were collected at the five existing intersections. Figure 7 shows the existing pedestrian and bicycle volumes. As seen in the figure, there are very few existing cyclists in the project area. Most intersections also have very few pedestrians crossing; the highest number of pedestrians is at the intersection of La Cadena Drive and M Street, where there were 11 pedestrians crossing La Cadena Drive and 13 crossing M Street during the weekday PM peak. The Saturday midday pedestrian volumes at the same intersection are somewhat lower, with 8 pedestrians crossing La Cadena Drive and 11 crossing M Street.



3. PROJECTED TRAFFIC VOLUMES

3.1. CUMULATIVE GROWTH

3.1.1. Opening Year (2021)

Related project information was provided by the cities of Colton and Grand Terrace. Based on the available data, there are 13 developments in the project vicinity which were included in the calculation of 2021 volumes for this study. Note that some projects are large and are unlikely to be completed by 2021 but were included in their entirety to provide a conservative analysis. Figure 8 shows the project locations, land uses, and sizes.

The trip generation for the related projects was estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*⁴ for afternoon weekday and Saturday midday peak hour trips. In addition, the trips were then adjusted to provide PCEs assuming 2% trucks for residential, office, and commercial uses; warehouse (20%) and industrial park (25%) truck percentages were estimated based on the *City of Fontana Truck Trip Generation Study*⁵. Table 2 shows the trip generation in PCEs for each of the 13 related projects. The combined related project PCE volumes are shown in Figure 9, and the cumulative 2021 volumes are shown in Figure 10.

3.1.2. Long Term (2041)

Based on discussions with the City, it was determined that the annual growth in traffic volumes for the long term analysis is 1.0% per year. To ensure that the related project traffic volumes would be fully integrated into the long term projections, the growth rate was applied to the cumulative 2021 volumes shown in Figure 10. Figure 11 shows the traffic volumes based on the growth rate for 2041, 20 years after the anticipated project opening.

Project Number	Location/ Address	Land Use
1	La Cadena Dr and I-215	424 Multi-Family Residential Units
		450 Single Family Residential Units
2	300 W. Litton	86 Single Family Residential Units
3	Tropica Rancho Rd and La Cadena Dr	266,030 sq. ft. Warehouse
4	779 S. 5th Street	19 Multi-Family Residential Units
5	Cottage Lane and H Street	23 Single Family Residential Units
6	839 E Fairway Drive	38 Multi-Family Residential Units
7	Fairway/Auto Center	87,500 sq. ft. Restaurant
8	Fairway/Auto Center	124,799 sq. ft. Industrial Park
9	22881 Barton Road	4,998 sq. ft. Commercial
10	22805 Barton Road	4,453 sq.ft. Medical office w/outpatient surgery center
11	11830 Mount Vernon Avenue	35 Condos
12	Grand Terrace	154,305 sq. ft. Retail Town Square
13	22085 Commerce Way	7,403 sq. ft. Animal Clinic
		2,589 sq. ft. Commercial

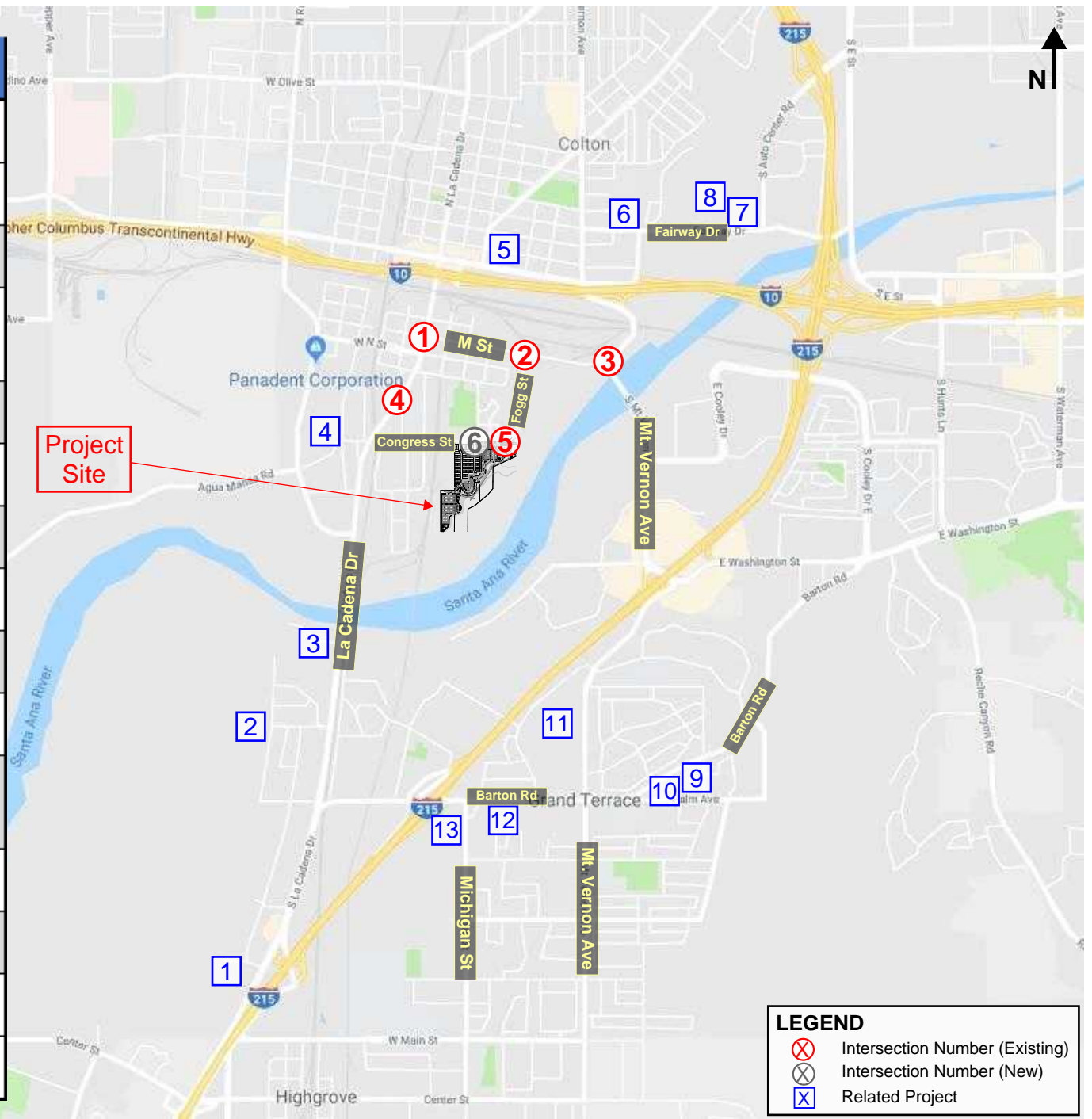


Table 2. Related Project Trip Generation (PCEs)

Project No.	Location/ Address	Land Use	Weekday Daily	PM			Saturday Daily	Saturday Peak		
				Total	In	Out		Total	In	Out
1	La Cadena Dr and I-215	424 Multi-Family Residential Units	2,873	253	161	92	3,555	306	165	141
		450 Single Family Residential Units	4,375	459	289	170	4,422	431	233	198
2	300 W. Litton	86 Single Family Residential Units	836	88	55	32	845	82	44	38
3	Tropica Rancho Rd and La Cadena	266,030 sq. ft. Warehouse	1,032	83	22	61	52	17	11	6
4	779 S. 5th Street	19 Multi-Family Residential Units	129	11	7	4	159	14	7	6
5	Cottage Lane and H Street	23 Single Family Residential Units	224	23	15	9	226	22	12	10
6	839 E Fairway Drive	38 Multi-Family Residential Units	258	23	14	8	23	23	14	8
7	Fairway/Auto Center	87,500 sq. ft. Restaurant	11,460	985	600	384	11,031	1,008	514	494
8	Fairway/Auto Center	124,799 sq. ft. Industrial Park	1,195	147	30	117	436	76	24	51
9	22881 Barton Road	4,998 sq. ft. Commercial	194	20	9	10	237	23	12	11
10	22805 Barton Road	4,453 sq. ft. Medical office w/outpatient surgery center	160	16	4	11	39	14	8	6
11	11830 Mount Vernon Avenue	35 Condos	237	21	13	8	293	25	14	12
12	Grand Terrace Town Square	154,305 sq. ft. Retail	9,273	858	412	446	7,330	715	372	343
13	22085 Commerce Way	7,403 sq. ft. Animal Clinic	164	27	11	16	65	24	13	10
		2,589 sq. ft. Commercial	101	10	5	5	123	12	6	6
TOTAL			32,510	3,023	1,649	1,374	28,837	2,792	1,451	1,341

1		M St/La Cadena Dr	
	0 (0)	↓ ↓ ↓ 132 (120)	0 (0)
↑ La Cadena Dr	0 (0)	0 (0)	0 (0)
	0 (0)	0 (0)	↑ ↑ ↑ 0 (0)
↓	0 (0)	117 (107)	0 (0)
	0 (0)	↑ ↑ ↑ 0 (0)	0 (0)
	←	M St	→

2		M St/Fogg St	
	39 (34)		33 (34)
↑ Fogg St	0 (0)		0 (0)
	0 (0)	↑ ↑	0 (0)
↓	0 (0)	0 (0)	0 (0)
	←	M St	→

3		M St/Mt Vernon Ave	
	24 (27)	↓ ↓	16 (15)
↑ Mt Vernon Ave	31 (26)	↓ ↓	0 (0)
	9 (8)	↑ ↑	16 (13)
↓	10 (8)	↑ ↑	0 (0)
	←	M St	→



4		Maple St/7th St/ La Cadena Dr	
	0 (0)	↓ ↓ ↓ 0 (0)	0 (0)
↑ Maple St	0 (0)	0 (0)	0 (0)
	0 (0)	0 (0)	↑ ↑ ↑ 141 (126)
↓	0 (0)	119 (110)	0 (0)
	←	La Cadena Dr	→

5		Congress St/Cedar St	
	0 (0)	↓ ↓ ↓ 0 (0)	0 (0)
↑ Cedar St	0 (0)	0 (0)	0 (0)
	0 (0)	0 (0)	↑ ↑ ↑ 0 (0)
↓	0 (0)	0 (0)	0 (0)
	←	Congress St	→

6		Congress St/New Park Access	
	0 (0)	0 (0)	0 (0)
↑ New Park Access	0 (0)	0 (0)	↑ ↑
	0 (0)	0 (0)	0 (0)
↓	0 (0)	↑ ↑	0 (0)
	←	Congress St	→

1		M St/La Cadena Dr	
	14 (13)	↕	70 (65)
		788 (426)	
↑	36 (22)		81 (63)
	10 (6)		4 (7)
↔	3 (6)		61 (36)
↓		1,032 (498)	
	3 (0)		105 (33)
		↕	

2		M St/Fogg St	
	315 (164)	↔	202 (143)
	9 (4)		63 (34)
↑			
	6 (1)		33 (35)
↔			
↓			

3		M St/Mt Vernon Ave	
	119 (57)	↕	
		886 (525)	
↑	174 (98)		
	212 (124)		918 (601)
↔			
↓			
	156 (97)		
		↕	



4		Maple St/7th St/ La Cadena Dr	
	1 (3)	↕	1 (5)
	4 (1)	16 (5)	7 (1)
↑	5 (2)		5 (2)
			14 (9)
			3 (7)
			710 (357)
			30 (7)

5		Congress St/Cedar St	
	1 (0)	↕	1 (1)
		0	
↑	5 (3)		2 (3)

6		Congress St/New Park Access	

3.2. PROJECT TRAFFIC VOLUMES

3.2.1. Project Trip Generation

The traffic generation for the project was estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual* for afternoon weekday and Saturday midday peak hour trips. The resulting project trip generation is shown in Table 3. The project is expected to generate minimal truck trips, and any truck trips are likely to occur outside of the peak hours; therefore, the volumes shown in the table are assumed to be PCEs.

Table 3. Project Trip Generation

ITE LU 488 - Soccer Complex						
Fields			8			
Period	Trips/Unit	Trips	% In	% Out	Trips In	Trips Out
PM Peak	16.43	131	66%	34%	87	45
Saturday Peak	40.10	321	48%	52%	154	167

3.2.2. Project Trip Distribution

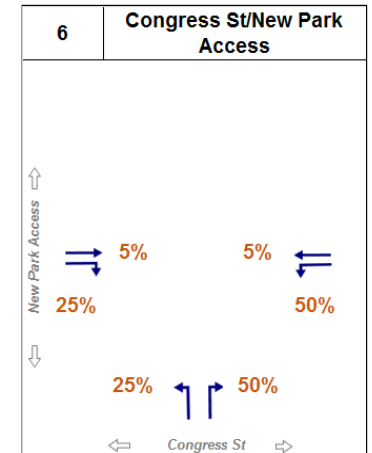
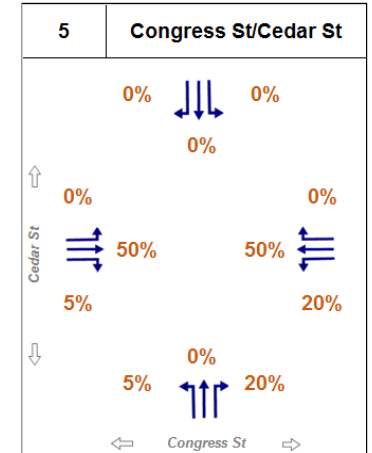
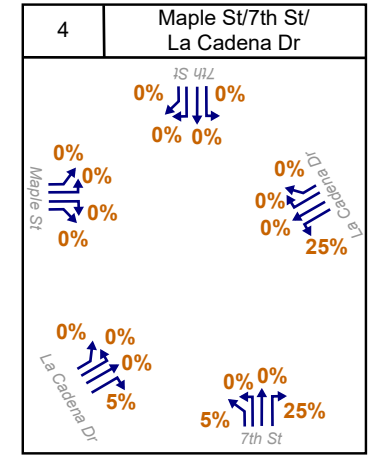
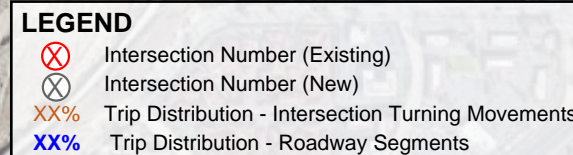
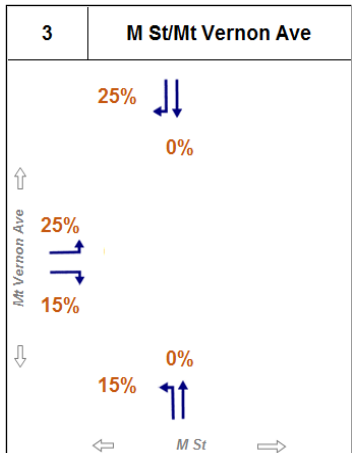
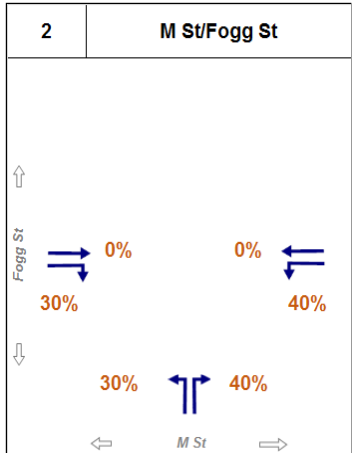
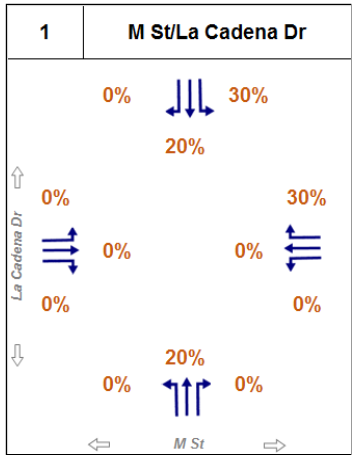
The project trip distribution is shown in Figure 12. The distribution was estimated based on existing traffic distribution and was approved by the City prior to the completion of this study.

3.2.3. Project Traffic Volumes

Using the project trip generation and trip distribution, the project traffic volumes at each of the study intersections were calculated and are shown in Figure 13. The figure also shows the estimated daily project traffic volumes on Mt. Vernon Avenue. Note that the project traffic is not expected to include any heavy trucks during peak periods; therefore, the volumes shown are assumed to be both vehicles and PCEs.

3.3. EXISTING + CUMULATIVE + PROJECT TRAFFIC VOLUMES

To estimate traffic volumes in a future year, traffic generated by cumulative growth and by the project must be considered. Future volumes with the project were calculated by adding the cumulative growth and project traffic volumes. Figures 14 and 15 show the cumulative plus project traffic volumes in the opening year and for the long term analysis, respectively.



1		M St/La Cadena Dr	
	0 (0)	↓ ↓ ↓ 17 (31)	26 (46)
↑ La Cadena Dr	0 (0)	0 (0)	13 (50)
	0 (0)	0 (0)	0 (0)
↓	0 (0)	9 (33)	0 (0)
	0 (0)	↑ ↑ ↑	0 (0)
			← M St →

2		M St/Fogg St	
	0 (0)	0 (0)	↑ ↑
↑ Fogg St	26 (46)	0 (0)	35 (62)
	13 (50)	↑ ↑	18 (67)
↓			← M St →

3		M St/Mt Vernon Ave	
	22 (38)	↓	0 (0)
↑ Mt Vernon Ave	11 (42)	↑ ↓	0 (0)
	7 (25)	0 (0)	0 (0)
↓	13 (23)	↑ ↑	0 (0)
			← M St →



4		Maple St/7th St/ La Cadena Dr	
	0 (0)	↓ ↓ ↓ 15 (42)	0 (0)
↑ Maple St	0 (0)	0 (0)	0 (0)
	0 (0)	0 (0)	0 (0)
↓ La Cadena Dr	0 (0)	0 (0)	11 (42)
	0 (0)	2 (8)	↑ ↑ ↑ 11 (42)
			← 7th St →

5		Congress St/Cedar St	
	0 (0)	↓ ↓ ↓ 0 (0)	0 (0)
↑ Cedar St	0 (0)	0 (0)	0 (0)
	22 (83)	43 (77)	↑ ↑ ↑ 17 (31)
↓	4 (8)	0 (0)	9 (33)
	2 (8)	↑ ↑ ↑	0 (0)
			← Congress St →

6		Congress St/New Park Access	
	4 (8)	2 (8)	↑ ↓
↑ New Park Access	22 (38)	0 (0)	43 (77)
	11 (42)	↑ ↑	22 (83)
↓			0 (0)
			← Congress St →

1	M St/La Cadena Dr	
	14 (13)	96 (111)
	805 (457)	
↑ La Cadena Dr	36 (22)	94 (113)
	10 (6)	4 (7)
	3 (6)	61 (36)
↓	3 (0)	105 (33)
	M St	

2	M St/Fogg St	
↑ Fogg St	315 (164)	202 (143)
	35 (50)	98 (96)
↓	19 (51)	51 (102)
	M St	

3	M St/Mt Vernon Ave	
	141 (95)	886 (525)
↑ Mt Vernon Ave	185 (140)	
	219 (149)	918 (601)
↓	169 (120)	
	M St	



4	Maple St/7th St/ La Cadena Dr	
	1 (3)	1 (5)
	4 (1)	16 (5)
↑ Maple St	5 (0)	7 (1)
	5 (2)	5 (2)
↓ La Cadena Dr	5 (0)	801 (355)
	25 (15)	0 (0)
	34 (12)	4 (2)
	0 (0)	2 (2)
	43 (56)	14 (9)
	710 (357)	52 (45)
	7th St	

5	Congress St/Cedar St	
	1 (0)	1 (1)
↑ Cedar St	0 (0)	2 (3)
	5 (3)	56 (118)
	4 (8)	107 (112)
↓	2 (8)	9 (33)
	0 (0)	17 (31)
	Congress St	

6	Congress St/New Park Access	
	42 (46)	67 (43)
↑ New Park Access	22 (38)	43 (77)
↓	11 (42)	22 (83)
	Congress St	

1		M St/La Cadena Dr	
	17 (16)	↓ ↓ ↓ 979 (551)	111 (125)
↑ La Cadena Dr	44 (27)		112 (127)
	12 (7)		5 (9)
	4 (7)		74 (44)
↓	4 (0)	↑ ↑ ↑ 1,268 (641)	128 (40)
		M St	

2		M St/Fogg St	
	384 (200)	← ← ← 246 (174)	
↑ Fogg St	37 (51)		112 (103)
	20 (51)	↑ ↑ ↑ 58 (110)	
↓		M St	

3		M St/Mt Vernon Ave	
	167 (108)	↓ ↓ 1,081 (641)	
↑ Mt Vernon Ave	223 (162)		
	266 (176)		1,120 (733)
↓	203 (141)	↑ ↑ 203 (141)	
		M St	



4		Maple St/7th St/ La Cadena Dr	
	1 (4)	↓ ↓ ↓ 9 (1)	1 (6)
↑ Maple St	5 (1)	20 (6)	17 (11)
	6 (0)		4 (9)
	6 (2)		866 (436)
↓ La Cadena Dr	6 (0)	977 (433)	59 (47)
	30 (17)		50 (59)
		0 (0)	5 (2)
		41 (13)	7th St

5		Congress St/Cedar St	
	1 (0)	↓ ↓ ↓ 0 (0)	1 (1)
↑ Cedar St	6 (4)		2 (4)
	4 (8)	63 (126)	121 (120)
↓	2 (8)	0 (0)	17 (31)
		9 (33)	
		Congress St	

6		Congress St/New Park Access	
	50 (54)	81 (51)	
↑ New Park Access	22 (38)		43 (77)
↓	11 (42)	22 (83)	
		Congress St	

4. OPERATIONAL ANALYSIS

4.1. EXISTING WITH AND WITHOUT PROJECT

As previously discussed, the intersections were evaluated using the *HCM* methodology except for the La Cadena Drive/7th Street/Maple Street intersection, which was evaluated using *SimTraffic*.

The purpose of the Existing Plus Project analysis is to provide the baseline for assessing environmental impacts, which is generally the existing conditions at the time that the environmental document for the project is prepared. The analysis assesses the transportation and circulation impacts of the proposed project against existing traffic conditions, irrespective of the proposed project's horizon year.

While a requirement of CEQA, a comparative traffic analysis of the impacts associated with implementation of the proposed as assessed against existing traffic conditions, is an unrealistic, hypothetical scenario for the following reasons:

- (1) Implementation of the proposed project is not an immediate-term construction project
- (2) This scenario does not account for future population and development growth in the City and surrounding areas with or without the proposed project
- (3) This scenario does not account for other projected land use projects that should also be conditioned to provide for, or contribute to, needed traffic improvements to the circulation system in the study area
- (4) The circulation system is projected to change over time with or without the proposed project.

Figure 16 shows the existing plus project traffic volumes. For existing conditions and existing plus project conditions, the *HCM* and *SimTraffic* reports are included in Appendix B. Table 4 shows the resulting LOS for each of the study intersections under Existing conditions and Existing Plus Project conditions, as well as the significant impact analysis. As seen in the table, all the intersections (or worst stop-controlled movements) are expected to operate at LOS B or better with or without the project, so there are no significant project impacts.

1		M St/La Cadena Dr	
	14 (13)	↕↕↕ 673 (337)	96 (111)
↑ La Cadena Dr	36 (22)	↕↕↕ 10 (6)	94 (113)
	3 (6)	↕↕↕ 924 (424)	61 (36)
↓	3 (0)	↕↕↕ 105 (33)	
			M St

2		M St/Fogg St	
	276 (130)	↕↕↕	169 (109)
↑ Fogg St	35 (50)	↕↕↕	98 (96)
	19 (51)	↕↕↕	51 (102)
↓			
			M St

3		M St/Mt Vernon Ave	
	117 (68)	↕↕	870 (510)
↑ Mt Vernon Ave	154 (114)	↕↕↕	
	210 (141)	↕↕↕	902 (588)
↓	159 (112)	↕↕↕	
			M St



4		Maple St/7th St/ La Cadena Dr	
	1 (3)	↕↕↕ 7 (1)	1 (5)
↑ Maple St	4 (1)	↕↕↕ 16 (5)	14 (9)
	5 (2)	↕↕↕ 0 (0)	569 (231)
↓	5 (0)	↕↕↕ 25 (15)	52 (45)
			7th St

5		Congress St/Cedar St	
	1 (0)	↕↕↕	1 (1)
↑ Cedar St	5 (3)	↕↕↕	2 (3)
	4 (8)	↕↕↕	17 (31)
↓	2 (8)	↕↕↕	9 (33)
			Congress St

6		Congress St/New Park Access	
	42 (46)	↕↕↕	67 (43)
↑ New Park Access	22 (38)	↕↕↕	43 (77)
	11 (42)	↕↕↕	22 (83)
↓			
			Congress St

Table 4. Existing + Project Intersection Analysis

Intersection			1	2	3	4	5	6
			M St/La Cadena Dr	M St/Fogg St	M St/Mt Vernon Ave	Maple St/7th St/La Cadena Dr	Congress St/Cedar St	Congress St/New Park Access
Intersection Control			Signalized	Unsignalized	Signalized	Signalized	Unsignalized	Unsignalized
Existing	Wkdy PM Peak Hour	Delay*	15.4	13.7	15.3	7.8	8.9	N/A
		LOS	B	B	B	A	A	
	Sat. Peak Hour	Delay*	7.8	10.6	7.6	2.3	8.9	
		LOS	A	B	A	A	A	
Existing + Project	Wkdy PM Peak Hour	Delay*	18.1	15.7	16.8	8.9	9.5	10.0
		LOS	B	B	B	A	A	A
	Sat. Peak Hour	Delay*	9.2	10.9	8.2	4.4	11.3	9.6
		LOS	A	B	A	A	B	A
Significant Impact?	Wkdy PM	NO	NO	NO	NO	NO	NO	
	Saturday	NO	NO	NO	NO	NO	NO	

*Highest lane delay at TWSC Intersection

In addition to the study intersections, the two CMP study segments were evaluated for existing and existing plus project conditions, as shown in Table 5. Note that the daily volumes are rounded to the nearest 100 because most of the volumes are estimated.

Table 5. Existing + Project Segment Analysis

CMP Segment	Time Period	Daily Volumes (vpd)		LOS	
		Existing	Existing Plus Project	Existing	Existing Plus Project
Mt. Vernon Ave, M St to I-10	Weekday	23,700	23,900	F	F
	Saturday	14,300	15,100	E	E
Mt. Vernon Ave, I-10 to Fairway Dr	Weekday	17,300	17,400	D	D
	Saturday	10,400	11,300	C	C

Although the segment south of I-10 currently operates at LOS F on weekdays and LOS E on Saturdays, the project will increase traffic (and therefore, the volume-to-capacity ratio) by less than 10% in both cases, so there is no significant impact. The segment north of I-10 operates at LOS D with or without the project on weekdays and at LOS C with or without the project on Saturdays.

4.2. EXISTING + CUMULATIVE (2021) WITH AND WITHOUT PROJECT

As for existing conditions, the intersections were evaluated using the *HCM* methodology except for the La Cadena Drive/7th Street/Maple Street intersection, which was evaluated using *SimTraffic*. The *HCM* and *SimTraffic* reports for the opening year of 2021 are included in Appendix C. Table 6 shows the resulting LOS for each of the study intersections under Existing Plus Cumulative (2021) conditions and Existing Plus Cumulative (2021) Plus Project conditions, as well as the significant impact analysis. It was assumed that the intersection geometry and traffic control would be unchanged from existing conditions.

As seen in the table, all the intersections (or worst stop-controlled movements) are expected to continue to operate at LOS B or better with or without the project, so there are no significant impacts.

Table 6. Existing + Cumulative + Project Intersection Analysis (2021)

Intersection			1	2	3	4	5	6
			M St/La Cadena Dr	M St/Fogg St	M St/Mt Vernon Ave	Maple St/7th St/La Cadena Dr	Congress St/Cedar St	Congress St/New Park Access
Intersection Control			Signalized	Unsignalized	Signalized	Signalized	Unsignalized	Unsignalized
Opening Year No Project	Wkdy PM Peak Hour	Delay*	15.6	14.8	14.3	9.9	8.9	N/A
		LOS	B	B	B	A	A	
	Sat. Peak Hour	Delay*	7.4	11.2	7.6	2.6	8.9	
		LOS	A	B	A	A	A	
Opening Year + Project	Wkdy PM Peak Hour	Delay*	18.5	17.0	14.7	11.2	9.5	10.0
		LOS	B	B	B	B	A	A
	Sat. Peak Hour	Delay*	8.8	7.9	8.1	4.8	11.3	10.8
		LOS	A	A	A	A	B	B
Significant Impact?	Wkdy PM	NO	NO	NO	NO	NO	NO	NO
	Saturday	NO	NO	NO	NO	NO	NO	NO

*Highest lane delay at TWSC Intersection

In addition to the study intersections, the two CMP study segments were evaluated for existing and existing plus project conditions, as shown in Table 7. It was assumed that the roadway geometry would be unchanged from existing conditions. The table shows that Mt. Vernon Avenue from M Street to I-10 would continue to operate at LOS F on weekdays and LOS E on Saturdays with or without the project.

However, as was the case for existing conditions, the project will increase traffic (and therefore, the volume-to-capacity ratio) by less than 10% in both cases, so there is no significant impact. The segment north of I-10 operates at LOS D with or without the project on weekdays and with the project on Saturdays and at LOS C without the project on Saturdays, both of which are acceptable.

Table 7. Existing + Cumulative + Project Segment Analysis (2021)

CMP Segment	Time Period	Daily Volumes (vpd)		LOS	
		Existing + Cumulative (2021)	Existing + Cumulative + Project (2021)	Existing + Cumulative (2021)	Existing + Cumulative + Project (2021)
Mt. Vernon Ave, M St to I-10	Weekday	24,100	24,300	F	F
	Saturday	15,100	15,900	E	E
Mt. Vernon Ave, I-10 to Fairway Dr	Weekday	17,600	17,800	D	D
	Saturday	11,000	11,800	C	D

4.3. LONG TERM (2041) WITH AND WITHOUT PROJECT

Per the TIS guidelines, the study locations were evaluated in the year 2041, which is 20 years after the anticipated project opening. As with the previous analyses, the intersections were evaluated using the *HCM* methodology except for the La Cadena Drive/7th Street/Maple Street intersection, which was evaluated using *SimTraffic*. The *HCM* and *SimTraffic* reports for the year 2041 are included in Appendix D.

Table 8 shows the resulting LOS for each of the study intersections under 2041 conditions with and without the project, as well as the significant impact analysis. As shown in the table, there are no significant impacts at any of the study intersections, which are all expected to operate at LOS C or better in both study periods with or without the project.

In addition to the study intersections, the two CMP study segments were evaluated for buildout conditions. Per the City of Colton General Plan, Mt. Vernon Avenue is expected to be widened south of I-10 with Measure I funding, which runs through 2040. Therefore, the segment analysis for long term conditions assumes that both segments of Mt. Vernon Avenue (north and south of I-10) would include four lanes of travel.

Table 8. Long Term (2041) + Project Intersection Analysis

Intersection			1	2	3	4	5	6
			M St/La Cadena Dr	M St/Fogg St	M St/Mt Vernon Ave	Maple St/7th St/La Cadena Dr	Congress St/Cedar St	Congress St/New Park Access
Intersection Control			Signalized	Unsignalized	Signalized	Signalized	Unsignalized	Unsignalized
Long Term No Project	Wkdy PM Peak Hour	Delay*	21.9	17.5	32.7	17.6	9.0	N/A
		LOS	C	B	C	B	A	
	Sat. Peak Hour	Delay*	9.2	12.1	8.5	2.6	9.0	
		LOS	A	B	A	A	A	
Long Term + Project	Wkdy PM Peak Hour	Delay*	33.4	20.8	34.4	21.1	9.6	10.1
		LOS	C	C	C	C	A	B
	Sat. Peak Hour	Delay*	12.6	16.0	9.8	5.8	11.5	11.0
		LOS	B	B	A	A	B	B
Significant Impact?	Wkdy PM	NO	NO	NO	NO	NO	NO	
	Saturday	NO	NO	NO	NO	NO	NO	

*Highest lane delay at TWSC Intersection

As shown in Table 9, both segments are expected to operate at LOS D or better with or without the project on weekdays and Saturdays; therefore, no mitigation is required.

Table 9. Long Term (2041) + Project Segment Analysis

CMP Segment	Time Period	Daily Volumes (vpd)		LOS	
		Long Term (2041)	Long Term + Project (2041)	Long Term (2041)	Long Term + Project (2041)
Mt. Vernon Ave, M St to I-10	Weekday	29,500	29,700	D	D
	Saturday	18,500	19,300	D	D
Mt. Vernon Ave, I-10 to Fairway Dr	Weekday	21,500	21,700	D	D
	Saturday	13,500	14,300	D	D

4.4. FAIR SHARE CONTRIBUTION

The project is not expected to have a significant impact at any of the study locations in any of the analysis years under cumulative conditions, and all the study intersections are expected to operate with an acceptable LOS with or without the project. Further, Mt. Vernon Avenue north of I-10 will operate with an acceptable LOS, and the project will not have a significant impact on the segment south of I-10 (which will also be widened in the future); therefore, the project will not have to contribute a fair share to any improvements.

5. VEHICLE MILES TRAVELED

Per the 2018 CEQA Statute and Guidelines, vehicle miles traveled (VMT) is “the most appropriate measure of transportation impacts.” According to the State of California’s *Technical Advisory on Evaluating Transportation Impacts in CEQA*⁶, “residential, office, and retail projects tend to have the greatest influence on VMT.” Therefore, it is recommended that specific thresholds outlined in the Technical Advisory be used for analysis and mitigation of those types of projects. However, it is also advised that lead agencies may develop thresholds for other project types if desired.

Projects which decrease overall VMT will be considered to not have a significant impact under the new analysis guidelines. Although it cannot be quantified at this time, it is expected that the addition of the soccer complex will decrease VMT for the region because the increased density of soccer fields will mean that players will not have to travel as far to practice or play. Therefore, this project would not be expected to have a significant impact if the evaluation were completed based on VMT.

6. SUMMARY

This traffic study provided an evaluation of the potential traffic impacts from the anticipated Colton Community Soccer Park Project. Per the scoping agreement, five existing intersections and one new project intersection were evaluated in this study along with two segments of Mt. Vernon Avenue, a CMP facility. Due to the nature of the project, the analyses were completed for the weekday PM peak period and for the Saturday midday peak period. The project is expected to generate 131 trips in the weekday PM peak hour and 321 in the Saturday midday peak hour.

All the study intersections currently operate at LOS B or better in both study periods and will continue to do so with or without the project in the opening year of 2021. In 2041, the intersections are all expected to operate at LOS C or better in both study periods with or without the project, which is within the threshold of acceptable operations (LOS D) for the City; therefore, the project will not have a significant impact on any of the study intersections.

The segment of Mt. Vernon Avenue between M Street and I-10 currently operates at LOS F during the week and LOS E on Saturdays. The segment is expected to continue to operate with the same weekday and Saturday LOS in 2021 with or without the project. However, because the project does not add 10% or more to the volume on the segment in either study period, the project does not have a significant impact. By 2041, the segment of Mt. Vernon Avenue between M Street and I-10 is expected to be widened to a four-lane section and will operate at the acceptable LOS D with or without the project on weekdays and Saturdays.

The study segment of Mt. Vernon Avenue from I-10 to Fairway Drive is expected to operate at LOS D or better under all study conditions, and therefore, the project does not have a significant impact.

7. REFERENCES

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- ¹ *San Bernardino County Congestion Management Program*. San Bernardino Associated Governments, June 2016.
 - ² *Highway Capacity Manual, 6th Edition*. Transportation Research Board. Washington, D.C., 2016.
 - ³ *City of Colton General Plan, Mobility Element*. City of Colton, August 2013.
 - ⁴ *Trip Generation, 10th Edition*. Institute of Transportation Engineers (ITE). Washington, D.C., 2017.
 - ⁵ *Truck Trip Generation Study*. City of Fontana, August 2003.
<https://www.tampabayfreight.com/pdfs/Freight%20Library/Fontana%20Truck%20Generation%20Study.pdf>
 - ⁶ *Technical Advisory on Evaluating Transportation Impacts in CEQA*. State of California, 2017.
<http://opr.ca.gov/docs/20171127_Transportation_Analysis_TA_Nov_2017.pdf>, accessed March 2019.

Appendix A – Traffic Volume Data

Weekday PM Peak Period

National Data & Surveying Services

Intersection Turning Movement Count

Location: S La Cadena Dr & E M St
 City: Colton
 Control: Signalized

Project ID: 19-06047-005
 Date: 2019-04-04

Total

NS/EW Streets:	S La Cadena Dr				S La Cadena Dr				E M St				E M St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1	2	0	0	1	2	0	0	0.5	0.5	1	0	0.5	0.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	1	209	28	0	20	102	1	0	6	5	0	0	12	4	21	0	409
4:15 PM	1	196	28	0	15	117	5	0	9	1	2	0	17	3	16	0	410
4:30 PM	0	211	26	0	23	125	3	0	10	5	0	1	18	0	19	0	441
4:45 PM	1	229	31	0	11	139	3	0	13	2	1	0	10	2	17	0	459
5:00 PM	1	218	20	0	17	191	2	0	6	1	1	0	13	0	18	0	488
5:15 PM	1	236	22	0	19	177	6	0	7	2	1	0	18	2	25	0	516
5:30 PM	0	200	20	0	22	133	2	0	9	2	1	0	9	1	21	0	420
5:45 PM	0	203	23	0	12	119	1	0	7	1	1	0	10	3	10	0	390
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	5	1702	198	0	139	1103	23	0	67	19	7	1	107	15	147	0	3533
	0.26%	89.34%	10.39%	0.00%	10.99%	87.19%	1.82%	0.00%	71.28%	20.21%	7.45%	1.06%	39.78%	5.58%	54.65%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	3	894	99	0	70	632	14	0	36	10	3	1	59	4	79	0	1904
PEAK HR FACTOR :	0.750	0.947	0.798	0.000	0.761	0.827	0.583	0.000	0.692	0.500	0.750	0.250	0.819	0.500	0.790	0.000	0.922
			0.954				0.852				0.781				0.789		

National Data & Surveying Services

Intersection Turning Movement Count

Location: S La Cadena Dr & E M St
City: Colton
Control: Signalized

Project ID: 19-06047-005
Date: 2019-04-04

Cars

NS/EW Streets:	S La Cadena Dr				S La Cadena Dr				E M St				E M St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0.5 EL	0.5 ET	1 ER	0 EU	0.5 WL	0.5 WT	1 WR	0 WU	
4:00 PM	1	204	27	0	20	99	1	0	6	5	0	0	11	4	20	0	398
4:15 PM	1	193	26	0	15	114	5	0	9	1	2	0	17	3	16	0	402
4:30 PM	0	205	24	0	23	122	3	0	10	5	0	1	17	0	19	0	429
4:45 PM	1	228	31	0	11	134	3	0	13	2	1	0	10	2	17	0	453
5:00 PM	1	216	19	0	17	185	2	0	6	1	1	0	13	0	18	0	479
5:15 PM	1	231	21	0	19	175	6	0	7	2	1	0	18	2	24	0	507
5:30 PM	0	198	20	0	22	133	2	0	9	2	1	0	9	1	20	0	417
5:45 PM	0	202	23	0	12	118	1	0	7	1	1	0	10	3	10	0	388
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0.27%	89.54%	10.20%	0.00%	11.19%	86.96%	1.85%	0.00%	71.28%	20.21%	7.45%	1.06%	39.77%	5.68%	54.55%	0.00%	3473
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	3	880	95	0	70	616	14	0	36	10	3	1	58	4	78	0	1868
PEAK HR FACTOR :	0.75	0.952	0.766	0.000	0.761	0.832	0.583	0.000	0.692	0.500	0.750	0.250	0.806	0.500	0.813	0.000	0.921
	0.940				0.858				0.781				0.795				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S La Cadena Dr & E M St
City: Colton
Control: Signalized

Project ID: 19-06047-005
Date: 2019-04-04

HT

NS/EW Streets:	S La Cadena Dr				S La Cadena Dr				E M St				E M St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0.5 EL	0.5 ET	1 ER	0 EU	0.5 WL	0.5 WT	1 WR	0 WU	
4:00 PM	0	5	1	0	0	3	0	0	0	0	0	0	1	0	1	0	11
4:15 PM	0	3	2	0	0	3	0	0	0	0	0	0	0	0	0	0	8
4:30 PM	0	6	2	0	0	3	0	0	0	0	0	0	1	0	0	0	12
4:45 PM	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0	0	6
5:00 PM	0	2	1	0	0	6	0	0	0	0	0	0	0	0	0	0	9
5:15 PM	0	5	1	0	0	2	0	0	0	0	0	0	0	0	1	0	9
5:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3
5:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	25	7	0	0	23	0	0	0	0	0	0	2	0	3	0	60
	0.00%	78.13%	21.88%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	40.00%	0.00%	60.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																
PEAK HR VOL :	0	14	4	0	0	16	0	0	0	0	0	0	1	0	1	0	36
PEAK HR FACTOR :	0.00	0.583	0.500	0.000	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.750
	0.563				0.667				0.500								

National Data & Surveying Services

Intersection Turning Movement Count

Location: S La Cadena Dr & E M St
City: Colton
Control: Signalized

Project ID: 19-06047-005
Date: 2019-04-04

Bikes

NS/EW Streets:	S La Cadena Dr				S La Cadena Dr				E M St				E M St				TOTAL
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0.5	0.5	1	0	0.5	0.5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	3
4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	4	0	0	2	3	0	0	0	0	0	0	0	1	1	0	11
	0.00%	100.00%	0.00%	0.00%	40.00%	60.00%	0.00%	0.00%					0.00%	50.00%	50.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																
PEAK HR VOL :	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750
	0.250				0.500												

National Data & Surveying Services

Intersection Turning Movement Count

Location: S La Cadena Dr & E M St
City: Colton

Project ID: 19-06047-005
Date: 2019-04-04

Pedestrians (Crosswalks)

NS/EW Streets:	S La Cadena Dr		S La Cadena Dr		E M St		E M St		
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	2	1	2	0	1	0	3	1	10
4:15 PM	0	0	0	0	2	0	0	0	2
4:30 PM	0	0	0	0	0	0	2	0	2
4:45 PM	0	1	1	0	2	0	0	0	4
5:00 PM	4	1	0	1	3	0	2	1	12
5:15 PM	0	2	1	0	0	2	0	1	6
5:30 PM	0	1	0	2	0	1	1	1	6
5:45 PM	1	2	0	0	0	0	1	0	4
TOTAL VOLUMES :	EB 7	WB 8	EB 4	WB 3	NB 8	SB 3	NB 9	SB 4	TOTAL 46
APPROACH %'s :	46.67%	53.33%	57.14%	42.86%	72.73%	27.27%	69.23%	30.77%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	4	4	2	1	5	2	4	2	24
PEAK HR FACTOR :	0.250	0.500	0.500	0.250	0.417	0.250	0.500	0.500	0.500
	0.400		0.750		0.583		0.500		

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Fogg St & E M St
 City: Colton
 Control: 1-Way Stop(NB)

Project ID: 19-06047-002
 Date: 2019-04-04

Total

NS/EW Streets:	S Fogg St				S Fogg St				E M St				E M St				TOTAL			
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND							
PM	1	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU				
4:00 PM	1	0	13	0	0	0	0	0	0	70	2	0	12	37	0	0				
4:15 PM	0	0	14	0	0	0	0	0	0	60	1	0	4	46	0	0				
4:30 PM	1	0	10	0	0	0	0	0	0	71	2	0	14	38	0	0				
4:45 PM	0	0	10	0	0	0	0	0	0	69	0	0	7	39	0	0				
5:00 PM	2	0	6	0	0	0	0	0	0	60	2	0	14	42	0	0				
5:15 PM	1	0	7	0	0	0	0	0	0	61	0	0	13	48	0	0				
5:30 PM	1	0	8	0	0	0	0	0	0	53	1	0	9	37	0	0				
5:45 PM	0	0	16	0	0	0	0	0	0	48	2	0	15	27	0	0				
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL			
APPROACH %'s :	6	0	84	0	0	0	0	0	0	492	10	0	88	314	0	0	994			
	6.67%	0.00%	93.33%	0.00%					0.00%	98.01%	1.99%	0.00%	21.89%	78.11%	0.00%	0.00%				
PEAK HR :	04:00 PM - 05:00 PM																TOTAL			
PEAK HR VOL :	2	0	47	0	0	0	0	0	0	270	5	0	37	160	0	0	521			
PEAK HR FACTOR :	0.500	0.000	0.839	0.000	0.000	0.000	0.000	0.000	0.000	0.951	0.625	0.000	0.661	0.870	0.000	0.000	0.958			
			0.875							0.942				0.947						

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Fogg St & E M St
City: Colton
Control: 1-Way Stop(NB)

Project ID: 19-06047-002
Date: 2019-04-04

Cars

NS/EW Streets:	S Fogg St				S Fogg St				E M St				E M St				TOTAL														
	NORTHBOUND								SOUTHBOUND									EASTBOUND								WESTBOUND					
PM	1	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	TOTAL						
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU															
4:00 PM	0	0	13	0	0	0	0	0	0	68	0	0	10	35	0	0									126						
4:15 PM	0	0	14	0	0	0	0	0	0	58	0	0	4	46	0	0									122						
4:30 PM	1	0	10	0	0	0	0	0	0	66	0	0	11	38	0	0									126						
4:45 PM	0	0	10	0	0	0	0	0	0	67	0	0	6	39	0	0									122						
5:00 PM	2	0	6	0	0	0	0	0	0	59	1	0	10	42	0	0									120						
5:15 PM	0	0	7	0	0	0	0	0	0	59	0	0	11	47	0	0									124						
5:30 PM	0	0	8	0	0	0	0	0	0	52	0	0	8	36	0	0									104						
5:45 PM	0	0	15	0	0	0	0	0	0	47	2	0	14	27	0	0									105						
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU									TOTAL						
APPROACH %'s :	3.49%	0.00%	96.51%	0.00%	0	0	0	0	0.00%	99.37%	0.63%	0.00%	19.27%	80.73%	0.00%	0.00%									949						
PEAK HR :	04:00 PM - 05:00 PM																TOTAL														
PEAK HR VOL :	1	0	47	0	0	0	0	0	0	259	0	0	31	158	0	0									496						
PEAK HR FACTOR :	0.25	0.000	0.839	0.000	0.000	0.000	0.000	0.000	0.000	0.952	0.000	0.000	0.705	0.859	0.000	0.000									0.984						
									0.952				0.945																		

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Fogg St & E M St
City: Colton
Control: 1-Way Stop(NB)

Project ID: 19-06047-002
Date: 2019-04-04

HT

NS/EW Streets:	S Fogg St				S Fogg St				E M St				E M St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1 NL	0 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	1	0	0	0	0	0	0	0	0	2	2	0	2	2	0	0	9
4:15 PM	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	5	2	0	3	0	0	0	10
4:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	1	1	0	4	0	0	0	6
5:15 PM	1	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	6
5:30 PM	1	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	5
5:45 PM	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	3
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	3	0	1	0	0	0	0	0	0	16	7	0	14	4	0	0	45
	75.00%	0.00%	25.00%	0.00%					0.00%	69.57%	30.43%	0.00%	77.78%	22.22%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	1	0	0	0	0	0	0	0	0	11	5	0	6	2	0	0	25
PEAK HR FACTOR :	0.25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.550	0.625	0.000	0.500	0.250	0.000	0.000	0.625
	0.250								0.571				0.500				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Fogg St & E M St
City: Colton
Control: 1-Way Stop(NB)

Project ID: 19-06047-002
Date: 2019-04-04

Bikes

NS/EW Streets:	S Fogg St				S Fogg St				E M St				E M St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1 NL	0 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
PEAK HR :	04:00 PM - 05:00 PM																
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Mt Vernon Ave & E M St
City: Colton
Control: Signalized

Project ID: 19-06047-003
Date: 2019-04-04

Cars

NS/EW Streets:	S Mt Vernon Ave				S Mt Vernon Ave				E M St				E M St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	0	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	36	185	0	0	0	193	14	0	34	0	44	0	0	0	0	0	506
4:15 PM	35	192	0	0	0	174	6	0	36	0	53	0	0	0	0	0	496
4:30 PM	27	209	0	0	0	162	16	0	39	0	44	0	0	0	0	0	497
4:45 PM	29	193	0	0	0	241	15	0	24	0	54	0	0	0	0	0	556
5:00 PM	27	215	0	0	0	209	12	0	27	0	38	0	0	0	0	0	528
5:15 PM	48	220	0	0	0	205	17	0	20	0	52	0	0	0	0	0	562
5:30 PM	31	163	0	0	0	219	14	0	22	0	41	0	0	0	0	0	490
5:45 PM	23	146	0	0	0	210	15	0	14	0	51	0	0	0	0	0	459
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	256	1523	0	0	0	1613	109	0	216	0	377	0	0	0	0	0	4094
APPROACH %'s :	14.39%	85.61%	0.00%	0.00%	0.00%	93.67%	6.33%	0.00%	36.42%	0.00%	63.58%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	131	837	0	0	0	817	60	0	110	0	188	0	0	0	0	0	2143
PEAK HR FACTOR :	0.68	0.951	0.000	0.000	0.000	0.848	0.882	0.000	0.705	0.000	0.870	0.000	0.000	0.000	0.000	0.000	0.953
	0.903				0.856				0.898								

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Mt Vernon Ave & E M St
City: Colton
Control: Signalized

Project ID: 19-06047-003
Date: 2019-04-04

HT

NS/EW Streets:	S Mt Vernon Ave				S Mt Vernon Ave				E M St				E M St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	19
4:15 PM	1	7	0	0	0	3	4	0	3	0	1	0	0	0	0	0	13
4:30 PM	0	6	0	0	0	1	4	0	1	0	1	0	0	0	0	0	22
4:45 PM	2	4	0	0	0	4	3	0	7	0	2	0	0	0	0	0	24
5:00 PM	0	9	0	0	0	7	3	0	3	0	2	0	0	0	0	0	18
5:15 PM	2	7	0	0	0	3	4	0	2	0	0	0	0	0	0	0	22
5:30 PM	2	6	0	0	0	7	4	0	1	0	2	0	0	0	0	0	18
5:45 PM	1	8	0	0	0	6	1	0	1	0	1	0	0	0	0	0	16
5:45 PM	1	7	0	0	0	4	1	0	2	0	1	0	0	0	0	0	16
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	9	54	0	0	0	35	24	0	20	0	10	0	0	0	0	0	152
	14.29%	85.71%	0.00%	0.00%	0.00%	59.32%	40.68%	0.00%	66.67%	0.00%	33.33%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	6	26	0	0	0	21	14	0	13	0	6	0	0	0	0	0	86
PEAK HR FACTOR :	0.75	0.722	0.000	0.000	0.000	0.750	0.875	0.000	0.464	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.896
	0.889				0.795				0.528								

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Mt Vernon Ave & E M St
City: Colton
Control: Signalized

Project ID: 19-06047-003
Date: 2019-04-04

Bikes

NS/EW Streets:	S Mt Vernon Ave				S Mt Vernon Ave				E M St				E M St				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
					0.00%	100.00%	0.00%	0.00%									
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Mt Vernon Ave & E M St
City: Colton

Project ID: 19-06047-003
Date: 2019-04-04

Pedestrians (Crosswalks)

NS/EW Streets:	S Mt Vernon Ave		S Mt Vernon Ave		E M St		E M St		
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	2	0	2
4:15 PM	0	0	0	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	1
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	0	3	2	5
							60.00%	40.00%	
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	1
PEAK HR FACTOR :							0.250	0.250	0.250

National Data & Surveying Services

Intersection Turning Movement Count

Location: S La Cadena Dr & S 7th St/Maple St
 City: Colton
 Control: Signalized

Project ID: 19-06047-004
 Date: 2019-04-04

Total

NS/EW Streets:	S La Cadena Dr					S La Cadena Dr					S 7th St/Maple St					S 7th St/Maple St												
PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND												
	1 NL	1 NT	0 NR	0 NU	0 NL2	1 SL	1 ST	1 SR	0 SU	0 SR2	0 EL	1 ET	0 ER	0 EU	0 EU2	0 WL	1 WT	0 WR	0 WU	0 WT2	0 E2U	0 E2L2	0 E2T2	0 E2R2	0 E2U2	TOTAL		
4:00 PM	1	178	5	0	1	8	79	2	0	2	1	1	1	0	0	14	1	19	0	0	0	2	0	1	1	317		
4:15 PM	0	139	4	0	0	3	113	2	0	0	2	1	2	0	0	5	1	14	0	0	0	0	0	0	0	286		
4:30 PM	0	152	5	0	3	9	111	1	0	0	0	1	1	0	1	17	1	7	0	0	0	2	0	0	2	313		
4:45 PM	2	158	7	0	0	8	119	1	0	0	0	0	2	0	0	8	1	9	0	0	0	0	0	0	0	315		
5:00 PM	0	174	3	0	1	5	172	5	0	2	0	1	2	0	0	2	1	7	0	0	0	9	0	4	2	390		
5:15 PM	3	183	3	0	1	8	155	5	0	1	1	3	2	0	0	5	1	6	0	0	0	5	0	1	0	383		
5:30 PM	1	160	3	0	0	6	108	4	0	3	0	0	2	0	0	7	0	3	0	0	0	0	0	1	0	298		
5:45 PM	2	170	5	0	0	5	88	1	0	1	1	3	0	1	0	8	0	8	0	0	0	3	0	0	0	296		
TOTAL VOLUMES:	NL	NT	NR	NU	NL2	SL	ST	SR	SU	SR2	EL	ET	ER	EU	EU2	WL	WT	WR	WU	WT2	E2U	E2L2	E2T2	E2R2	E2U2	TOTAL		
APPROACH %'s:	0.66%	96.33%	2.57%	0.00%	0.44%	5.06%	92.02%	2.04%	0.00%	0.88%	17.24%	34.48%	41.38%	3.45%	3.45%	45.52%	4.14%	50.34%	0.00%	0.00%	0.00%	63.64%	0.00%	21.21%	15.15%	2598		
PEAK HR:	04:30 PM - 05:30 PM																											
PEAK HR VOL:	5	667	18	0	5	30	557	12	0	3	1	5	7	0	1	32	4	29	0	0	0	16	0	5	4	1401		
PEAK HR FACTOR:	0.417	0.911	0.643	0.000	0.417	0.833	0.810	0.600	0.000	0.375	0.250	0.417	0.875	0.000	0.250	0.471	1.000	0.806	0.000	0.000	0.000	0.444	0.000	0.313	0.500	0.898		

National Data & Surveying Services

Intersection Turning Movement Count

Location: S La Cadena Dr & S 7th St/Maple St
 City: Colton
 Control: Signalized

Project ID: 19-06047-004
 Date: 2019-04-04

Cars

NS/EW Streets:	S La Cadena Dr					S La Cadena Dr					S 7th St/Maple St					S 7th St/Maple St											
PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND										TOTAL	
	1 NL	1 NT	0 NR	0 NU	0 NL2	1 SL	1 ST	1 SR	0 SU	0 SR2	0 EL	1 ET	0 ER	0 EU	0 EU2	0 WL	1 WT	0 WR	0 WU	0 WT2	0 E2U	0 E2L2	0 E2T2	0 E2R2	0 E2U2		
4:00 PM	1	173	5	0	0	8	77	2	0	2	1	1	1	0	0	14	1	18	0	0	0	1	0	1	1	1	307
4:15 PM	0	135	3	0	0	3	111	2	0	0	2	1	2	0	0	5	1	13	0	0	0	0	0	0	0	0	278
4:30 PM	0	143	5	0	3	8	109	1	0	0	0	1	1	0	1	17	1	7	0	0	0	2	0	0	0	2	301
4:45 PM	2	158	7	0	0	8	115	1	0	0	0	0	2	0	0	8	1	8	0	0	0	0	0	0	0	0	310
5:00 PM	0	170	3	0	1	5	169	4	0	2	0	1	2	0	0	2	1	6	0	0	0	9	0	4	2	2	381
5:15 PM	3	179	1	0	1	8	154	5	0	1	1	3	2	0	0	5	1	6	0	0	0	5	0	1	0	0	376
5:30 PM	1	158	3	0	0	6	108	4	0	3	0	0	2	0	0	7	0	3	0	0	0	0	0	1	0	0	296
5:45 PM	2	169	5	0	0	5	88	1	0	1	1	3	0	1	0	8	0	8	0	0	0	3	0	0	0	0	295
TOTAL VOLUMES:	NL	NT	NR	NU	NL2	SL	ST	SR	SU	SR2	EL	ET	ER	EU	EU2	WL	WT	WR	WU	WT2	E2U	E2L2	E2T2	E2R2	E2U2	TOTAL	
APPROACH %'s:	0.68%	96.54%	2.40%	0.00%	0.38%	5.04%	92.09%	1.98%	0.00%	0.89%	17.24%	34.48%	41.38%	3.45%	3.45%	46.81%	4.26%	48.94%	0.00%	0.00%	0.00%	62.50%	0.00%	21.88%	15.63%	2544	
PEAK HR:	04:30 PM - 05:30 PM																										
PEAK HR VOL:	5	650	16	0	5	29	547	11	0	3	1	5	7	0	1	32	4	27	0	0	0	16	0	5	4	1368	
PEAK HR FACTOR:	0.42	0.908	0.571	0.000	0.417	0.906	0.809	0.550	0.000	0.375	0.250	0.417	0.875	0.000	0.250	0.471	1.000	0.844	0.000	0.000	0.000	0.444	0.000	0.313	0.500	0.898	

National Data & Surveying Services

Location: S La Cadena Dr & S 7th St/Maple St
City: Colton

Project ID: 19-06047-004
Date: 2019-07-04

Intersection Turning Movement Count Pedestrians (Crosswalks)

NS/EW Streets:	S La Cadena Dr		S La Cadena Dr		S 7th St/Maple St		S 7th St/Maple St				
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		WEST LEG 2		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	1	0	1	2
4:30 PM	0	0	0	1	0	0	0	0	1	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	3	0	0	0	0	0	0	3
5:15 PM	0	0	0	1	0	0	3	0	3	0	7
5:30 PM	0	0	0	0	0	0	0	2	0	2	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB 0	WB 0	EB 0	WB 5	NB 0	SB 0	NB 3	SB 3	NB 4	SB 3	TOTAL 18
APPROACH %'s :			0.00%	100.00%			50.00%	50.00%	57.14%	42.86%	
PEAK HR :	04:30 PM - 05:30 PM										TOTAL
PEAK HR VOL :	0	0	0	5	0	0	3	0	4	0	12
PEAK HR FACTOR :			0.417				0.250		0.333		0.429

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Cedar St & E Congress St
 City: Colton
 Control: 1-Way Stop(SB)

Project ID: 19-06047-001
 Date: 2019-04-04

Total

NS/EW Streets:	S Cedar St				S Cedar St				E Congress St				E Congress St				TOTAL	
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
PM	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
4:00 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	15	0	0	28
4:15 PM	0	0	0	0	1	0	0	0	0	15	0	0	0	4	0	0	20	
4:30 PM	0	0	0	0	1	0	0	0	1	10	0	0	0	17	0	0	29	
4:45 PM	0	0	0	0	0	0	1	0	0	9	0	0	0	6	0	0	16	
5:00 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	11	1	0	17	
5:15 PM	0	0	0	0	0	0	0	0	2	8	0	0	0	12	1	0	23	
5:30 PM	0	0	0	0	0	0	1	0	1	9	0	0	0	9	1	0	21	
5:45 PM	0	0	0	0	0	0	0	0	1	16	0	0	0	16	3	0	36	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	0	0	0	0	3	0	2	0	5	84	0	0	0	90	6	0	190	
					60.00%	0.00%	40.00%	0.00%	5.62%	94.38%	0.00%	0.00%	0.00%	93.75%	6.25%	0.00%		
PEAK HR :	05:00 PM - 06:00 PM																TOTAL	
PEAK HR VOL :	0	0	0	0	0	0	1	0	4	38	0	0	0	48	6	0	97	
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.500	0.594	0.000	0.000	0.000	0.750	0.500	0.000	0.674	
							0.250			0.618				0.711				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Cedar St & E Congress St
City: Colton
Control: 1-Way Stop(SB)

Project ID: 19-06047-001
Date: 2019-04-04

Cars

NS/EW Streets:	S Cedar St				S Cedar St				E Congress St				E Congress St				TOTAL
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	0	0	0	1	0	0	0	0	11	0	0	0	11	0	0	23
4:15 PM	0	0	0	0	1	0	0	0	0	15	0	0	0	3	0	0	19
4:30 PM	0	0	0	0	1	0	0	0	1	10	0	0	0	12	0	0	24
4:45 PM	0	0	0	0	0	0	1	0	0	9	0	0	0	6	0	0	16
5:00 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	5	1	0	11
5:15 PM	0	0	0	0	0	0	0	0	1	7	0	0	0	11	1	0	20
5:30 PM	0	0	0	0	0	0	1	0	1	8	0	0	0	6	1	0	17
5:45 PM	0	0	0	0	0	0	0	0	1	15	0	0	0	15	3	0	34
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	3	0	2	0	4	80	0	0	0	69	6	0	164
					60.00%	0.00%	40.00%	0.00%	4.76%	95.24%	0.00%	0.00%	0.00%	92.00%	8.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	3	35	0	0	0	37	6	0	82
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.750	0.583	0.000	0.000	0.000	0.617	0.500	0.000	0.603
							0.250				0.594				0.597		

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Cedar St & E Congress St
City: Colton
Control: 1-Way Stop(SB)

Project ID: 19-06047-001
Date: 2019-04-04

HT

NS/EW Streets:	S Cedar St				S Cedar St				E Congress St				E Congress St				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
PM	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	4	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0					5
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0					1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0					5
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0					6
5:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0					3
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0					4
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0					2
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	20.00%	80.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%					26
PEAK HR :	05:00 PM - 06:00 PM																TOTAL				
PEAK HR VOL :	0	0	0	0	0	0	0	0	1	3	0	0	0	11	0	0					15
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.750	0.000	0.000	0.000	0.458	0.000	0.000					0.625
										0.500				0.458							

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Cedar St & E Congress St
City: Colton
Control: 1-Way Stop(SB)

Project ID: 19-06047-001
Date: 2019-04-04

Bikes

NS/EW Streets:	S Cedar St				S Cedar St				E Congress St				E Congress St				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	2	0	1	1	1	0	0	0	0	0	2	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	2	0	1	1	1	0	0	0	0	0	2	0	7
					50.00%	0.00%	25.00%	25.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	2	0	1	1	1	0	0	0	0	0	2	0	7
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.250	0.000	0.250	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250
							0.250				0.250				0.250		

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Cedar St & E Congress St
 City: Colton

Project ID: 19-06047-001
 Date: 2019-04-04

Pedestrians (Crosswalks)

NS/EW Streets:	S Cedar St		S Cedar St		E Congress St		E Congress St		
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	2	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	2	0	0	0	0	2
			0.00%	100.00%					
PEAK HR :	05:00 PM - 06:00 PM								TOTAL
PEAK HR VOL :	0	0	0	2	0	0	0	0	2
PEAK HR FACTOR :			0.250						0.250

Saturday Midday Peak Period

National Data & Surveying Services

Intersection Turning Movement Count

Location: S La Cadena Dr & E M St
City: Colton
Control: Signalized

Project ID: 19-06047-005
Date: 2019-04-06

Total

NS/EW Streets:	S La Cadena Dr				S La Cadena Dr				E M St				E M St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0.5 EL	0.5 ET	1 ER	0 EU	0.5 WL	0.5 WT	1 WR	0 WU	TOTAL
10:00 AM	0	83	15	0	8	57	1	0	4	1	1	0	5	1	12	0	188
10:15 AM	1	88	10	0	11	59	2	0	3	1	1	0	9	2	7	0	194
10:30 AM	1	76	13	0	14	75	2	0	3	4	0	0	10	0	18	0	216
10:45 AM	0	93	10	0	13	61	0	0	4	0	2	0	5	4	13	0	205
11:00 AM	0	90	15	0	8	79	1	0	10	0	2	0	13	1	15	0	234
11:15 AM	2	101	6	0	11	94	4	0	10	3	1	0	6	2	19	0	259
11:30 AM	0	102	8	0	13	59	2	0	4	2	1	0	6	1	18	0	216
11:45 AM	0	95	7	0	15	80	8	0	6	5	0	0	6	1	10	0	233
12:00 PM	0	94	7	0	14	64	3	0	8	2	0	0	5	1	18	0	216
12:15 PM	1	104	5	0	14	79	2	0	5	4	0	0	4	1	12	0	231
12:30 PM	0	104	16	1	18	69	1	0	6	0	1	0	10	0	15	0	241
12:45 PM	0	89	5	0	19	70	4	0	3	2	0	0	10	0	19	0	221
1:00 PM	0	87	5	0	13	81	5	0	6	1	1	0	4	3	17	0	223
1:15 PM	0	99	7	0	13	75	3	0	5	3	4	0	10	4	10	0	233
1:30 PM	0	99	6	0	14	57	7	0	5	0	2	0	3	4	13	0	210
1:45 PM	0	93	12	0	11	83	1	0	5	1	2	0	8	2	19	0	237
TOTAL VOLUMES :	NL 5	NT 1497	NR 147	NU 1	SL 209	ST 1142	SR 46	SU 0	EL 87	ET 29	ER 18	EU 0	WL 114	WT 27	WR 235	WU 0	TOTAL 3557
APPROACH %'s :	0.30%	90.73%	8.91%	0.06%	14.96%	81.75%	3.29%	0.00%	64.93%	21.64%	13.43%	0.00%	30.32%	7.18%	62.50%	0.00%	
PEAK HR :	11:00 AM - 12:00 PM																TOTAL
PEAK HR VOL :	2	388	36	0	47	312	15	0	30	10	4	0	31	5	62	0	942
PEAK HR FACTOR :	0.250	0.951	0.600	0.000	0.783	0.830	0.469	0.000	0.750	0.500	0.500	0.000	0.596	0.625	0.816	0.000	0.909
	0.968				0.858				0.786				0.845				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S La Cadena Dr & E M St
 City: Colton
 Control: Signalized

Project ID: 19-06047-005
 Date: 2019-04-06

Cars

NS/EW Streets:	S La Cadena Dr				S La Cadena Dr				E M St				E M St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0.5 EL	0.5 ET	1 ER	0 EU	0.5 WL	0.5 WT	1 WR	0 WU	TOTAL
10:00 AM	0	83	15	0	8	56	1	0	4	1	1	0	5	1	12	0	187
10:15 AM	0	86	10	0	11	58	2	0	3	1	1	0	9	2	7	0	190
10:30 AM	1	75	13	0	14	74	2	0	3	4	0	0	8	0	17	0	211
10:45 AM	0	92	9	0	13	61	0	0	3	0	2	0	4	4	13	0	201
11:00 AM	0	87	15	0	8	79	1	0	10	0	2	0	13	1	15	0	231
11:15 AM	2	98	6	0	11	92	3	0	10	3	1	0	6	2	19	0	253
11:30 AM	0	99	8	0	13	58	2	0	4	2	1	0	6	1	17	0	211
11:45 AM	0	91	7	0	15	79	8	0	6	5	0	0	6	1	10	0	228
12:00 PM	0	94	6	0	14	63	3	0	8	2	0	0	5	1	18	0	214
12:15 PM	1	102	5	0	14	77	1	0	5	4	0	0	4	1	12	0	226
12:30 PM	0	102	16	1	18	67	1	0	5	0	1	0	10	0	15	0	236
12:45 PM	0	88	5	0	19	69	4	0	3	2	0	0	10	0	19	0	219
1:00 PM	0	84	5	0	12	79	5	0	6	1	1	0	4	3	17	0	217
1:15 PM	0	97	7	0	13	73	3	0	5	3	4	0	9	4	9	0	227
1:30 PM	0	99	5	0	14	56	7	0	5	0	2	0	3	4	13	0	208
1:45 PM	0	92	12	0	11	82	1	0	5	1	2	0	8	2	19	0	235
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0.25%	90.79%	8.90%	0.06%	15.13%	81.67%	3.20%	0.00%	64.39%	21.97%	13.64%	0.00%	29.81%	7.32%	62.87%	0.00%	3494
PEAK HR :	11:00 AM - 12:00 PM																TOTAL
PEAK HR VOL :	2	375	36	0	47	308	14	0	30	10	4	0	31	5	61	0	923
PEAK HR FACTOR :	0.25	0.947	0.600	0.000	0.783	0.837	0.438	0.000	0.750	0.500	0.500	0.000	0.596	0.625	0.803	0.000	0.912
		0.965				0.870				0.786				0.836			

National Data & Surveying Services

Intersection Turning Movement Count

Location: S La Cadena Dr & E M St
 City: Colton
 Control: Signalized

Project ID: 19-06047-005
 Date: 2019-04-06

HT

NS/EW Streets:	S La Cadena Dr				S La Cadena Dr				E M St				E M St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0.5 EL	0.5 ET	1 ER	0 EU	0.5 WL	0.5 WT	1 WR	0 WU	TOTAL
10:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
10:15 AM	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
10:30 AM	0	1	0	0	0	1	0	0	0	0	0	0	2	0	1	0	5
10:45 AM	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	4
11:00 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11:15 AM	0	3	0	0	0	2	1	0	0	0	0	0	0	0	0	0	6
11:30 AM	0	3	0	0	0	1	0	0	0	0	0	0	0	0	1	0	5
11:45 AM	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5
12:00 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
12:15 PM	0	2	0	0	0	2	1	0	0	0	0	0	0	0	0	0	5
12:30 PM	0	2	0	0	0	2	0	0	1	0	0	0	0	0	0	0	5
12:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
1:00 PM	0	3	0	0	1	2	0	0	0	0	0	0	0	0	0	0	6
1:15 PM	0	2	0	0	0	2	0	0	0	0	0	0	1	0	1	0	6
1:30 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
1:45 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
TOTAL VOLUMES :	NL 1	NT 28	NR 3	NU 0	SL 1	ST 19	SR 2	SU 0	EL 2	ET 0	ER 0	EU 0	WL 4	WT 0	WR 3	WU 0	TOTAL 63
APPROACH %'s :	3.13%	87.50%	9.38%	0.00%	4.55%	86.36%	9.09%	0.00%	100.00%	0.00%	0.00%	0.00%	57.14%	0.00%	42.86%	0.00%	
PEAK HR :	11:00 AM - 12:00 PM																TOTAL
PEAK HR VOL :	0	13	0	0	0	4	1	0	0	0	0	0	0	0	1	0	19
PEAK HR FACTOR :	0.00	0.813	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.792
		0.813				0.417								0.250			

National Data & Surveying Services

Intersection Turning Movement Count

Location: S La Cadena Dr & E M St
City: Colton

Project ID: 19-00047-005
Date: 2019-04-06

Pedestrians (Crosswalks)

NS/EW Streets:	S La Cadena Dr		S La Cadena Dr		E M St		E M St		
NOON	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
10:00 AM	3	4	0	0	1	2	0	2	12
10:15 AM	0	0	0	0	0	0	0	1	1
10:30 AM	0	1	0	0	2	1	1	0	5
10:45 AM	0	0	0	0	2	3	2	0	7
11:00 AM	0	0	1	0	1	0	0	0	2
11:15 AM	0	1	0	0	0	2	0	1	4
11:30 AM	0	0	0	0	0	2	1	0	3
11:45 AM	0	0	0	1	0	2	0	2	5
12:00 PM	1	1	2	1	3	2	0	0	10
12:15 PM	0	0	1	0	1	0	0	1	3
12:30 PM	0	0	0	0	1	0	0	0	1
12:45 PM	0	0	0	0	0	0	0	0	0
1:00 PM	2	0	0	0	0	0	0	3	5
1:15 PM	2	3	1	0	1	0	0	0	7
1:30 PM	1	1	0	0	4	1	2	0	9
1:45 PM	0	0	0	0	1	1	0	1	3
TOTAL VOLUMES :	9	11	5	2	17	16	6	11	77
APPROACH %'s :	45.00%	55.00%	71.43%	28.57%	51.52%	48.48%	35.29%	64.71%	
PEAK HR :	11:00 AM - 12:00 PM								TOTAL
PEAK HR VOL :	0	1	1	1	1	6	1	3	14
PEAK HR FACTOR :		0.250	0.250	0.250	0.250	0.750	0.250	0.375	0.700
		0.250		0.500		0.875		0.500	

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Fogg St & E M St
City: Colton
Control: 1-Way Stop(NB)

Project ID: 19-06047-002
Date: 2019-04-06

Total

NS/EW Streets:	S Fogg St				S Fogg St				E M St				E M St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	1 NL	0 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
10:00 AM	0	0	5	0	0	0	0	0	0	37	0	0	3	18	0	0	63
10:15 AM	0	0	8	0	0	0	0	0	0	23	0	0	5	15	0	0	51
10:30 AM	0	0	2	0	0	0	0	0	0	37	1	0	6	21	0	0	67
10:45 AM	0	0	8	0	0	0	0	0	0	33	0	0	5	13	0	0	59
11:00 AM	1	0	12	0	0	0	0	0	0	26	0	0	3	28	0	0	70
11:15 AM	1	0	3	0	0	0	0	0	0	23	0	0	8	25	0	0	60
11:30 AM	0	0	11	0	0	0	0	0	0	25	0	0	4	23	0	0	63
11:45 AM	0	0	6	0	0	0	0	0	0	39	0	0	4	15	0	0	64
12:00 PM	1	0	7	0	0	0	0	0	0	24	0	0	8	22	0	0	62
12:15 PM	0	0	5	0	0	0	0	0	0	29	1	0	7	24	0	0	66
12:30 PM	1	0	9	0	0	0	0	0	0	46	0	0	7	27	0	0	90
12:45 PM	0	0	7	0	0	0	0	0	0	28	1	0	5	25	0	0	66
1:00 PM	0	0	12	0	0	0	0	0	0	22	1	0	5	21	0	0	61
1:15 PM	0	0	4	0	0	0	0	0	0	32	0	0	8	31	0	0	75
1:30 PM	0	0	7	0	0	0	0	0	0	34	1	0	16	22	0	0	80
1:45 PM	0	0	4	0	0	0	0	0	0	35	0	0	4	30	0	0	73
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	4	0	110	0	0	0	0	0	0	493	5	0	98	360	0	0	1070
	3.51%	0.00%	96.49%	0.00%					0.00%	99.00%	1.00%	0.00%	21.40%	78.60%	0.00%	0.00%	
PEAK HR :	12:30 PM - 01:30 PM																TOTAL
PEAK HR VOL :	1	0	32	0	0	0	0	0	0	128	2	0	25	104	0	0	292
PEAK HR FACTOR :	0.250	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.000	0.696	0.500	0.000	0.781	0.839	0.000	0.000	0.811
	0.688								0.707				0.827				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Fogg St & E M St
 City: Colton
 Control: 1-Way Stop(NB)

Project ID: 19-06047-002
 Date: 2019-04-06

Cars

NS/EW Streets:	S Fogg St				S Fogg St				E M St				E M St				TOTAL
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
10:00 AM	0	0	5	0	0	0	0	0	0	37	0	0	2	18	0	0	62
10:15 AM	0	0	8	0	0	0	0	0	0	23	0	0	5	14	0	0	50
10:30 AM	0	0	1	0	0	0	0	0	0	36	1	0	6	20	0	0	64
10:45 AM	0	0	8	0	0	0	0	0	0	33	0	0	4	13	0	0	58
11:00 AM	1	0	11	0	0	0	0	0	0	26	0	0	3	28	0	0	69
11:15 AM	1	0	3	0	0	0	0	0	0	23	0	0	7	25	0	0	59
11:30 AM	0	0	11	0	0	0	0	0	0	24	0	0	4	21	0	0	60
11:45 AM	0	0	5	0	0	0	0	0	0	39	0	0	3	15	0	0	62
12:00 PM	1	0	7	0	0	0	0	0	0	24	0	0	6	22	0	0	60
12:15 PM	0	0	5	0	0	0	0	0	0	28	0	0	7	23	0	0	63
12:30 PM	1	0	9	0	0	0	0	0	0	45	0	0	6	27	0	0	88
12:45 PM	0	0	7	0	0	0	0	0	0	28	1	0	2	25	0	0	63
1:00 PM	0	0	10	0	0	0	0	0	0	22	0	0	4	21	0	0	57
1:15 PM	0	0	4	0	0	0	0	0	0	32	0	0	7	28	0	0	71
1:30 PM	0	0	7	0	0	0	0	0	0	33	0	0	16	22	0	0	78
1:45 PM	0	0	4	0	0	0	0	0	0	35	0	0	3	30	0	0	72
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	4	0	105	0	0	0	0	0	0	488	2	0	85	352	0	0	1036
	3.67%	0.00%	96.33%	0.00%					0.00%	99.59%	0.41%	0.00%	19.45%	80.55%	0.00%	0.00%	
PEAK HR :	12:30 PM - 01:30 PM																TOTAL
PEAK HR VOL :	1	0	30	0	0	0	0	0	0	127	1	0	19	101	0	0	279
PEAK HR FACTOR :	0.25	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.706	0.250	0.000	0.679	0.902	0.000	0.000	0.793
			0.775							0.711				0.857			

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Fogg St & E M St
 City: Colton
 Control: 1-Way Stop(NB)

Project ID: 19-06047-002
 Date: 2019-04-06

HT

NS/EW Streets:	S Fogg St				S Fogg St				E M St				E M St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	1 NL	0 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
10:30 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
11:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
11:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	
11:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	
12:15 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	
12:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	
1:00 PM	0	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0	
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	
1:30 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	5	0	0	0	0	0	0	5	3	0	13	8	0	0	34
	0.00%	0.00%	100.00%	0.00%					0.00%	62.50%	37.50%	0.00%	61.90%	38.10%	0.00%	0.00%	
PEAK HR :	12:30 PM - 01:30 PM																TOTAL
PEAK HR VOL :	0	0	2	0	0	0	0	0	0	1	1	0	6	3	0	0	13
PEAK HR FACTOR :	0.00	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.500	0.250	0.000	0.000	0.813
			0.250							0.500				0.563			

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Mt Vernon Ave & E M St
City: Colton
Control: Signalized

Project ID: 19-06047-003
Date: 2019-04-06

Total

NS/EW Streets:	S Mt Vernon Ave				S Mt Vernon Ave				E M St				E M St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	0	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	TOTAL
10:00 AM	13	87	0	0	0	105	27	0	17	0	20	0	0	0	0	0	269
10:15 AM	14	101	0	0	0	90	11	0	21	0	21	0	0	0	0	0	258
10:30 AM	25	94	0	0	0	84	9	0	11	0	33	0	0	0	0	0	256
10:45 AM	16	111	0	0	0	102	11	0	20	0	25	0	0	0	0	0	285
11:00 AM	23	151	0	0	0	91	15	0	21	0	25	0	0	0	0	0	326
11:15 AM	24	117	0	0	0	114	12	0	24	0	18	0	0	0	0	0	309
11:30 AM	20	118	0	0	0	130	8	0	16	0	30	0	0	0	0	0	322
11:45 AM	11	133	0	0	0	120	12	0	18	0	38	0	0	0	0	0	332
12:00 PM	21	152	0	0	0	123	11	0	25	0	21	0	0	0	0	0	353
12:15 PM	26	144	0	0	0	119	10	0	15	0	23	0	0	0	0	0	337
12:30 PM	15	138	0	0	0	125	11	0	21	0	38	0	0	0	0	0	348
12:45 PM	25	153	0	0	0	120	5	0	11	0	28	0	0	0	0	0	342
1:00 PM	18	131	0	0	0	117	6	0	17	0	25	0	0	0	0	0	314
1:15 PM	28	136	0	0	0	130	5	0	14	0	22	0	0	0	0	0	335
1:30 PM	27	183	0	0	0	111	14	0	13	0	30	0	0	0	0	0	378
1:45 PM	22	130	0	0	0	140	9	0	10	0	26	0	0	0	0	0	337
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	328	2079	0	0	0	1821	176	0	274	0	423	0	0	0	0	0	5101
	13.63%	86.37%	0.00%	0.00%	0.00%	91.19%	8.81%	0.00%	39.31%	0.00%	60.69%	0.00%					
PEAK HR :	12:00 PM - 01:00 PM																TOTAL
PEAK HR VOL :	87	587	0	0	0	487	37	0	72	0	110	0	0	0	0	0	1380
PEAK HR FACTOR :	0.837	0.959	0.000	0.000	0.000	0.974	0.841	0.000	0.720	0.000	0.724	0.000	0.000	0.000	0.000	0.000	0.977
	0.947				0.963				0.771								

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Mt Vernon Ave & E M St
City: Colton
Control: Signalized

Project ID: 19-06047-003
Date: 2019-04-06

Cars

NS/EW Streets:	S Mt Vernon Ave				S Mt Vernon Ave				E M St				E M St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
10:00 AM	13	81	0	0	0	104	20	0	14	0	19	0	0	0	0	0	251
10:15 AM	12	98	0	0	0	88	7	0	21	0	21	0	0	0	0	0	247
10:30 AM	23	90	0	0	0	82	7	0	8	0	31	0	0	0	0	0	241
10:45 AM	14	108	0	0	0	98	8	0	18	0	24	0	0	0	0	0	270
11:00 AM	23	146	0	0	0	90	13	0	17	0	24	0	0	0	0	0	313
11:15 AM	23	117	0	0	0	111	11	0	20	0	18	0	0	0	0	0	300
11:30 AM	18	115	0	0	0	126	8	0	16	0	29	0	0	0	0	0	312
11:45 AM	11	131	0	0	0	118	10	0	16	0	37	0	0	0	0	0	323
12:00 PM	20	147	0	0	0	118	9	0	25	0	21	0	0	0	0	0	340
12:15 PM	25	142	0	0	0	119	9	0	11	0	22	0	0	0	0	0	328
12:30 PM	15	135	0	0	0	122	11	0	19	0	36	0	0	0	0	0	338
12:45 PM	25	145	0	0	0	118	4	0	10	0	28	0	0	0	0	0	330
1:00 PM	18	129	0	0	0	115	5	0	14	0	25	0	0	0	0	0	306
1:15 PM	26	129	0	0	0	125	5	0	14	0	22	0	0	0	0	0	321
1:30 PM	27	179	0	0	0	111	12	0	13	0	29	0	0	0	0	0	371
1:45 PM	22	128	0	0	0	138	9	0	10	0	26	0	0	0	0	0	333
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	315	2020	0	0	0	1783	148	0	246	0	412	0	0	0	0	0	4924
	13.49%	86.51%	0.00%	0.00%	0.00%	92.34%	7.66%	0.00%	37.39%	0.00%	62.61%	0.00%					
PEAK HR :	12:00 PM - 01:00 PM																TOTAL
PEAK HR VOL :	85	569	0	0	0	477	33	0	65	0	107	0	0	0	0	0	1336
PEAK HR FACTOR :	0.85	0.968	0.000	0.000	0.000	0.977	0.750	0.000	0.650	0.000	0.743	0.000	0.000	0.000	0.000	0.000	0.982
			0.962				0.959				0.782						

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Mt Vernon Ave & E M St
 City: Colton
 Control: Signalized

Project ID: 19-06047-003
 Date: 2019-04-06

HT

NS/EW Streets:	S Mt Vernon Ave				S Mt Vernon Ave				E M St				E M St				TOTAL	
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
NOON	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
10:00 AM	0	6	0	0	0	1	7	0	3	0	1	0	0	0	0	0	0	18
10:15 AM	2	3	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	11
10:30 AM	2	4	0	0	0	2	2	0	3	0	2	0	0	0	0	0	0	15
10:45 AM	2	3	0	0	0	4	3	0	2	0	1	0	0	0	0	0	0	15
11:00 AM	0	5	0	0	0	1	2	0	4	0	1	0	0	0	0	0	0	13
11:15 AM	1	0	0	0	0	3	1	0	4	0	0	0	0	0	0	0	0	9
11:30 AM	2	3	0	0	0	4	0	0	0	0	1	0	0	0	0	0	0	10
11:45 AM	0	2	0	0	0	2	2	0	2	0	1	0	0	0	0	0	0	9
12:00 PM	1	5	0	0	0	5	2	0	0	0	0	0	0	0	0	0	0	13
12:15 PM	1	2	0	0	0	0	1	0	4	0	1	0	0	0	0	0	0	9
12:30 PM	0	3	0	0	0	3	0	0	2	0	2	0	0	0	0	0	0	10
12:45 PM	0	8	0	0	0	2	1	0	1	0	0	0	0	0	0	0	0	12
1:00 PM	0	2	0	0	0	2	1	0	3	0	0	0	0	0	0	0	0	8
1:15 PM	2	7	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	14
1:30 PM	0	4	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	7
1:45 PM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	13	59	0	0	0	38	28	0	28	0	11	0	0	0	0	0	177	
	18.06%	81.94%	0.00%	0.00%	0.00%	57.58%	42.42%	0.00%	71.79%	0.00%	28.21%	0.00%						
PEAK HR :	12:00 PM - 01:00 PM																TOTAL	
PEAK HR VOL :	2	18	0	0	0	10	4	0	7	0	3	0	0	0	0	0	44	
PEAK HR FACTOR :	0.50	0.563	0.000	0.000	0.000	0.500	0.500	0.000	0.438	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.846	
		0.625				0.500					0.500							

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Mt Vernon Ave & E M St
City: Colton
Control: Signalized

Project ID: 19-06047-003
Date: 2019-04-06

Bikes

NS/EW Streets:	S Mt Vernon Ave				S Mt Vernon Ave				E M St				E M St				TOTAL
NOON	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
10:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	1	2	0	0	0	1	0	0	0	0	1	0	0	0	0	0	5
	33.33%	66.67%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%					
PEAK HR :	12:00 PM - 01:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Mt Vernon Ave & E M St
City: Colton

Project ID: 19-00047-003
Date: 2019-04-06

Pedestrians (Crosswalks)

NS/EW Streets:	S Mt Vernon Ave		S Mt Vernon Ave		E M St		E M St		TOTAL
	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
NOON	EB	WB	EB	WB	NB	SB	NB	SB	
10:00 AM	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	1	0	1
12:30 PM	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	2	0	0	0	0	2
TOTAL VOLUMES :	0	0	0	2	0	0	1	0	3
APPROACH %'s :			0.00%	100.00%			100.00%	0.00%	
PEAK HR :	12:00 PM - 01:00 PM						1	0	TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	1
PEAK HR FACTOR :							0.250	0.250	0.250

National Data & Surveying Services

Intersection Turning Movement Count

Location: S La Cadena Dr & S 7th St/Maple St
City: Colton

Project ID: 19-06047-004
Date: 2019-04-06

Pedestrians (Crosswalks)

NS/EW Streets:	S La Cadena Dr		S La Cadena Dr		S 7th St/Maple St		S 7th St/Maple St				
NOON	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		WEST LEG 2		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	NB	SB	
10:00 AM	0	0	0	0	0	0	0	1	0	1	2
10:15 AM	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	1	0	0	0	0	1
11:00 AM	0	0	0	1	0	0	1	0	0	0	2
11:15 AM	0	0	1	0	0	0	0	1	0	0	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	1	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	1	0	1	2	4
12:30 PM	0	0	0	1	0	0	1	0	0	0	2
12:45 PM	0	0	0	0	0	0	0	0	1	1	2
1:00 PM	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	1	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	1	1	0	0	0	0	1	0	2	1	6
TOTAL VOLUMES :	EB 1	WB 1	EB 1	WB 2	NB 0	SB 1	NB 4	SB 3	NB 5	SB 5	TOTAL 23
APPROACH %'s :	50.00%	50.00%	33.33%	66.67%	0.00%	100.00%	57.14%	42.86%	50.00%	50.00%	
PEAK HR :	12:30 PM - 01:30 PM										
PEAK HR VOL :	0	0	0	1	0	0	1	0	2	1	TOTAL 5
PEAK HR FACTOR :			0.250	0.250			0.250	0.250	0.500	0.250	0.625

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Cedar St & E Congress St
City: Colton
Control: 1-Way Stop(SB)

Project ID: 19-06047-001
Date: 2019-04-06

Total

NS/EW Streets:	S Cedar St				S Cedar St				E Congress St				E Congress St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
10:00 AM	0	0	0	0	1	0	0	0	0	4	0	0	0	4	0	0	9
10:15 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	5	0	0	13
10:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	5	1	0	8
10:45 AM	0	0	0	0	1	0	0	0	0	7	0	0	0	5	0	0	13
11:00 AM	0	0	0	0	1	0	0	0	0	12	0	0	0	3	0	0	16
11:15 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	7	1	0	12
11:30 AM	0	0	0	0	0	0	0	0	0	12	0	0	0	2	2	0	16
11:45 AM	0	0	0	0	0	0	0	0	0	7	0	0	0	4	0	0	11
12:00 PM	0	0	0	0	0	0	1	0	0	5	0	0	0	9	0	0	15
12:15 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	5	2	0	13
12:30 PM	0	0	0	0	0	0	0	0	0	10	0	0	0	6	1	0	17
12:45 PM	0	0	0	0	1	0	0	0	0	6	0	0	0	7	0	0	14
1:00 PM	0	0	0	0	0	0	0	0	1	12	0	0	0	4	1	0	18
1:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	7	1	0	12
1:30 PM	0	0	0	0	0	0	0	0	1	7	0	0	0	15	1	0	24
1:45 PM	0	0	0	0	1	0	0	0	0	3	0	0	0	5	0	0	9
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	5	0	1	0	2	109	0	0	0	93	10	0	220
					83.33%	0.00%	16.67%	0.00%	1.80%	98.20%	0.00%	0.00%	0.00%	90.29%	9.71%	0.00%	
PEAK HR :	12:45 PM - 01:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	1	0	0	0	2	29	0	0	0	33	3	0	68
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500	0.604	0.000	0.000	0.000	0.550	0.750	0.000	0.708
					0.250				0.596				0.563				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Cedar St & E Congress St
 City: Colton
 Control: 1-Way Stop(SB)

Project ID: 19-06047-001
 Date: 2019-04-06

Cars

NS/EW Streets:	S Cedar St				S Cedar St				E Congress St				E Congress St				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
NOON	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	TOTAL
10:00 AM	0	0	0	0	1	0	0	0	0	4	0	0	0	3	0	0	8
10:15 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	5	0	0	13
10:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	5	1	0	7
10:45 AM	0	0	0	0	1	0	0	0	0	7	0	0	0	4	0	0	12
11:00 AM	0	0	0	0	1	0	0	0	0	11	0	0	0	3	0	0	15
11:15 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	6	1	0	11
11:30 AM	0	0	0	0	0	0	0	0	0	11	0	0	0	2	2	0	15
11:45 AM	0	0	0	0	0	0	0	0	0	7	0	0	0	3	0	0	10
12:00 PM	0	0	0	0	0	0	1	0	0	5	0	0	0	7	0	0	13
12:15 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	4	2	0	12
12:30 PM	0	0	0	0	0	0	0	0	0	10	0	0	0	5	1	0	16
12:45 PM	0	0	0	0	1	0	0	0	0	6	0	0	0	4	0	0	11
1:00 PM	0	0	0	0	0	0	0	0	0	10	0	0	0	2	1	0	13
1:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	6	1	0	11
1:30 PM	0	0	0	0	0	0	0	0	1	7	0	0	0	14	1	0	23
1:45 PM	0	0	0	0	1	0	0	0	0	3	0	0	0	4	0	0	8
TOTAL VOLUMES :	NL 0	NT 0	NR 0	NU 0	SL 5	ST 0	SR 1	SU 0	EL 1	ET 104	ER 0	EU 0	WL 0	WT 77	WR 10	WU 0	TOTAL 198
APPROACH %'s :					83.33%	0.00%	16.67%	0.00%	0.95%	99.05%	0.00%	0.00%	0.00%	88.51%	11.49%	0.00%	
PEAK HR :	12:45 PM - 01:45 PM																TOTAL
PEAK HR VOL :	0	0	0	0	1	0	0	0	1	27	0	0	0	26	3	0	58
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.675	0.000	0.000	0.000	0.464	0.750	0.000	0.630
					0.250				0.700				0.483				

National Data & Surveying Services

Intersection Turning Movement Count

Location: S Cedar St & E Congress St
 City: Colton
 Control: 1-Way Stop(SB)

Project ID: 19-06047-001
 Date: 2019-04-06

Bikes

NS/EW Streets:	S Cedar St				S Cedar St				E Congress St				E Congress St				TOTAL	
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
NOON	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	TOTAL	
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES :	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	TOTAL	2
APPROACH %'s :					0.00%	0.00%	0.00%	100.00%										
PEAK HR :	12:45 PM - 01:45 PM																	
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	TOTAL	0
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		

Weekday Daily Volumes

VOLUME

Mt Vernon Ave N/O Valley Blvd

Day: Thursday

Date: 5/2/2019

City: Colton

Project #: CA19_6054_001

DAILY TOTALS						NB	SB	EB	WB	Total	
						7,373	9,883	0	0	17,256	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	24	22			46	12:00	122	160			282
00:15	23	24			47	12:15	118	129			247
00:30	26	19			45	12:30	110	168			278
00:45	15	88	10	75	25	12:45	123	473	185	642	308
01:00	9	8			17	13:00	103	162			265
01:15	15	12			27	13:15	119	168			287
01:30	10	17			27	13:30	104	169			273
01:45	8	42	11	48	19	13:45	139	465	146	645	285
02:00	15	11			26	14:00	104	155			259
02:15	19	12			31	14:15	124	150			274
02:30	8	16			24	14:30	140	153			293
02:45	11	53	14	53	25	14:45	139	507	182	640	321
03:00	6	22			28	15:00	155	164			319
03:15	6	20			26	15:15	160	166			326
03:30	7	39			46	15:30	156	175			331
03:45	11	30	30	111	41	15:45	134	605	156	661	290
04:00	16	39			55	16:00	160	145			305
04:15	23	49			72	16:15	164	164			328
04:30	21	77			98	16:30	146	169			315
04:45	15	75	47	212	62	16:45	182	652	156	634	338
05:00	14	66			80	17:00	148	158			306
05:15	9	75			84	17:15	160	194			354
05:30	25	100			125	17:30	173	170			343
05:45	39	87	94	335	133	17:45	133	614	158	680	291
06:00	25	82			107	18:00	134	142			276
06:15	25	99			124	18:15	101	155			256
06:30	25	98			123	18:30	117	116			233
06:45	39	114	107	386	146	18:45	111	463	121	534	232
07:00	66	136			202	19:00	115	127			242
07:15	72	139			211	19:15	84	138			222
07:30	88	162			250	19:30	71	138			209
07:45	88	314	155	592	243	19:45	99	369	121	524	220
08:00	70	144			214	20:00	75	129			204
08:15	96	119			215	20:15	78	111			189
08:30	72	107			179	20:30	93	98			191
08:45	76	314	114	484	190	20:45	86	332	75	413	161
09:00	94	115			209	21:00	83	107			190
09:15	78	125			203	21:15	75	84			159
09:30	86	141			227	21:30	53	68			121
09:45	110	368	127	508	237	21:45	44	255	53	312	97
10:00	85	117			202	22:00	67	53			120
10:15	93	126			219	22:15	36	60			96
10:30	99	138			237	22:30	43	51			94
10:45	96	373	122	503	218	22:45	34	180	33	197	67
11:00	113	150			263	23:00	26	24			50
11:15	118	149			267	23:15	29	32			61
11:30	132	155			287	23:30	37	30			67
11:45	115	478	137	591	252	23:45	30	122	17	103	47
TOTALS	2336	3898			6234	TOTALS	5037	5985			11022
SPLIT %	37.5%	62.5%			36.1%	SPLIT %	45.7%	54.3%			63.9%























DAILY TOTALS						NB	SB	EB	WB	Total
						7,373	9,883	0	0	17,256
AM Peak Hour	11:15	11:15			11:15	PM Peak Hour	16:45	14:45		16:45
AM Pk Volume	487	601			1088	PM Pk Volume	663	687		1341
Pk Hr Factor	0.922	0.939			0.948	Pk Hr Factor	0.911	0.944		0.947
7 - 9 Volume	628	1076	0	0	1704	4 - 6 Volume	1266	1314	0	2580
7 - 9 Peak Hour	07:30	07:15			07:30	4 - 6 Peak Hour	16:45	17:00		16:45
7 - 9 Pk Volume	342	600	0	0	922	4 - 6 Pk Volume	663	680	0	1341
Pk Hr Factor	0.891	0.926	0.000	0.000	0.922	Pk Hr Factor	0.911	0.876	0.000	0.947

Appendix B – ICU Spreadsheets and Synchro Reports – Existing Conditions

HCM 6th Signalized Intersection Summary

1: La Cadena Dr & M St

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	10	3	61	4	81	3	915	105	70	656	14
Future Volume (veh/h)	36	10	3	61	4	81	3	915	105	70	656	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	39	11	3	66	4	88	3	995	114	76	713	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	19	390	135	4	390	6	1267	145	102	1605	34
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.00	0.42	0.42	0.06	0.48	0.48
Sat Flow, veh/h	0	74	1502	0	16	1502	1594	3044	349	1594	3372	71
Grp Volume(v), veh/h	50	0	3	70	0	88	3	550	559	76	356	372
Grp Sat Flow(s),veh/h/ln	74	0	1502	16	0	1502	1594	1683	1709	1594	1683	1759
Q Serve(g_s), s	0.0	0.0	0.1	0.0	0.0	2.4	0.1	14.7	14.7	2.4	7.3	7.3
Cycle Q Clear(g_c), s	13.5	0.0	0.1	13.5	0.0	2.4	0.1	14.7	14.7	2.4	7.3	7.3
Prop In Lane	0.78		1.00	0.94		1.00	1.00		0.20	1.00		0.04
Lane Grp Cap(c), veh/h	143	0	390	139	0	390	6	701	711	102	802	838
V/C Ratio(X)	0.35	0.00	0.01	0.50	0.00	0.23	0.46	0.79	0.79	0.74	0.44	0.44
Avail Cap(c_a), veh/h	143	0	390	139	0	390	169	891	905	169	891	931
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	20.9	0.0	14.3	25.2	0.0	15.1	25.8	13.2	13.2	23.9	9.0	9.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	2.9	0.0	0.3	43.5	3.6	3.6	10.2	0.4	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	0.6	0.0	0.0	0.9	0.0	0.7	0.1	4.7	4.7	1.1	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	0.0	14.3	28.1	0.0	15.4	69.3	16.8	16.7	34.0	9.4	9.4
LnGrp LOS	C	A	B	C	A	B	E	B	B	C	A	A
Approach Vol, veh/h		53			158			1112			804	
Approach Delay, s/veh		21.9			21.0			16.9			11.7	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	26.1		18.0	4.7	29.2		18.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),s	55	27.5		13.5	5.5	27.5		13.5				
Max Q Clear Time (g_c+l1),s	44	16.7		15.5	2.1	9.3		15.5				
Green Ext Time (p_c), s	0.0	4.9		0.0	0.0	3.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			15.4									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

Intersection

Int Delay, s/veh 1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	276	9	63	169	6	33
Future Vol, veh/h	276	9	63	169	6	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	-	65
Veh in Median Storage#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	300	10	68	184	7	36

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	310
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1250
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1250
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	10.7
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	422	735	-	-	1250	-
HCM Lane V/C Ratio	0.015	0.049	-	-	0.055	-
HCM Control Delay (s)	13.7	10.1	-	-	8	0
HCM Lane LOS	B	B	-	-	A	A
HCM 95th %tile Q(veh)	0	0.2	-	-	0.2	-

HCM 6th Signalized Intersection Summary

3: Mt. Vernon Ave & M St

06/18/2019



Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	143	203	146	902	870	95
Future Volume (veh/h)	143	203	146	902	870	95
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	155	221	159	980	946	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	302	284	226	0	1043	0
Arrive On Green	0.19	0.19	0.14	0.00	0.62	0.00
Sat Flow, veh/h	1594	1502	1594		1688	
Grp Volume(v), veh/h	155	221	159		946	
Grp Sat Flow(s),veh/h/ln	1594	1502	1594		1688	
Q Serve(g_s), s	4.1	6.5	4.4		22.8	
Cycle Q Clear(g_c), s	4.1	6.5	4.4		22.8	
Prop In Lane	1.00	1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	302	284	226		1043	
V/C Ratio(X)	0.51	0.78	0.70		0.91	
Avail Cap(c_a), veh/h	392	369	392		1931	
HCM Platoon Ratio	1.00	1.00	1.00		1.00	
Upstream Filter(l)	1.00	1.00	1.00		1.00	
Uniform Delay (d), s/veh	17.0	18.0	19.1		7.8	
Incr Delay (d2), s/veh	1.4	7.6	4.0		3.4	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	
%ile BackOfQ(50%),veh/ln	1.3	2.5	1.7		5.0	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.4	25.6	23.1		11.1	
LnGrp LOS	B	C	C		B	
Approach Vol, veh/h	376		159		946	
Approach Delay, s/veh	22.6		23.1		11.1	
Approach LOS	C		C		B	
Timer - Assigned Phs		2	3			7
Phs Duration (G+Y+Rc), s		13.3	33.4			11.1
Change Period (Y+Rc), s		4.5	4.5			4.5
Max Green Setting (Gmax), s		11.5	53.5			11.5
Max Q Clear Time (g_c+l1), s		8.5	24.8			6.4
Green Ext Time (p_c), s		0.4	4.1			0.2
Intersection Summary						
HCM 6th Ctrl Delay			15.3			
HCM 6th LOS			B			

Notes

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

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	SEL2	SEL	SER2	NEL2	NEL
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	3.4	3.2
Total Delay (hr)	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Del/Veh (s)	24.8	28.9	7.0	8.0	21.5	21.3	5.0	19.0	20.8	7.1	12.9	16.6
Total Stops	27	4	31	1	4	6	1	3	15	5	3	4
Stop/Veh	0.93	1.00	0.94	1.00	1.00	1.00	1.00	1.00	0.94	0.83	0.75	0.67
Travel Dist (mi)	4.6	0.7	5.3	0.1	0.5	0.6	0.2	0.3	1.6	0.6	0.5	0.7
Travel Time (hr)	0.4	0.1	0.3	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.1
Vehicles Entered	29	4	33	1	4	6	1	3	16	6	4	6
Vehicles Exited	28	4	33	1	4	6	1	3	16	6	4	6
Hourly Exit Rate	28	4	33	1	4	6	1	3	16	6	4	6
Input Volume	32	4	32	1	5	7	1	4	16	5	5	5
% of Volume	88	100	103	100	80	86	100	75	100	120	80	120

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NET	NER	SWL	SWT	SWR	SWR2	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.5	0.2	0.0	0.0	0.0	0.0	0.2
Total Delay (hr)	1.5	0.0	0.2	1.1	0.0	0.0	3.3
Total Del/Veh (s)	7.8	1.0	21.0	6.0	6.6	2.3	7.8
Total Stops	161	5	32	79	1	2	384
Stop/Veh	0.24	0.25	0.91	0.12	0.33	0.15	0.25
Travel Dist (mi)	85.3	2.5	9.5	169.8	0.9	3.4	287.1
Travel Time (hr)	3.5	0.1	0.5	5.0	0.0	0.1	10.3
Vehicles Entered	680	20	34	664	3	13	1527
Vehicles Exited	678	20	34	664	3	12	1523
Hourly Exit Rate	678	20	34	664	3	12	1523
Input Volume	682	21	30	673	3	14	1540
% of Volume	99	95	113	99	100	86	99

Intersection: 4: La Cadena Dr & 7th St & Maple St

Movement	NB	SB	SE	NE	NE	NE	SW	SW	SW
Directions Served	<LTR	LTR>	<LR>	<L	T	R	L	TR>	>
Maximum Queue (ft)	59	4	34	16	222	22	16	131	16
Average Queue (ft)	15	0	10	1	69	3	1	30	1
95th Queue (ft)	43	2	28	15	162	15	7	88	7
Link Distance (ft)	816	521	508		639	639		1354	1354
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				100			85		
Storage Blk Time (%)					3			1	
Queuing Penalty (veh)					0			0	

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	5	34	64	2	1	1
Future Vol, veh/h	5	34	64	2	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	37	70	2	1	1

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	72	0	0 118 71
Stage 1	-	-	- 71 -
Stage 2	-	-	- 47 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	528	-	- 878 991
Stage 1	-	-	- 952 -
Stage 2	-	-	- 975 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	528	-	- 875 991
Mov Cap-2 Maneuver	-	-	- 875 -
Stage 1	-	-	- 949 -
Stage 2	-	-	- 975 -























Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1528	-	-	-	929
HCM Lane V/C Ratio	0.004	-	-	-	-0.002
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th Signalized Intersection Summary

1: La Cadena Dr & M St

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	6	6	36	7	63	0	391	33	65	306	13
Future Volume (veh/h)	22	6	6	36	7	63	0	391	33	65	306	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	24	7	7	39	8	68	0	425	36	71	333	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	42	197	281	33	197	6	879	74	122	1736	73
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.00	0.28	0.28	0.08	0.53	0.53
Sat Flow, veh/h	162	323	1502	236	249	1502	1594	3142	265	1594	3292	138
Grp Volume(v), veh/h	31	0	7	47	0	68	0	227	234	71	170	177
Grp Sat Flow(s),veh/h/ln	485	0	1502	485	0	1502	1594	1683	1724	1594	1683	1747
Q Serve(g_s), s	0.1	0.0	0.1	0.4	0.0	1.1	0.0	3.0	3.0	1.1	1.4	1.4
Cycle Q Clear(g_c), s	3.0	0.0	0.1	3.1	0.0	1.1	0.0	3.0	3.0	1.1	1.4	1.4
Prop In Lane	0.77		1.00	0.83		1.00	1.00		0.15	1.00		0.08
Lane Grp Cap(c), veh/h	306	0	197	314	0	197	6	471	482	122	887	921
V/C Ratio(X)	0.10	0.00	0.04	0.15	0.00	0.34	0.00	0.48	0.49	0.58	0.19	0.19
Avail Cap(c_a), veh/h	841	0	769	867	0	769	333	1756	1799	333	1756	1823
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	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.2	0.0	10.0	11.1	0.0	10.4	0.0	7.9	7.9	11.8	3.3	3.3
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.2	0.0	1.0	0.0	0.8	0.8	4.3	0.1	0.1
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	0.1	0.0	0.0	0.2	0.0	0.3	0.0	0.5	0.6	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.4	0.0	10.1	11.4	0.0	11.5	0.0	8.7	8.7	16.1	3.4	3.4
LnGrp LOS	B	A	B	B	A	B	A	A	A	B	A	A
Approach Vol, veh/h		38			115			461			418	
Approach Delay, s/veh		10.3			11.4			8.7			5.5	
Approach LOS		B			B			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	11.9		8.0	0.0	18.4		8.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),s	27.5			13.5	5.5	27.5		13.5				
Max Q Clear Time (g_c+l1),s	5.0			5.0	0.0	3.4		5.1				
Green Ext Time (p_c), s	0.0	2.4		0.0	0.0	1.8		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			7.8									
HCM 6th LOS			A									
Notes												
User approved pedestrian interval to be less than phase max green.												

Intersection

Int Delay, s/veh 1.9

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	130	4	34	109	1	35
Future Vol, veh/h	130	4	34	109	1	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	65
Veh in Median Storage#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	141	4	37	118	1	38

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	145	0	335	143
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	192	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-2.218	-	-3.518	3.318
Pot Cap-1 Maneuver	-	-	1437	-	660	905
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	841	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1437	-	642	905
Mov Cap-2 Maneuver	-	-	-	-	642	-
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	841	-

Approach EB WB NB

HCM Control Delay, s	0	1.8	9.2
HCM LOS			A

Minor Lane/Major Mvm NBLn1 NBLn2 EBT EBR WBL WBT

Capacity (veh/h)	642	905	-	-	1437	-
HCM Lane V/C Ratio	0.002	0.042	-	-	-0.026	-
HCM Control Delay (s)	10.6	9.2	-	-	7.6	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

HCM 6th Signalized Intersection Summary

3: Mt. Vernon Ave & M St

06/18/2019



Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	72	116	89	588	510	30
Future Volume (veh/h)	72	116	89	588	510	30
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	78	126	97	639	554	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	254	240	346	0	748	0
Arrive On Green	0.16	0.16	0.22	0.00	0.44	0.00
Sat Flow, veh/h	1594	1502	1594		1688	
Grp Volume(v), veh/h	78	126	97		554	
Grp Sat Flow(s),veh/h/ln	1594	1502	1594		1688	
Q Serve(g_s), s	1.0	1.7	1.2		6.2	
Cycle Q Clear(g_c), s	1.0	1.7	1.2		6.2	
Prop In Lane	1.00	1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	254	240	346		748	
V/C Ratio(X)	0.31	0.53	0.28		0.74	
Avail Cap(c_a), veh/h	879	828	1371		3313	
HCM Platoon Ratio	1.00	1.00	1.00		1.00	
Upstream Filter(l)	1.00	1.00	1.00		1.00	
Uniform Delay (d), s/veh	8.4	8.7	7.4		5.2	
Incr Delay (d2), s/veh	0.7	1.8	0.4		1.5	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	
%ile BackOfQ(50%),veh/ln	0.2	0.4	0.2		0.6	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.1	10.5	7.8		6.7	
LnGrp LOS	A	B	A		A	
Approach Vol, veh/h	204		97		554	
Approach Delay, s/veh	10.0		7.8		6.7	
Approach LOS	A		A		A	
Timer - Assigned Phs		2	3			7
Phs Duration (G+Y+Rc), s		8.1	14.6			9.4
Change Period (Y+Rc), s		4.5	4.5			4.5
Max Green Setting (Gmax), s		12.5	44.5			19.5
Max Q Clear Time (g_c+l1), s		3.7	8.2			3.2
Green Ext Time (p_c), s		0.4	1.9			0.2
Intersection Summary						
HCM 6th Ctrl Delay			7.6			
HCM 6th LOS			A			

Notes

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

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	SEL2	SEL	SER2	NEL	NET
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0.1		0.1	0.1	2.9	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	17.7	21.3	3.3	3.3	6.1	3.7	1.0		10.0	3.7	3.2	1.5
Total Stops	3	2	16	4	2	1	4	0	4	2	1	17
Stop/Veh	1.00	1.00	0.94	0.80	1.00	1.00	1.00		1.00	1.00	0.50	0.07
Travel Dist (mi)	0.4	0.3	2.7	0.5	0.2	0.1	0.4	0.0	0.4	0.2	0.2	30.4
Travel Time (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Vehicles Entered	3	2	17	5	2	1	4	0	4	2	2	242
Vehicles Exited	3	2	17	4	2	1	4	0	4	2	2	242
Hourly Exit Rate	3	2	17	4	2	1	4	0	4	2	2	242
Input Volume	4	2	14	5	2	1	3	1	5	2	2	245
% of Volume	75	100	121	80	100	100	133	0	80	100	100	99

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NER	SWL	SWT	SWR	SWR2	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	0.0	0.0	0.2	0.0	0.0	0.4
Total Del/Veh (s)	0.4	6.8	2.3	2.2	1.7	2.3
Total Stops	1	7	14	1	1	80
Stop/Veh	0.12	1.00	0.04	0.14	0.12	0.12
Travel Dist (mi)	0.9	1.9	76.9	2.0	2.1	119.8
Travel Time (hr)	0.0	0.1	2.0	0.1	0.1	3.3
Vehicles Entered	8	7	324	7	8	638
Vehicles Exited	8	7	325	7	8	638
Hourly Exit Rate	8	7	325	7	8	638
Input Volume	7	7	325	7	9	641
% of Volume	114	100	100	100	89	100

Intersection: 4: La Cadena Dr & 7th St & Maple St

Movement	NB	SB	SE	NE	NE	SW	SW
Directions Served	<LTR LTR>	<LR>	T	R	L	TR>	
Maximum Queue (ft)	22	0	21	46	12	1	37
Average Queue (ft)	3	0	4	5	0	0	3
95th Queue (ft)	11	0	15	25	5	1	19
Link Distance (ft)	816	521	508	639	639		1354
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)						85	
Storage Blk Time (%)				0			
Queuing Penalty (veh)				0			

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	3	35	35	3	1	0
Future Vol, veh/h	3	35	35	3	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	-
Veh in Median Storage,-#	0	0	-	0	-	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	38	38	3	1	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	41	0	0 84 40
Stage 1	-	-	- 40 -
Stage 2	-	-	- 44 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1568	-	- 918 1031
Stage 1	-	-	- 982 -
Stage 2	-	-	- 978 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1568	-	- 916 1031
Mov Cap-2 Maneuver	-	-	- 916 -
Stage 1	-	-	- 980 -
Stage 2	-	-	- 978 -























Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1568	-	-	-	916
HCM Lane V/C Ratio	0.002	-	-	-	-0.001
HCM Control Delay (s)	7.3	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th Signalized Intersection Summary

1: La Cadena Dr & M St

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	10	3	61	4	94	3	924	105	96	673	14
Future Volume (veh/h)	36	10	3	61	4	94	3	924	105	96	673	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	39	11	3	66	4	102	3	1004	114	104	732	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	19	405	130	4	405	6	1213	138	128	1601	33
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.00	0.40	0.40	0.08	0.47	0.47
Sat Flow, veh/h	0	69	1502	0	15	1502	1594	3047	346	1594	3374	69
Grp Volume(v), veh/h	50	0	3	70	0	102	3	554	564	104	365	382
Grp Sat Flow(s),veh/h/ln	69	0	1502	15	0	1502	1594	1683	1710	1594	1683	1759
Q Serve(g_s), s	0.0	0.0	0.1	0.0	0.0	2.9	0.1	15.9	15.9	3.4	7.8	7.8
Cycle Q Clear(g_c), s	14.5	0.0	0.1	14.5	0.0	2.9	0.1	15.9	15.9	3.4	7.8	7.8
Prop In Lane	0.78		1.00	0.94		1.00	1.00		0.20	1.00		0.04
Lane Grp Cap(c), veh/h	138	0	405	134	0	405	6	670	681	128	799	835
V/C Ratio(X)	0.36	0.00	0.01	0.52	0.00	0.25	0.46	0.83	0.83	0.81	0.46	0.46
Avail Cap(c_a), veh/h	138	0	405	134	0	405	223	768	780	223	799	835
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	21.6	0.0	14.3	26.0	0.0	15.4	26.7	14.5	14.5	24.3	9.5	9.5
Incr Delay (d2), s/veh	1.6	0.0	0.0	3.6	0.0	0.3	43.6	6.7	6.6	11.4	0.4	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	0.6	0.0	0.0	0.9	0.0	0.9	0.1	5.7	5.8	1.5	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.2	0.0	14.4	29.6	0.0	15.7	70.3	21.2	21.1	35.7	9.9	9.9
LnGrp LOS	C	A	B	C	A	B	E	C	C	D	A	A
Approach Vol, veh/h		53			172			1121			851	
Approach Delay, s/veh		22.7			21.4			21.3			13.0	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	25.9		19.0	4.7	30.0		19.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),7s5		24.5		14.5	7.5	24.5		14.5				
Max Q Clear Time (g_c+l1)5s4		17.9		16.5	2.1	9.8		16.5				
Green Ext Time (p_c), s	0.0	3.5		0.0	0.0	3.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			18.1									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	276	35	98	169	19	51
Future Vol, veh/h	276	35	98	169	19	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	-	65
Veh in Median Storage#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	300	38	107	184	21	55

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	338
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1221
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1221
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	11.8
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	357	722	-	-	1221	-
HCM Lane V/C Ratio	0.058	0.077	-	-	0.087	-
HCM Control Delay (s)	15.7	10.4	-	-	8.2	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.3	-

HCM 6th Signalized Intersection Summary

3: Mt. Vernon Ave & M St

06/18/2019



Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	154	210	159	902	870	117
Future Volume (veh/h)	154	210	159	902	870	117
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	167	228	173	980	946	127
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	320	301	237	0	1036	0
Arrive On Green	0.20	0.20	0.15	0.00	0.61	0.00
Sat Flow, veh/h	1594	1502	1594		1688	
Grp Volume(v), veh/h	167	228	173		946	
Grp Sat Flow(s),veh/h/ln	1594	1502	1594		1688	
Q Serve(g_s), s	4.5	6.9	5.0		23.9	
Cycle Q Clear(g_c), s	4.5	6.9	5.0		23.9	
Prop In Lane	1.00	1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	320	301	237		1036	
V/C Ratio(X)	0.52	0.76	0.73		0.91	
Avail Cap(c_a), veh/h	574	541	410		1616	
HCM Platoon Ratio	1.00	1.00	1.00		1.00	
Upstream Filter(l)	1.00	1.00	1.00		1.00	
Uniform Delay (d), s/veh	17.3	18.3	19.7		8.2	
Incr Delay (d2), s/veh	1.3	3.9	4.2		5.6	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	
%ile BackOfQ(50%),veh/ln	1.5	2.3	1.9		6.1	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.6	22.2	24.0		13.8	
LnGrp LOS	B	C	C		B	
Approach Vol, veh/h	395		173		946	
Approach Delay, s/veh	20.7		24.0		13.8	
Approach LOS	C		C		B	
Timer - Assigned Phs		2	3			7
Phs Duration (G+Y+Rc), s		14.2	34.3			11.7
Change Period (Y+Rc), s		4.5	4.5			4.5
Max Green Setting (Gmax), s		17.5	46.5			12.5
Max Q Clear Time (g_c+l1), s		8.9	25.9			7.0
Green Ext Time (p_c), s		0.8	3.9			0.2
Intersection Summary						
HCM 6th Ctrl Delay			16.8			
HCM 6th LOS			B			

Notes

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

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	SEL2	SEL	SER2	NEL2	NEL
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	2.9	2.8
Total Delay (hr)	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Del/Veh (s)	24.2	25.3	8.1	17.0	22.8	22.2	2.3	17.8	24.2	10.1	18.0	17.4
Total Stops	29	3	42	1	3	7	2	2	16	6	4	5
Stop/Veh	0.88	1.00	0.93	1.00	0.75	1.00	1.00	0.67	1.00	1.00	1.00	0.83
Travel Dist (mi)	5.2	0.4	7.1	0.1	0.4	0.7	0.2	0.3	1.6	0.6	0.5	0.7
Travel Time (hr)	0.4	0.0	0.4	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.1
Vehicles Entered	32	3	45	1	4	7	2	3	16	6	4	6
Vehicles Exited	33	3	45	1	4	7	2	3	16	6	4	6
Hourly Exit Rate	33	3	45	1	4	7	2	3	16	6	4	6
Input Volume	34	4	43	1	5	7	1	4	16	5	5	5
% of Volume	97	75	105	100	80	100	200	75	100	120	80	120

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NET	NER	SWL	SWT	SWR	SWR2	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.5	0.2	0.0	0.0	0.0	0.0	0.2
Total Delay (hr)	1.7	0.0	0.3	1.3	0.0	0.0	4.0
Total Del/Veh (s)	9.0	1.2	23.0	6.8	6.1	2.3	8.9
Total Stops	188	8	45	92	0	2	455
Stop/Veh	0.27	0.29	0.92	0.13	0.00	0.17	0.28
Travel Dist (mi)	87.2	3.4	13.4	173.1	0.7	3.3	298.9
Travel Time (hr)	3.8	0.1	0.7	5.2	0.0	0.1	11.3
Vehicles Entered	695	28	48	677	2	12	1591
Vehicles Exited	694	28	48	676	2	12	1590
Hourly Exit Rate	694	28	48	676	2	12	1590
Input Volume	682	25	52	668	3	14	1574
% of Volume	102	112	92	101	67	86	101

Intersection: 4: La Cadena Dr & 7th St & Maple St

Movement	NB	SB	SE	NE	NE	NE	SW	SW	SW
Directions Served	<LTR	LTR>	<LR>	<L	T	R	L	TR>	>
Maximum Queue (ft)	64	1	40	18	227	26	36	133	13
Average Queue (ft)	18	0	11	1	83	5	2	37	1
95th Queue (ft)	48	0	29	15	177	19	17	98	6
Link Distance (ft)	816	521	508		639	639		1354	1354
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				100			85		
Storage Blk Time (%)					4			1	
Queuing Penalty (veh)					0			1	

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↕	↕		↕	↕	
Traffic Vol, veh/h	5	56	4	17	107	2	2	0	9	1	0	1
Future Vol, veh/h	5	56	4	17	107	2	2	0	9	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	61	4	18	116	2	2	0	10	1	0	1

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	118	0	0	65
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	470	-	-	1537
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	470	-	-	1537
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1	8.9	9.5
HCM LOS			A	A

Minor Lane/Major Mvm	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	935	1470	-	-	1537	-	-	806
HCM Lane V/C Ratio	0.013	0.004	-	-	0.012	-	-	0.003
HCM Control Delay (s)	8.9	7.5	-	-	7.4	-	-	9.5
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection						
Int Delay, s/veh	3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	42	22	43	67	11	22
Future Vol, veh/h	42	22	43	67	11	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	0
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	24	47	73	12	24

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	70	0	225 58
Stage 1	-	-	-	-	58 -
Stage 2	-	-	-	-	167 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-2.218	-	-3.518	3.318
Pot Cap-1 Maneuver	-	-	1531	-	763 1008
Stage 1	-	-	-	-	965 -
Stage 2	-	-	-	-	863 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1531	-	739 1008
Mov Cap-2 Maneuver	-	-	-	-	739 -
Stage 1	-	-	-	-	934 -
Stage 2	-	-	-	-	863 -























Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	9.1
HCM LOS			A

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	739	1008	-	-	1531	-
HCM Lane V/C Ratio	0.016	0.024	-	-	0.031	-
HCM Control Delay (s)	10	8.7	-	-	7.4	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

HCM 6th Signalized Intersection Summary

1: La Cadena Dr & M St

04/25/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	6	6	36	7	113	0	424	33	111	336	13
Future Volume (veh/h)	22	6	6	36	7	113	0	424	33	111	336	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1772	1772	1772	1673	1772	1772	1673	1772	1772
Adj Flow Rate, veh/h	24	7	7	39	8	123	0	461	36	121	365	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	266	48	230	287	37	230	5	873	68	170	1776	68
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.00	0.28	0.28	0.11	0.54	0.54
Sat Flow, veh/h	303	312	1502	398	242	1502	1594	3165	246	1594	3306	126
Grp Volume(v), veh/h	31	0	7	47	0	123	0	245	252	121	185	194
Grp Sat Flow(s),veh/h/ln	615	0	1502	639	0	1502	1594	1683	1728	1594	1683	1749
Q Serve(g_s), s	0.1	0.0	0.1	0.4	0.0	2.2	0.0	3.6	3.6	2.1	1.7	1.7
Cycle Q Clear(g_c), s	3.2	0.0	0.1	3.4	0.0	2.2	0.0	3.6	3.6	2.1	1.7	1.7
Prop In Lane	0.77		1.00	0.83		1.00	1.00		0.14	1.00		0.07
Lane Grp Cap(c), veh/h	314	0	230	324	0	230	5	464	476	170	904	940
V/C Ratio(X)	0.10	0.00	0.03	0.14	0.00	0.53	0.00	0.53	0.53	0.71	0.21	0.21
Avail Cap(c_a), veh/h	918	0	904	976	0	904	302	1361	1396	302	1361	1414
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	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.7	0.0	10.5	11.7	0.0	11.4	0.0	8.9	8.9	12.6	3.5	3.5
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.2	0.0	1.9	0.0	0.9	0.9	5.4	0.1	0.1
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	0.1	0.0	0.0	0.2	0.0	0.6	0.0	0.8	0.8	0.7	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.9	0.0	10.5	11.9	0.0	13.3	0.0	9.8	9.8	18.0	3.6	3.6
LnGrp LOS	B	A	B	B	A	B	A	A	A	B	A	A
Approach Vol, veh/h		38			170			497			500	
Approach Delay, s/veh		10.8			12.9			9.8			7.1	
Approach LOS		B			B			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	12.5		9.1	0.0	20.1		9.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),s	23.5			17.5	5.5	23.5		17.5				
Max Q Clear Time (g_c+l1),s	5.6			5.2	0.0	3.7		5.4				
Green Ext Time (p_c), s	0.0	2.5		0.1	0.0	1.8		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			9.2									
HCM 6th LOS			A									
Notes												
User approved pedestrian interval to be less than phase max green.												

Intersection						
Int Delay, s/veh	4.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	130	50	96	109	51	102
Future Vol, veh/h	130	50	96	109	51	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	-	65
Veh in Median Storage#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	141	54	104	118	55	111

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	195
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1378
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1378
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	10.9
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	492	876	-	-	1378	-
HCM Lane V/C Ratio	0.113	0.127	-	-	0.076	-
HCM Control Delay (s)	13.2	9.7	-	-	7.8	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	0.4	-	-	0.2	-

HCM 6th Signalized Intersection Summary

3: Mt. Vernon Ave & M St

04/25/2019



Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	114	141	112	588	510	68
Future Volume (veh/h)	114	141	112	588	510	68
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	124	153	122	639	554	74
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	283	267	335	0	741	0
Arrive On Green	0.18	0.18	0.21	0.00	0.44	0.00
Sat Flow, veh/h	1594	1502	1594		1688	
Grp Volume(v), veh/h	124	153	122		554	
Grp Sat Flow(s),veh/h/ln	1594	1502	1594		1688	
Q Serve(g_s), s	1.6	2.2	1.5		6.4	
Cycle Q Clear(g_c), s	1.6	2.2	1.5		6.4	
Prop In Lane	1.00	1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	283	267	335		741	
V/C Ratio(X)	0.44	0.57	0.36		0.75	
Avail Cap(c_a), veh/h	1187	1118	1187		2980	
HCM Platoon Ratio	1.00	1.00	1.00		1.00	
Upstream Filter(l)	1.00	1.00	1.00		1.00	
Uniform Delay (d), s/veh	8.6	8.8	7.9		5.5	
Incr Delay (d2), s/veh	1.1	1.9	0.7		1.5	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	
%ile BackOfQ(50%),veh/ln	0.4	0.5	0.3		0.8	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.7	10.8	8.6		7.0	
LnGrp LOS	A	B	A		A	
Approach Vol, veh/h	277		122		554	
Approach Delay, s/veh	10.3		8.6		7.0	
Approach LOS	B		A		A	
Timer - Assigned Phs		2	3			7
Phs Duration (G+Y+Rc), s		8.7	14.8			9.4
Change Period (Y+Rc), s		4.5	4.5			4.5
Max Green Setting (Gmax), s		17.5	41.5			17.5
Max Q Clear Time (g_c+l1), s		4.2	8.4			3.5
Green Ext Time (p_c), s		0.7	1.9			0.2
Intersection Summary						
HCM 6th Ctrl Delay			8.2			
HCM 6th LOS			A			

Notes

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

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	SEL2	SEL	SER2	NEL	NET
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.1	0.1	0.1	0.1	0.1		0.1	0.1	5.9	0.2
Total Delay (hr)	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Total Del/Veh (s)	21.1	20.0	3.9	11.7	9.7	7.0	1.5		12.4	4.7	8.0	4.2
Total Stops	11	2	53	4	2	1	3	0	5	2	1	51
Stop/Veh	1.00	1.00	0.93	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.20
Travel Dist (mi)	1.8	0.4	9.0	0.5	0.2	0.1	0.3	0.0	0.5	0.2	0.2	31.8
Travel Time (hr)	0.1	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Vehicles Entered	11	2	56	4	2	1	3	0	5	2	1	253
Vehicles Exited	11	2	57	4	2	1	3	0	5	2	1	254
Hourly Exit Rate	11	2	57	4	2	1	3	0	5	2	1	254
Input Volume	12	2	56	5	2	1	3	1	5	2	2	245
% of Volume	92	100	102	80	100	100	100	0	100	100	50	104

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NER	SWL	SWT	SWR	SWR2	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	0.0	0.1	0.3	0.0	0.0	0.9
Total Del/Veh (s)	1.0	9.5	3.2	2.5	1.9	4.4
Total Stops	5	42	25	1	3	211
Stop/Veh	0.29	0.89	0.08	0.11	0.27	0.29
Travel Dist (mi)	2.1	13.0	73.2	2.4	3.0	138.6
Travel Time (hr)	0.1	0.5	2.0	0.1	0.1	4.5
Vehicles Entered	17	46	308	8	11	730
Vehicles Exited	17	47	306	8	11	731
Hourly Exit Rate	17	47	306	8	11	731
Input Volume	15	45	317	7	9	729
% of Volume	113	104	97	114	122	100

Intersection: 4: La Cadena Dr & 7th St & Maple St

Movement	NB	SB	SE	NE	NE	SW	SW	SW
Directions Served	<LTR LTR>	<LR>	T	R	L	TR>	>	
Maximum Queue (ft)	42	0	19	62	20	8	47	9
Average Queue (ft)	9	0	4	16	2	0	5	1
95th Queue (ft)	28	0	15	46	13	4	24	6
Link Distance (ft)	816	521	508	639	639		1354	1354
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						85		
Storage Blk Time (%)				0			0	
Queuing Penalty (veh)				0			0	

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↕			↕		
Traffic Vol, veh/h	3	118	8	31	111	3	8	0	33	1	0	0
Future Vol, veh/h	3	118	8	31	111	3	8	0	33	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	128	9	34	121	3	9	0	36	1	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	124	0	0	137
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	1463	-	-	1447
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1463	-	-	1447
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	1.6	9.6	11.3
HCM LOS			A	B

Minor Lane/Major Mvm	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)		835	1463	-	-	1447	-	572
HCM Lane V/C Ratio		0.053	0.002	-	-	0.023	-	0.002
HCM Control Delay (s)		9.6	7.5	-	-	7.5	-	11.3
HCM Lane LOS		A	A	-	-	A	-	B
HCM 95th %tile Q(veh)		0.2	0	-	-	0.1	-	0

Intersection

Int Delay, s/veh 5.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	45	38	77	43	42	83
Future Vol, veh/h	45	38	77	43	42	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	0
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	41	84	47	46	90

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	90
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1505
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1505
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.8	9.6
HCM LOS			A























Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	665	993	-	-	1505	-
HCM Lane V/C Ratio	0.069	0.091	-	-	0.056	-
HCM Control Delay (s)	10.8	9	-	-	7.5	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0.2	-

Appendix C – ICU Spreadsheets and Synchro Reports – Opening Year (2021)

HCM 6th Signalized Intersection Summary

1: La Cadena Dr & M St

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	10	3	61	4	81	3	1041	105	70	796	14
Future Volume (veh/h)	36	10	3	61	4	81	3	1041	105	70	796	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1772	1870	1870	1772	1870	1870
Adj Flow Rate, veh/h	39	11	3	66	4	88	3	1132	114	76	865	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	20	399	131	4	399	7	1411	142	107	1758	30
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.00	0.43	0.43	0.06	0.49	0.49
Sat Flow, veh/h	0	78	1585	0	17	1585	1688	3260	328	1688	3574	62
Grp Volume(v), veh/h	50	0	3	70	0	88	3	616	630	76	430	450
Grp Sat Flow(s),veh/h/ln	78	0	1585	17	0	1585	1688	1777	1811	1688	1777	1859
Q Serve(g_s), s	0.0	0.0	0.1	0.0	0.0	2.4	0.1	16.1	16.2	2.4	8.7	8.7
Cycle Q Clear(g_c), s	13.5	0.0	0.1	13.5	0.0	2.4	0.1	16.1	16.2	2.4	8.7	8.7
Prop In Lane	0.78		1.00	0.94		1.00	1.00		0.18	1.00		0.03
Lane Grp Cap(c), veh/h	139	0	399	135	0	399	7	769	784	107	874	915
V/C Ratio(X)	0.36	0.00	0.01	0.52	0.00	0.22	0.44	0.80	0.80	0.71	0.49	0.49
Avail Cap(c_a), veh/h	139	0	399	135	0	399	173	912	930	173	912	954
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	21.6	0.0	15.0	26.0	0.0	15.9	26.6	13.2	13.2	24.6	9.1	9.1
Incr Delay (d2), s/veh	1.6	0.0	0.0	3.5	0.0	0.3	38.1	4.4	4.4	8.5	0.4	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	0.6	0.0	0.0	0.9	0.0	0.8	0.1	5.5	5.7	1.1	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.1	0.0	15.0	29.5	0.0	16.1	64.7	17.6	17.6	33.1	9.6	9.5
LnGrp LOS	C	A	B	C	A	B	E	B	B	C	A	A
Approach Vol, veh/h		53			158			1249			956	
Approach Delay, s/veh		22.7			22.1			17.7			11.4	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	27.7		18.0	4.7	30.9		18.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),s	5	27.5		13.5	5.5	27.5		13.5				
Max Q Clear Time (g_c+l1),s	4	18.2		15.5	2.1	10.7		15.5				
Green Ext Time (p_c), s	0.0	5.0		0.0	0.0	4.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B

Notes

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

Intersection

Int Delay, s/veh 1.5

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	317	9	63	205	6	33
Future Vol, veh/h	317	9	63	205	6	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	-	65
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	345	10	68	223	7	36

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	355	0	709	350
Stage 1	-	-	-	-	350	-
Stage 2	-	-	-	-	359	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-2.218		-3.518	3.318	
Pot Cap-1 Maneuver	-	-	1204	-	401	693
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	707	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1204	-	375	693
Mov Cap-2 Maneuver	-	-	-	-	375	-
Stage 1	-	-	-	-	667	-
Stage 2	-	-	-	-	707	-

Approach EB WB NB

HCM Control Delay, s 0 1.9 11.2
HCM LOS B

Minor Lane/Major MvmNBLn1NBLn2 EBT EBR WBL WBT

Capacity (veh/h)		375	693	-	-	1204	-
HCM Lane V/C Ratio		0.017	0.052	-	-	0.057	-
HCM Control Delay (s)		14.8	10.5	-	-	8.2	0
HCM Lane LOS		B	B	-	-	A	A
HCM 95th %tile Q(veh)		0.1	0.2	-	-	0.2	-

HCM 6th Signalized Intersection Summary

3: Mt. Vernon Ave & M St

06/18/2019



Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	175	212	156	919	886	121
Future Volume (veh/h)	175	212	156	919	886	121
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1772	1870	1772	1870	1870	1870
Adj Flow Rate, veh/h	190	230	170	999	963	132
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	339	319	245	0	1076	0
Arrive On Green	0.20	0.20	0.15	0.00	0.60	0.00
Sat Flow, veh/h	1688	1585	1688		1781	
Grp Volume(v), veh/h	190	230	170		963	
Grp Sat Flow(s),veh/h/ln	1688	1585	1688		1781	
Q Serve(g_s), s	4.7	6.3	4.4		21.5	
Cycle Q Clear(g_c), s	4.7	6.3	4.4		21.5	
Prop In Lane	1.00	1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	339	319	245		1076	
V/C Ratio(X)	0.56	0.72	0.69		0.89	
Avail Cap(c_a), veh/h	749	703	566		2719	
HCM Platoon Ratio	1.00	1.00	1.00		1.00	
Upstream Filter(l)	1.00	1.00	1.00		1.00	
Uniform Delay (d), s/veh	16.6	17.2	18.8		7.9	
Incr Delay (d2), s/veh	1.4	3.1	3.5		2.9	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	
%ile BackOfQ(50%),veh/ln	1.6	2.1	1.7		5.0	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.1	20.3	22.3		10.8	
LnGrp LOS	B	C	C		B	
Approach Vol, veh/h	420		170		963	
Approach Delay, s/veh	19.3		22.3		10.8	
Approach LOS	B		C		B	
Timer - Assigned Phs		2	3			7
Phs Duration (G+Y+Rc), s		13.8	32.4			11.2
Change Period (Y+Rc), s		4.5	4.5			4.5
Max Green Setting (Gmax), s		20.5	70.5			15.5
Max Q Clear Time (g_c+l1), s		8.3	23.5			6.4
Green Ext Time (p_c), s		1.1	4.4			0.3
Intersection Summary						
HCM 6th Ctrl Delay			14.3			
HCM 6th LOS			B			

Notes

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

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	SEL2	SEL	SER2	NEL2	NEL
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1		0.1	0.1	0.1	0.1	0.1	0.1	3.1	3.2
Total Delay (hr)	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	27.6	30.3	9.0		29.3	21.6	2.9	18.6	25.0	9.3	25.8	38.5
Total Stops	29	4	32	0	5	6	1	3	16	6	4	4
Stop/Veh	0.91	1.00	0.94		0.83	0.86	0.50	1.00	0.94	1.00	1.00	0.80
Travel Dist (mi)	5.0	0.6	5.4	0.1	0.6	0.7	0.2	0.3	1.6	0.6	0.5	0.7
Travel Time (hr)	0.5	0.1	0.3	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.1
Vehicles Entered	31	4	34	0	6	7	2	3	17	6	4	5
Vehicles Exited	32	4	34	0	6	7	2	3	17	6	4	5
Hourly Exit Rate	32	4	34	0	6	7	2	3	17	6	4	5
Input Volume	32	4	32	1	5	7	1	4	16	5	5	5
% of Volume	100	100	106	0	120	100	200	75	106	120	80	100

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NET	NER	SWL	SWT	SWR	SWR2	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.5	0.3	0.0	0.0	0.0	0.0	0.3
Total Delay (hr)	2.3	0.0	0.2	1.8	0.0	0.0	5.1
Total Del/Veh (s)	10.1	1.4	25.5	8.0	7.1	2.3	9.9
Total Stops	224	7	30	120	1	2	494
Stop/Veh	0.27	0.32	0.94	0.14	0.33	0.15	0.27
Travel Dist (mi)	102.0	2.7	8.8	215.1	0.9	3.6	349.5
Travel Time (hr)	4.7	0.1	0.5	6.8	0.0	0.1	13.5
Vehicles Entered	813	22	32	824	3	13	1826
Vehicles Exited	814	22	31	826	3	13	1829
Hourly Exit Rate	814	22	31	826	3	13	1829
Input Volume	810	21	30	813	3	14	1808
% of Volume	100	105	103	102	100	93	101

Intersection: 4: La Cadena Dr & 7th St & Maple St

Movement	NB	SB	SE	NE	NE	NE	SW	SW	SW
Directions Served	<LTR	LTR>	<LR>	<L	T	R	L	TR>	>
Maximum Queue (ft)	67	5	40	38	306	19	40	188	15
Average Queue (ft)	18	0	12	2	102	4	2	50	1
95th Queue (ft)	50	3	31	22	234	15	24	142	8
Link Distance (ft)	816	521	508		639	639		1354	1354
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				100			85		
Storage Blk Time (%)					6			2	
Queuing Penalty (veh)					1			1	

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	5	34	64	2	1	1
Future Vol, veh/h	5	34	64	2	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	37	70	2	1	1

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	72	0	0 118 71
Stage 1	-	-	- 71 -
Stage 2	-	-	- 47 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	528	-	- 878 991
Stage 1	-	-	- 952 -
Stage 2	-	-	- 975 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	528	-	- 875 991
Mov Cap-2 Maneuver	-	-	- 875 -
Stage 1	-	-	- 949 -
Stage 2	-	-	- 975 -























Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1528	-	-	-	929
HCM Lane V/C Ratio	0.004	-	-	-	-0.002
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th Signalized Intersection Summary

1: La Cadena Dr & M St

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	6	6	36	7	63	0	498	33	65	426	13
Future Volume (veh/h)	22	6	6	36	7	63	0	498	33	65	426	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1772	1870	1870	1772	1870	1870
Adj Flow Rate, veh/h	24	7	7	39	8	68	0	541	36	71	463	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	45	199	275	34	199	6	1060	70	128	1941	59
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.00	0.31	0.31	0.08	0.55	0.55
Sat Flow, veh/h	224	354	1585	306	272	1585	1688	3382	225	1688	3522	106
Grp Volume(v), veh/h	31	0	7	47	0	68	0	284	293	71	233	244
Grp Sat Flow(s),veh/h/ln	579	0	1585	578	0	1585	1688	1777	1830	1688	1777	1851
Q Serve(g_s), s	0.1	0.0	0.1	0.4	0.0	1.1	0.0	3.6	3.6	1.1	1.9	1.9
Cycle Q Clear(g_c), s	2.8	0.0	0.1	3.0	0.0	1.1	0.0	3.6	3.6	1.1	1.9	1.9
Prop In Lane	0.77		1.00	0.83		1.00	1.00		0.12	1.00		0.06
Lane Grp Cap(c), veh/h	302	0	199	309	0	199	6	557	574	128	979	1020
V/C Ratio(X)	0.10	0.00	0.04	0.15	0.00	0.34	0.00	0.51	0.51	0.55	0.24	0.24
Avail Cap(c_a), veh/h	811	0	769	835	0	769	333	1756	1808	333	1756	1829
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	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	10.7	11.8	0.0	11.1	0.0	7.8	7.8	12.4	3.2	3.2
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.2	0.0	1.0	0.0	0.7	0.7	3.7	0.1	0.1
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	0.1	0.0	0.0	0.2	0.0	0.3	0.0	0.7	0.7	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.1	0.0	10.8	12.0	0.0	12.1	0.0	8.5	8.5	16.1	3.4	3.3
LnGrp LOS	B	A	B	B	A	B	A	A	A	B	A	A
Approach Vol, veh/h		38			115			577			548	
Approach Delay, s/veh		11.0			12.1			8.5			5.0	
Approach LOS		B			B			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	13.2		8.1	0.0	19.8		8.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),s	27.5			13.5	5.5	27.5		13.5				
Max Q Clear Time (g_c+l1),s	5.6			4.8	0.0	3.9		5.0				
Green Ext Time (p_c), s	0.0	3.1		0.0	0.0	2.5		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			7.4									
HCM 6th LOS			A									
Notes												
User approved pedestrian interval to be less than phase max green.												

Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	164	4	34	143	1	35
Future Vol, veh/h	164	4	34	143	1	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	-	65
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	178	4	37	155	1	38

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	182
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1393
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1393
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	9.5
HCM LOS			A

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	582	863	-	-	1393	-
HCM Lane V/C Ratio	0.002	0.044	-	-	0.027	-
HCM Control Delay (s)	11.2	9.4	-	-	7.7	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

HCM 6th Signalized Intersection Summary

3: Mt. Vernon Ave & M St

06/18/2019



Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	98	124	97	601	525	57
Future Volume (veh/h)	98	124	97	601	525	57
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1772	1870	1772	1870	1870	1870
Adj Flow Rate, veh/h	107	135	105	653	571	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	289	271	362	0	779	0
Arrive On Green	0.17	0.17	0.21	0.00	0.44	0.00
Sat Flow, veh/h	1688	1585	1688		1781	
Grp Volume(v), veh/h	107	135	105		571	
Grp Sat Flow(s),veh/h/ln	1688	1585	1688		1781	
Q Serve(g_s), s	1.3	1.8	1.2		6.1	
Cycle Q Clear(g_c), s	1.3	1.8	1.2		6.1	
Prop In Lane	1.00	1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	289	271	362		779	
V/C Ratio(X)	0.37	0.50	0.29		0.73	
Avail Cap(c_a), veh/h	917	862	1431		3447	
HCM Platoon Ratio	1.00	1.00	1.00		1.00	
Upstream Filter(l)	1.00	1.00	1.00		1.00	
Uniform Delay (d), s/veh	8.4	8.6	7.6		5.4	
Incr Delay (d2), s/veh	0.8	1.4	0.4		1.4	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.3		0.7	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.2	10.0	8.0		6.7	
LnGrp LOS	A	B	A		A	
Approach Vol, veh/h	242		105		571	
Approach Delay, s/veh	9.7		8.0		6.7	
Approach LOS	A		A		A	
Timer - Assigned Phs		2	3			7
Phs Duration (G+Y+Rc), s		8.4	14.6			9.4
Change Period (Y+Rc), s		4.5	4.5			4.5
Max Green Setting (Gmax), s		12.5	44.5			19.5
Max Q Clear Time (g_c+l1), s		3.8	8.1			3.2
Green Ext Time (p_c), s		0.5	2.0			0.2
Intersection Summary						
HCM 6th Ctrl Delay			7.6			
HCM 6th LOS			A			

Notes

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

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	SEL2	SEL	SER2	NEL	NET
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	3.4	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	26.8	22.6	3.5	6.4	7.2	3.0	1.0	7.9	8.6	5.5	4.4	1.9
Total Stops	2	2	14	4	2	1	4	1	5	2	0	26
Stop/Veh	1.00	1.00	0.93	1.00	1.00	1.00	1.00	1.00	0.83	1.00	0.00	0.07
Travel Dist (mi)	0.3	0.3	2.4	0.4	0.2	0.2	0.4	0.1	0.5	0.2	0.1	44.5
Travel Time (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
Vehicles Entered	2	2	15	4	2	1	4	1	5	2	1	354
Vehicles Exited	2	2	15	4	2	1	4	1	6	2	1	354
Hourly Exit Rate	2	2	15	4	2	1	4	1	6	2	1	354
Input Volume	4	2	14	5	2	1	3	1	5	2	2	355
% of Volume	50	100	107	80	100	100	133	100	120	100	50	100

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NER	SWL	SWT	SWR	SWR2	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	0.0	0.0	0.3	0.0	0.0	0.6
Total Del/Veh (s)	0.2	10.2	2.8	2.3	1.4	2.6
Total Stops	1	6	22	1	1	94
Stop/Veh	0.12	1.00	0.05	0.12	0.10	0.11
Travel Dist (mi)	0.9	1.8	109.8	2.1	2.7	167.1
Travel Time (hr)	0.0	0.1	2.9	0.1	0.1	4.6
Vehicles Entered	8	6	442	8	10	867
Vehicles Exited	8	6	442	8	10	868
Hourly Exit Rate	8	6	442	8	10	868
Input Volume	7	7	445	7	9	871
% of Volume	114	86	99	114	111	100

Intersection: 4: La Cadena Dr & 7th St & Maple St

Movement	NB	SE	NE	NE	SW	SW
Directions Served	<LTR	<LR>	T	R	TR>	>
Maximum Queue (ft)	13	23	71	7	50	5
Average Queue (ft)	2	4	9	0	6	0
95th Queue (ft)	8	17	39	5	29	3
Link Distance (ft)	816	508	639	639	1354	1354
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)			0		0	
Queuing Penalty (veh)			0		0	

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	3	35	35	3	1	0
Future Vol, veh/h	3	35	35	3	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage,-#	0	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	38	38	3	1	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	41	0	0 84 40
Stage 1	-	-	- 40 -
Stage 2	-	-	- 44 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1568	-	- 918 1031
Stage 1	-	-	- 982 -
Stage 2	-	-	- 978 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1568	-	- 916 1031
Mov Cap-2 Maneuver	-	-	- 916 -
Stage 1	-	-	- 980 -
Stage 2	-	-	- 978 -























Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1568	-	-	-	916
HCM Lane V/C Ratio	0.002	-	-	-	-0.001
HCM Control Delay (s)	7.3	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th Signalized Intersection Summary

1: La Cadena Dr & M St

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	10	3	61	4	94	3	1041	105	96	805	14
Future Volume (veh/h)	36	10	3	61	4	94	3	1041	105	96	805	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1772	1870	1870	1772	1870	1870
Adj Flow Rate, veh/h	39	11	3	66	4	102	3	1132	114	104	875	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	19	420	128	4	420	7	1338	135	131	1730	30
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.00	0.41	0.41	0.08	0.48	0.48
Sat Flow, veh/h	0	73	1585	0	16	1585	1688	3260	328	1688	3575	61
Grp Volume(v), veh/h	50	0	3	70	0	102	3	616	630	104	435	455
Grp Sat Flow(s),veh/h/ln	73	0	1585	16	0	1585	1688	1777	1811	1688	1777	1859
Q Serve(g_s), s	0.0	0.0	0.1	0.0	0.0	2.8	0.1	17.1	17.2	3.3	9.1	9.1
Cycle Q Clear(g_c), s	14.5	0.0	0.1	14.5	0.0	2.8	0.1	17.1	17.2	3.3	9.1	9.1
Prop In Lane	0.78		1.00	0.94		1.00	1.00		0.18	1.00		0.03
Lane Grp Cap(c), veh/h	136	0	420	132	0	420	7	729	743	131	860	900
V/C Ratio(X)	0.37	0.00	0.01	0.53	0.00	0.24	0.44	0.85	0.85	0.79	0.51	0.51
Avail Cap(c_a), veh/h	136	0	420	132	0	420	231	796	811	231	860	900
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	21.9	0.0	14.8	26.5	0.0	15.8	27.2	14.6	14.6	24.8	9.6	9.6
Incr Delay (d2), s/veh	1.6	0.0	0.0	4.0	0.0	0.3	38.1	7.8	7.8	10.2	0.5	0.5
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	0.7	0.0	0.0	1.0	0.0	0.9	0.1	6.7	6.8	1.5	2.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	0.0	14.8	30.5	0.0	16.1	65.3	22.4	22.4	35.0	10.1	10.1
LnGrp LOS	C	A	B	C	A	B	E	C	C	D	B	B
Approach Vol, veh/h		53			172			1249			994	
Approach Delay, s/veh		23.0			21.9			22.5			12.7	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	26.9		19.0	4.7	31.0		19.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),7s5	24.5			14.5	7.5	24.5		14.5				
Max Q Clear Time (g_c+l1)5s3	19.2			16.5	2.1	11.1		16.5				
Green Ext Time (p_c), s	0.0	3.2		0.0	0.0	4.3		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			18.5									
HCM 6th LOS			B									
Notes												
User approved pedestrian interval to be less than phase max green.												

Intersection

Int Delay, s/veh 2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	↔
Traffic Vol, veh/h	315	35	98	202	19	51
Future Vol, veh/h	315	35	98	202	19	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	-	65
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	342	38	107	220	21	55

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	380
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1178
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1178
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	12.4
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	320	684	-	-	1178	-
HCM Lane V/C Ratio	0.065	0.081	-	-	0.09	-
HCM Control Delay (s)	17	10.7	-	-	8.4	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0.3	-

HCM 6th Signalized Intersection Summary

3: Mt. Vernon Ave & M St

06/18/2019



Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	185	219	169	918	886	141
Future Volume (veh/h)	185	219	169	918	886	141
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1772	1870	1772	1870	1870	1870
Adj Flow Rate, veh/h	201	238	184	998	963	153
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	347	326	258	0	1074	0
Arrive On Green	0.21	0.21	0.15	0.00	0.60	0.00
Sat Flow, veh/h	1688	1585	1688		1781	
Grp Volume(v), veh/h	201	238	184		963	
Grp Sat Flow(s),veh/h/ln	1688	1585	1688		1781	
Q Serve(g_s), s	5.1	6.6	4.9		22.0	
Cycle Q Clear(g_c), s	5.1	6.6	4.9		22.0	
Prop In Lane	1.00	1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	347	326	258		1074	
V/C Ratio(X)	0.58	0.73	0.71		0.90	
Avail Cap(c_a), veh/h	735	691	556		2669	
HCM Platoon Ratio	1.00	1.00	1.00		1.00	
Upstream Filter(l)	1.00	1.00	1.00		1.00	
Uniform Delay (d), s/veh	16.8	17.5	19.0		8.1	
Incr Delay (d2), s/veh	1.5	3.1	3.7		3.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	
%ile BackOfQ(50%),veh/ln	1.7	2.2	1.9		5.2	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.4	20.6	22.6		11.0	
LnGrp LOS	B	C	C		B	
Approach Vol, veh/h	439		184		963	
Approach Delay, s/veh	19.6		22.6		11.0	
Approach LOS	B		C		B	
Timer - Assigned Phs		2	3			7
Phs Duration (G+Y+Rc), s		14.2	32.9			11.7
Change Period (Y+Rc), s		4.5	4.5			4.5
Max Green Setting (Gmax), s		20.5	70.5			15.5
Max Q Clear Time (g_c+l1), s		8.6	24.0			6.9
Green Ext Time (p_c), s		1.1	4.4			0.3
Intersection Summary						
HCM 6th Ctrl Delay			14.7			
HCM 6th LOS			B			

Notes

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

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	SEL2	SEL	SER2	NEL2	NEL
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	3.5	2.8
Total Delay (hr)	0.3	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
Total Del/Veh (s)	27.0	26.6	9.8	30.9	32.4	22.9	5.9	34.1	27.7	10.6	30.1	23.3
Total Stops	33	3	43	1	5	7	1	3	15	5	4	4
Stop/Veh	0.89	0.75	0.91	1.00	1.00	0.88	1.00	1.00	1.00	0.83	1.00	1.00
Travel Dist (mi)	5.7	0.6	7.5	0.1	0.6	0.8	0.2	0.3	1.5	0.5	0.6	0.5
Travel Time (hr)	0.5	0.1	0.5	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.0
Vehicles Entered	36	4	47	1	5	7	1	3	15	5	4	4
Vehicles Exited	36	4	47	1	5	7	1	3	15	6	4	4
Hourly Exit Rate	36	4	47	1	5	7	1	3	15	6	4	4
Input Volume	34	4	43	1	5	7	1	4	16	5	5	5
% of Volume	106	100	109	100	100	100	100	75	94	120	80	80

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NET	NER	SWL	SWT	SWR	SWR2	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.5	0.3	0.0	0.0	0.0	0.0	0.2
Total Delay (hr)	2.6	0.0	0.5	1.9	0.0	0.0	5.7
Total Del/Veh (s)	11.5	1.6	30.6	8.4	6.7	3.0	11.2
Total Stops	254	10	55	119	1	4	567
Stop/Veh	0.31	0.33	0.95	0.15	0.33	0.24	0.31
Travel Dist (mi)	101.2	3.6	16.0	208.1	0.9	4.7	353.4
Travel Time (hr)	5.0	0.1	0.9	6.6	0.0	0.1	14.4
Vehicles Entered	807	30	57	797	3	17	1843
Vehicles Exited	805	30	57	797	3	17	1842
Hourly Exit Rate	805	30	57	797	3	17	1842
Input Volume	801	25	52	800	3	14	1825
% of Volume	100	120	110	100	100	121	101

Intersection: 4: La Cadena Dr & 7th St & Maple St

Movement	NB	SB	SE	NE	NE	NE	SW	SW	SW
Directions Served	<LTR	LTR>	<LR>	<L	T	R	L	TR>	>
Maximum Queue (ft)	79	6	47	3	294	36	70	193	24
Average Queue (ft)	21	0	11	0	115	6	6	52	2
95th Queue (ft)	57	4	32	3	239	24	35	139	13
Link Distance (ft)	816	521	508		639	639		1354	1354
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				100			85		
Storage Blk Time (%)					8			2	
Queuing Penalty (veh)					1			1	

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↕	↕		↕	↕	
Traffic Vol, veh/h	5	56	4	17	107	2	2	0	9	1	0	1
Future Vol, veh/h	5	56	4	17	107	2	2	0	9	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	61	4	18	116	2	2	0	10	1	0	1

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	118	0	0	65
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	470	-	-	1537
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	470	-	-	1537
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1	8.9	9.5
HCM LOS			A	A

Minor Lane/Major Mvm	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)		935	1470	-	-	1537	-	806
HCM Lane V/C Ratio		0.013	0.004	-	-	0.012	-	0.003
HCM Control Delay (s)		8.9	7.5	-	-	7.4	-	9.5
HCM Lane LOS		A	A	-	-	A	-	A
HCM 95th %tile Q(veh)		0	0	-	-	0	-	0

Intersection						
Int Delay, s/veh	3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	42	22	43	67	11	22
Future Vol, veh/h	42	22	43	67	11	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	0
Veh in Median Storage#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	24	47	73	12	24

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	70	0	225 58
Stage 1	-	-	-	-	58 -
Stage 2	-	-	-	-	167 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-2.218	-	-3.518	3.318
Pot Cap-1 Maneuver	-	-	1531	-	763 1008
Stage 1	-	-	-	-	965 -
Stage 2	-	-	-	-	863 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1531	-	739 1008
Mov Cap-2 Maneuver	-	-	-	-	739 -
Stage 1	-	-	-	-	934 -
Stage 2	-	-	-	-	863 -























Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	9.1
HCM LOS			A

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	739	1008	-	-	1531	-
HCM Lane V/C Ratio	0.016	0.024	-	-	0.031	-
HCM Control Delay (s)	10	8.7	-	-	7.4	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

HCM 6th Signalized Intersection Summary

1: La Cadena Dr & M St

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	6	6	36	7	113	0	531	33	111	457	13
Future Volume (veh/h)	22	6	6	36	7	113	0	531	33	111	457	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1772	1870	1870	1772	1870	1870
Adj Flow Rate, veh/h	24	7	7	39	8	123	0	577	36	121	497	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	47	243	272	37	243	5	1036	65	175	1959	55
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.00	0.31	0.31	0.10	0.55	0.55
Sat Flow, veh/h	292	309	1585	384	238	1585	1688	3397	212	1688	3530	99
Grp Volume(v), veh/h	31	0	7	47	0	123	0	301	312	121	250	261
Grp Sat Flow(s),veh/h/ln	601	0	1585	623	0	1585	1688	1777	1832	1688	1777	1852
Q Serve(g_s), s	0.1	0.0	0.1	0.4	0.0	2.2	0.0	4.4	4.4	2.1	2.2	2.3
Cycle Q Clear(g_c), s	3.5	0.0	0.1	3.7	0.0	2.2	0.0	4.4	4.4	2.1	2.2	2.3
Prop In Lane	0.77		1.00	0.83		1.00	1.00		0.12	1.00		0.05
Lane Grp Cap(c), veh/h	299	0	243	309	0	243	5	542	559	175	986	1028
V/C Ratio(X)	0.10	0.00	0.03	0.15	0.00	0.51	0.00	0.56	0.56	0.69	0.25	0.25
Avail Cap(c_a), veh/h	862	0	899	914	0	899	301	1353	1395	301	1353	1411
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	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.4	0.0	11.1	12.5	0.0	12.0	0.0	9.0	9.0	13.3	3.6	3.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	1.6	0.0	0.9	0.9	4.8	0.1	0.1
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	0.1	0.0	0.0	0.2	0.0	0.6	0.0	1.0	1.0	0.8	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	0.0	11.2	12.7	0.0	13.6	0.0	9.9	9.9	18.1	3.7	3.7
LnGrp LOS	B	A	B	B	A	B	A	A	A	B	A	A
Approach Vol, veh/h		38			170			613			632	
Approach Delay, s/veh		11.5			13.4			9.9			6.4	
Approach LOS		B			B			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	13.9		9.4	0.0	21.7		9.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),s	5	23.5		17.5	5.5	23.5		17.5				
Max Q Clear Time (g_c+l1),s	4	6.4		5.5	0.0	4.3		5.7				
Green Ext Time (p_c), s	0.0	3.1		0.1	0.0	2.6		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			8.8									
HCM 6th LOS			A									
Notes												
User approved pedestrian interval to be less than phase max green.												

Intersection						
Int Delay, s/veh	4.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	164	50	96	143	51	102
Future Vol, veh/h	164	50	96	143	51	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	-	65
Veh in Median Storage#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	178	54	104	155	55	111

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	232
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1336
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1336
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.2	11.4
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	443	836	-	-	1336	-
HCM Lane V/C Ratio	0.125	0.133	-	-	0.078	-
HCM Control Delay (s)	14.3	10	-	-	7.9	0
HCM Lane LOS	B	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	0.5	-	-	0.3	-

HCM 6th Signalized Intersection Summary

3: Mt. Vernon Ave & M St

06/18/2019



Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	140	149	120	601	525	95
Future Volume (veh/h)	140	149	120	601	525	95
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1772	1870	1772	1870	1870	1870
Adj Flow Rate, veh/h	152	162	130	653	571	103
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	312	293	354	0	773	0
Arrive On Green	0.18	0.18	0.21	0.00	0.43	0.00
Sat Flow, veh/h	1688	1585	1688		1781	
Grp Volume(v), veh/h	152	162	130		571	
Grp Sat Flow(s),veh/h/ln	1688	1585	1688		1781	
Q Serve(g_s), s	1.9	2.2	1.6		6.3	
Cycle Q Clear(g_c), s	1.9	2.2	1.6		6.3	
Prop In Lane	1.00	1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	312	293	354		773	
V/C Ratio(X)	0.49	0.55	0.37		0.74	
Avail Cap(c_a), veh/h	1250	1175	1250		3130	
HCM Platoon Ratio	1.00	1.00	1.00		1.00	
Upstream Filter(l)	1.00	1.00	1.00		1.00	
Uniform Delay (d), s/veh	8.6	8.7	8.0		5.6	
Incr Delay (d2), s/veh	1.2	1.6	0.6		1.4	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	
%ile BackOfQ(50%),veh/ln	0.4	0.5	0.4		0.8	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.8	10.4	8.6		7.0	
LnGrp LOS	A	B	A		A	
Approach Vol, veh/h	314		130		571	
Approach Delay, s/veh	10.1		8.6		7.0	
Approach LOS	B		A		A	
Timer - Assigned Phs		2	3			7
Phs Duration (G+Y+Rc), s		8.9	14.8			9.4
Change Period (Y+Rc), s		4.5	4.5			4.5
Max Green Setting (Gmax), s		17.5	41.5			17.5
Max Q Clear Time (g_c+l1), s		4.2	8.3			3.6
Green Ext Time (p_c), s		0.8	1.9			0.3
Intersection Summary						
HCM 6th Ctrl Delay			8.1			
HCM 6th LOS			A			

Notes

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

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	SEL2	SEL	SER2	NEL	NET
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.1	0.1	0.1	0.1	0.1		0.1	0.1	3.1	0.2
Total Delay (hr)	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Total Del/Veh (s)	21.3	18.0	4.6	10.2	9.1	7.1	1.8		14.0	4.5	12.9	4.4
Total Stops	10	2	54	4	2	1	4	0	5	2	1	66
Stop/Veh	0.91	1.00	0.93	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.19
Travel Dist (mi)	1.8	0.3	9.1	0.5	0.2	0.1	0.5	0.0	0.5	0.2	0.1	44.2
Travel Time (hr)	0.1	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
Vehicles Entered	11	2	57	4	2	1	4	0	5	2	1	352
Vehicles Exited	11	2	57	4	2	1	4	0	5	2	1	352
Hourly Exit Rate	11	2	57	4	2	1	4	0	5	2	1	352
Input Volume	12	2	56	5	2	1	3	1	5	2	2	355
% of Volume	92	100	102	80	100	100	133	0	100	100	50	99

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NER	SWL	SWT	SWR	SWR2	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	0.0	0.1	0.5	0.0	0.0	1.3
Total Del/Veh (s)	1.1	11.7	4.0	3.7	2.3	4.8
Total Stops	5	39	38	1	3	237
Stop/Veh	0.31	0.89	0.09	0.17	0.30	0.25
Travel Dist (mi)	2.0	12.0	108.5	1.5	2.8	184.2
Travel Time (hr)	0.1	0.5	3.0	0.0	0.1	5.9
Vehicles Entered	16	43	432	6	10	948
Vehicles Exited	16	43	434	6	10	950
Hourly Exit Rate	16	43	434	6	10	950
Input Volume	15	45	438	7	9	960
% of Volume	107	96	99	86	111	99

Intersection: 4: La Cadena Dr & 7th St & Maple St

Movement	NB	SB	SE	NE	NE	SW	SW	SW
Directions Served	<LTR LTR>	<LR>	T	R	L	TR>	>	
Maximum Queue (ft)	49	0	17	78	21	12	60	11
Average Queue (ft)	11	0	3	22	3	1	9	1
95th Queue (ft)	34	0	14	59	14	6	36	7
Link Distance (ft)	816	521	508	639	639		1354	1354
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						85		
Storage Blk Time (%)				0			0	
Queuing Penalty (veh)				0			0	

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↕			↕		
Traffic Vol, veh/h	3	118	8	31	112	3	8	0	33	1	0	0
Future Vol, veh/h	3	118	8	31	112	3	8	0	33	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	128	9	34	122	3	9	0	36	1	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	125	0	0	137
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	462	-	-	1447
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	462	-	-	1447
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	1.6	9.6	11.3
HCM LOS			A	B

Minor Lane/Major Mvm	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)		834	1462	-	-	1447	-	571
HCM Lane V/C Ratio		0.053	0.002	-	-	0.023	-	0.002
HCM Control Delay (s)		9.6	7.5	-	-	7.5	-	11.3
HCM Lane LOS		A	A	-	-	A	-	B
HCM 95th %tile Q(veh)		0.2	0	-	-	0.1	-	0

Intersection

Int Delay, s/veh 5.4

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	46	38	77	43	42	83
Future Vol, veh/h	46	38	77	43	42	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	0
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	41	84	47	46	90

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	91	0	286	71
Stage 1	-	-	-	-	71	-
Stage 2	-	-	-	-	215	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-2.218		-3.518	3.318	
Pot Cap-1 Maneuver	-	-	1504	-	704	991
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1504	-	664	991
Mov Cap-2 Maneuver	-	-	-	-	664	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	821	-

Approach EB WB NB

HCM Control Delay, s	0	4.8	9.6
HCM LOS			A

Minor Lane/Major Mvm NBLn1 NBLn2 EBT EBR WBL WBT























Capacity (veh/h)	664	991	-	-	1504	-
HCM Lane V/C Ratio	0.069	0.091	-	-	0.056	-
HCM Control Delay (s)	10.8	9	-	-	7.5	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0.2	-

Appendix D – ICU Spreadsheets and Synchro Reports – Long Term (2041)

HCM 6th Signalized Intersection Summary

1: La Cadena Dr & M St

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	12	4	74	5	99	4	1270	128	85	971	17
Future Volume (veh/h)	44	12	4	74	5	99	4	1270	128	85	971	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1772	1870	1870	1772	1870	1870
Adj Flow Rate, veh/h	48	13	4	80	5	108	4	1380	139	92	1055	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	18	370	121	4	370	9	1517	152	115	1888	32
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.01	0.47	0.47	0.07	0.53	0.53
Sat Flow, veh/h	0	75	1585	0	17	1585	1688	3262	327	1688	3575	61
Grp Volume(v), veh/h	61	0	4	85	0	108	4	748	771	92	524	549
Grp Sat Flow(s),veh/h/ln	75	0	1585	17	0	1585	1688	1777	1812	1688	1777	1859
Q Serve(g_s), s	0.0	0.0	0.1	0.0	0.0	3.2	0.1	22.5	22.9	3.1	11.4	11.4
Cycle Q Clear(g_c), s	13.5	0.0	0.1	13.5	0.0	3.2	0.1	22.5	22.9	3.1	11.4	11.4
Prop In Lane	0.79		1.00	0.94		1.00	1.00		0.18	1.00		0.03
Lane Grp Cap(c), veh/h	129	0	370	125	0	370	9	826	843	115	938	982
V/C Ratio(X)	0.47	0.00	0.01	0.68	0.00	0.29	0.44	0.91	0.91	0.80	0.56	0.56
Avail Cap(c_a), veh/h	129	0	370	125	0	370	160	844	861	160	938	982
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	25.1	0.0	17.0	28.3	0.0	18.2	28.7	14.3	14.4	26.6	9.1	9.1
Incr Delay (d2), s/veh	2.7	0.0	0.0	14.0	0.0	0.4	30.1	13.1	14.0	17.3	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	1.6	0.0	1.1	0.1	9.5	10.0	1.7	3.2	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	0.0	17.1	42.3	0.0	18.7	58.8	27.4	28.4	43.8	9.9	9.9
LnGrp LOS	C	A	B	D	A	B	E	C	C	D	A	A
Approach Vol, veh/h		65			193			1523			1165	
Approach Delay, s/veh		27.2			29.1			28.0			12.6	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	31.4		18.0	4.8	35.0		18.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),s	27.5			13.5	5.5	27.5		13.5				
Max Q Clear Time (g_c+l1),s	24.9			15.5	2.1	13.4		15.5				
Green Ext Time (p_c), s	0.0	2.0		0.0	0.0	5.4		0.0				

Intersection Summary

HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

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

Intersection						
Int Delay, s/veh	1.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	387	11	77	250	7	40
Future Vol, veh/h	387	11	77	250	7	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	-	65
Veh in Median Storage#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	421	12	84	272	8	43

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	433	0	867
Stage 1	-	-	-	-	427
Stage 2	-	-	-	-	440
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-2.218	-	-3.518	3.318
Pot Cap-1 Maneuver	-	-	1127	-	323
Stage 1	-	-	-	-	658
Stage 2	-	-	-	-	649
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1127	-	295
Mov Cap-2 Maneuver	-	-	-	-	295
Stage 1	-	-	-	-	600
Stage 2	-	-	-	-	649

Approach	EB	WB	NB
HCM Control Delay, s	0	2	12.1
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	295	628	-	-	1127	-
HCM Lane V/C Ratio	0.026	0.069	-	-	0.074	-
HCM Control Delay (s)	17.5	11.2	-	-	8.4	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.2	-

HCM 6th Signalized Intersection Summary

3: Mt. Vernon Ave & M St

06/18/2019



Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	214	259	190	1121	1081	148
Future Volume (veh/h)	214	259	190	1121	1081	148
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1772	1870	1772	1870	1870	1870
Adj Flow Rate, veh/h	233	282	207	1218	1175	161
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	344	323	245	0	1229	0
Arrive On Green	0.20	0.20	0.15	0.00	0.69	0.00
Sat Flow, veh/h	1688	1585	1688		1781	
Grp Volume(v), veh/h	233	282	207		1175	
Grp Sat Flow(s),veh/h/ln	1688	1585	1688		1781	
Q Serve(g_s), s	10.8	14.6	10.1		50.9	
Cycle Q Clear(g_c), s	10.8	14.6	10.1		50.9	
Prop In Lane	1.00	1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	344	323	245		1229	
V/C Ratio(X)	0.68	0.87	0.84		0.96	
Avail Cap(c_a), veh/h	408	383	309		1482	
HCM Platoon Ratio	1.00	1.00	1.00		1.00	
Upstream Filter(l)	1.00	1.00	1.00		1.00	
Uniform Delay (d), s/veh	31.1	32.6	35.3		12.0	
Incr Delay (d2), s/veh	3.5	17.1	15.8		13.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	
%ile BackOfQ(50%),veh/ln	4.5	6.8	5.1		18.9	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.6	49.7	51.0		25.0	
LnGrp LOS	C	D	D		C	
Approach Vol, veh/h	515		207		1175	
Approach Delay, s/veh	42.9		51.0		25.0	
Approach LOS	D		D		C	
Timer - Assigned Phs		2	3			7
Phs Duration (G+Y+Rc), s		21.8	62.9			16.8
Change Period (Y+Rc), s		4.5	4.5			4.5
Max Green Setting (Gmax), s		20.5	70.5			15.5
Max Q Clear Time (g_c+l1), s		16.6	52.9			12.1
Green Ext Time (p_c), s		0.7	5.5			0.2
Intersection Summary						
HCM 6th Ctrl Delay			32.7			
HCM 6th LOS			C			

Notes

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

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	SEL2	SEL	SER2	NEL2	NEL
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	4.1	3.8
Total Delay (hr)	0.3	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.1
Total Del/Veh (s)	30.5	27.4	11.4	14.5	27.0	27.9	3.4	31.3	32.8	18.0	45.1	53.9
Total Stops	34	4	38	0	6	8	2	4	24	7	5	7
Stop/Veh	0.89	0.80	0.93	0.00	0.86	0.89	1.00	1.00	1.00	1.00	1.25	1.40
Travel Dist (mi)	6.0	0.8	6.4	0.1	0.7	0.9	0.2	0.4	2.4	0.7	0.6	0.7
Travel Time (hr)	0.6	0.1	0.4	0.0	0.1	0.1	0.0	0.1	0.3	0.1	0.1	0.1
Vehicles Entered	37	5	40	1	6	8	2	4	24	7	4	5
Vehicles Exited	37	5	40	0	6	8	2	4	24	7	4	5
Hourly Exit Rate	37	5	40	0	6	8	2	4	24	7	4	5
Input Volume	39	5	39	1	6	9	1	5	20	6	6	6
% of Volume	95	100	103	0	100	89	200	80	120	117	67	83

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NET	NER	SWL	SWT	SWR	SWR2	All
Denied Delay (hr)	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Denied Del/Veh (s)	1.5	1.6	0.0	0.0	0.0	0.0	0.7
Total Delay (hr)	6.2	0.0	0.3	3.1	0.0	0.0	10.7
Total Del/Veh (s)	22.5	2.3	32.6	11.5	8.7	3.2	17.6
Total Stops	560	7	36	196	0	3	941
Stop/Veh	0.56	0.28	1.00	0.20	0.00	0.21	0.43
Travel Dist (mi)	123.8	3.1	10.0	252.3	0.9	3.8	413.8
Travel Time (hr)	9.4	0.1	0.6	8.9	0.0	0.1	21.1
Vehicles Entered	987	25	36	970	3	14	2178
Vehicles Exited	987	25	36	969	3	14	2176
Hourly Exit Rate	987	25	36	969	3	14	2176
Input Volume	988	26	37	991	4	17	2206
% of Volume	100	96	97	98	75	82	99

Intersection: 4: La Cadena Dr & 7th St & Maple St

Movement	NB	SB	SE	NE	NE	NE	SW	SW	SW
Directions Served	<LTR	LTR>	<LR>	<L	T	R	L	TR>	>
Maximum Queue (ft)	87	7	55	76	620	467	92	283	23
Average Queue (ft)	24	0	18	4	259	55	6	91	2
95th Queue (ft)	62	4	44	41	577	343	45	226	11
Link Distance (ft)	816	521	508		639	639		1354	1354
Upstream Blk Time (%)					5	3			
Queuing Penalty (veh)					0	0			
Storage Bay Dist (ft)				100			85		
Storage Blk Time (%)					18			6	
Queuing Penalty (veh)					2			2	

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	6	41	78	2	1	1
Future Vol, veh/h	6	41	78	2	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	45	85	2	1	1

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	87	0	0 145 86
Stage 1	-	-	- 86 -
Stage 2	-	-	- 59 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1509	-	- 847 973
Stage 1	-	-	- 937 -
Stage 2	-	-	- 964 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1509	-	- 843 973
Mov Cap-2 Maneuver	-	-	- 843 -
Stage 1	-	-	- 932 -
Stage 2	-	-	- 964 -























Approach	EB	WB	SB
HCM Control Delay, s	9	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1509	-	-	-	903
HCM Lane V/C Ratio	0.004	-	-	-	-0.002
HCM Control Delay (s)	7.4	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th Signalized Intersection Summary

1: La Cadena Dr & M St

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	7	7	44	9	77	0	613	40	79	526	16
Future Volume (veh/h)	27	7	7	44	9	77	0	613	40	79	526	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1772	1870	1870	1772	1870	1870
Adj Flow Rate, veh/h	29	8	8	48	10	84	0	666	43	86	572	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	31	356	198	25	356	5	1094	71	133	1854	55
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.00	0.32	0.32	0.08	0.53	0.53
Sat Flow, veh/h	42	138	1585	69	110	1585	1688	3389	219	1688	3524	105
Grp Volume(v), veh/h	37	0	8	58	0	84	0	349	360	86	288	301
Grp Sat Flow(s),veh/h/ln	180	0	1585	180	0	1585	1688	1777	1831	1688	1777	1852
Q Serve(g_s), s	0.2	0.0	0.1	0.5	0.0	1.6	0.0	6.0	6.0	1.8	3.3	3.3
Cycle Q Clear(g_c), s	8.0	0.0	0.1	8.1	0.0	1.6	0.0	6.0	6.0	1.8	3.3	3.3
Prop In Lane	0.78		1.00	0.83		1.00	1.00		0.12	1.00		0.06
Lane Grp Cap(c), veh/h	218	0	356	223	0	356	5	573	591	133	935	974
V/C Ratio(X)	0.17	0.00	0.02	0.26	0.00	0.24	0.00	0.61	0.61	0.65	0.31	0.31
Avail Cap(c_a), veh/h	426	0	592	440	0	592	257	1353	1394	257	1353	1410
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	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.0	0.0	10.9	15.0	0.0	11.5	0.0	10.3	10.3	16.1	4.8	4.8
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.6	0.0	0.3	0.0	1.0	1.0	5.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.4	0.0	0.4	0.0	1.6	1.6	0.7	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	0.0	10.9	15.7	0.0	11.8	0.0	11.4	11.3	21.3	5.0	5.0
LnGrp LOS	B	A	B	B	A	B	A	B	B	C	A	A
Approach Vol, veh/h		45			142			709			675	
Approach Delay, s/veh		12.1			13.4			11.3			7.1	
Approach LOS		B			B			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	16.2		12.9	0.0	23.6		12.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),s	27.5			13.5	5.5	27.5		13.5				
Max Q Clear Time (g_c+l1),s	8.0			10.0	0.0	5.3		10.1				
Green Ext Time (p_c), s	0.0	3.8		0.0	0.0	3.2		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			9.7									
HCM 6th LOS			A									
Notes												
User approved pedestrian interval to be less than phase max green.												

Intersection

Int Delay, s/veh 1.6

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	203	5	41	177	1	43
Future Vol, veh/h	203	5	41	177	1	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	-	65
Veh in Median Storage#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	221	5	45	192	1	47

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	226	0	506	224
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	282	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-2.218	-	-3.518	3.318
Pot Cap-1 Maneuver	-	-	1342	-	526	815
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	766	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1342	-	506	815
Mov Cap-2 Maneuver	-	-	-	-	506	-
Stage 1	-	-	-	-	782	-
Stage 2	-	-	-	-	766	-

Approach EB WB NB

HCM Control Delay, s 0 1.5 9.8
HCM LOS A

Minor Lane/Major Mvm NBLn1 NBLn2 EBT EBR WBL WBT

Capacity (veh/h)	506	815	-	-	1342	-
HCM Lane V/C Ratio	0.002	0.057	-	-	0.033	-
HCM Control Delay (s)	12.1	9.7	-	-	7.8	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0.2	-	-	0.1	-

HCM 6th Signalized Intersection Summary

3: Mt. Vernon Ave & M St

06/18/2019



Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	121	153	118	735	641	71
Future Volume (veh/h)	121	153	118	735	641	71
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1772	1870	1772	1870	1870	1870
Adj Flow Rate, veh/h	132	166	128	799	697	77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	289	272	313	0	881	0
Arrive On Green	0.17	0.17	0.19	0.00	0.49	0.00
Sat Flow, veh/h	1688	1585	1688		1781	
Grp Volume(v), veh/h	132	166	128		697	
Grp Sat Flow(s),veh/h/ln	1688	1585	1688		1781	
Q Serve(g_s), s	1.9	2.6	1.8		8.8	
Cycle Q Clear(g_c), s	1.9	2.6	1.8		8.8	
Prop In Lane	1.00	1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	289	272	313		881	
V/C Ratio(X)	0.46	0.61	0.41		0.79	
Avail Cap(c_a), veh/h	783	736	1222		2944	
HCM Platoon Ratio	1.00	1.00	1.00		1.00	
Upstream Filter(l)	1.00	1.00	1.00		1.00	
Uniform Delay (d), s/veh	10.0	10.3	9.7		5.7	
Incr Delay (d2), s/veh	1.1	2.2	0.9		1.6	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	
%ile BackOfQ(50%),veh/ln	0.5	0.7	0.5		1.2	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.2	12.5	10.5		7.3	
LnGrp LOS	B	B	B		A	
Approach Vol, veh/h	298		128		697	
Approach Delay, s/veh	11.9		10.5		7.3	
Approach LOS	B		B		A	
Timer - Assigned Phs		2	3			7
Phs Duration (G+Y+Rc), s		9.1	17.8			9.5
Change Period (Y+Rc), s		4.5	4.5			4.5
Max Green Setting (Gmax), s		12.5	44.5			19.5
Max Q Clear Time (g_c+l1), s		4.6	10.8			3.8
Green Ext Time (p_c), s		0.6	2.6			0.3
Intersection Summary						
HCM 6th Ctrl Delay			8.9			
HCM 6th LOS			A			

Notes

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

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	SEL2	SEL	SER2	NEL	NET
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.2	0.1	0.1		0.1	0.1	3.8	0.3
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Total Del/Veh (s)	25.7	22.6	3.8	7.8	10.2	6.2	1.2		9.4	4.8	10.6	2.6
Total Stops	5	1	17	5	2	1	4	0	6	2	1	42
Stop/Veh	1.00	0.50	0.94	0.83	1.00	1.00	0.80		1.00	1.00	1.00	0.10
Travel Dist (mi)	0.8	0.2	2.8	0.6	0.3	0.1	0.5	0.0	0.6	0.2	0.1	53.1
Travel Time (hr)	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Vehicles Entered	5	2	18	6	2	1	5	0	6	2	1	424
Vehicles Exited	5	2	17	6	2	1	5	0	6	2	1	423
Hourly Exit Rate	5	2	17	6	2	1	5	0	6	2	1	423
Input Volume	5	2	17	6	2	1	4	1	6	2	2	438
% of Volume	100	100	100	100	100	100	125	0	100	100	50	97

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NER	SWL	SWT	SWR	SWR2	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	0.0	0.0	0.6	0.0	0.0	1.0
Total Del/Veh (s)	0.6	10.9	3.6	2.3	1.7	3.4
Total Stops	2	9	33	1	1	132
Stop/Veh	0.20	0.90	0.06	0.11	0.08	0.12
Travel Dist (mi)	1.2	2.6	138.4	2.4	3.5	207.6
Travel Time (hr)	0.0	0.1	3.7	0.1	0.1	6.0
Vehicles Entered	10	9	556	9	13	1069
Vehicles Exited	10	10	557	9	13	1069
Hourly Exit Rate	10	10	557	9	13	1069
Input Volume	9	9	548	9	11	1072
% of Volume	111	111	102	100	118	100

Intersection: 4: La Cadena Dr & 7th St & Maple St

Movement	NB	SB	SE	NE	NE	SW	SW	SW
Directions Served	<LTR LTR>	<LR>	T	R	L	TR>	>	
Maximum Queue (ft)	16	1	17	95	15	0	66	8
Average Queue (ft)	3	0	4	16	1	0	9	0
95th Queue (ft)	11	0	16	54	7	0	38	4
Link Distance (ft)	816	521	508	639	639		1354	1354
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						85		
Storage Blk Time (%)				0			0	
Queuing Penalty (veh)				0			0	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	
Traffic Vol, veh/h	4	43	43	4	1	0
Future Vol, veh/h	4	43	43	4	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	47	47	4	1	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	51	0	0 104 49
Stage 1	-	-	- 49 -
Stage 2	-	-	- 55 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1555	-	- 894 1020
Stage 1	-	-	- 973 -
Stage 2	-	-	- 968 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1555	-	- 891 1020
Mov Cap-2 Maneuver	-	-	- 891 -
Stage 1	-	-	- 970 -
Stage 2	-	-	- 968 -























Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1555	-	-	-	891
HCM Lane V/C Ratio	0.003	-	-	-	-0.001
HCM Control Delay (s)	7.3	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th Signalized Intersection Summary

1: La Cadena Dr & M St

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	12	4	74	5	112	4	1279	128	111	988	17
Future Volume (veh/h)	44	12	4	74	5	112	4	1279	128	111	988	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1772	1870	1870	1772	1870	1870
Adj Flow Rate, veh/h	48	13	4	80	5	122	4	1390	139	121	1074	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	18	398	121	4	398	9	1386	138	152	1822	31
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.01	0.42	0.42	0.09	0.51	0.51
Sat Flow, veh/h	0	70	1585	0	16	1585	1688	3264	325	1688	3576	60
Grp Volume(v), veh/h	61	0	4	85	0	122	4	753	776	121	534	558
Grp Sat Flow(s),veh/h/ln	70	0	1585	16	0	1585	1688	1777	1812	1688	1777	1860
Q Serve(g_s), s	0.0	0.0	0.1	0.0	0.0	3.6	0.1	24.4	24.5	4.1	12.1	12.2
Cycle Q Clear(g_c), s	14.5	0.0	0.1	14.5	0.0	3.6	0.1	24.4	24.5	4.1	12.1	12.2
Prop In Lane	0.79		1.00	0.94		1.00	1.00		0.18	1.00		0.03
Lane Grp Cap(c), veh/h	129	0	398	125	0	398	9	754	769	152	905	947
V/C Ratio(X)	0.47	0.00	0.01	0.68	0.00	0.31	0.44	1.00	1.01	0.79	0.59	0.59
Avail Cap(c_a), veh/h	129	0	398	125	0	398	219	754	769	219	905	947
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	24.8	0.0	16.2	28.2	0.0	17.5	28.6	16.6	16.6	25.7	9.9	9.9
Incr Delay (d2), s/veh	2.7	0.0	0.0	13.8	0.0	0.4	30.1	32.4	34.6	11.9	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	1.6	0.0	1.2	0.1	14.2	15.0	1.9	3.5	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	0.0	16.2	42.0	0.0	18.0	58.7	48.9	51.2	37.7	10.9	10.9
LnGrp LOS	C	A	B	D	A	B	E	D	F	D	B	B
Approach Vol, veh/h		65			207			1533			1213	
Approach Delay, s/veh		26.7			27.8			50.1			13.6	
Approach LOS		C			C			D			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	29.0		19.0	4.8	33.9		19.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),7s5	24.5			14.5	7.5	24.5		14.5				
Max Q Clear Time (g_c+l1)6s1	26.5			16.5	2.1	14.2		16.5				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	4.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			33.4									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												

Intersection

Int Delay, s/veh 2.4

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	387	37	112	250	20	58
Future Vol, veh/h	387	37	112	250	20	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	-	65
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	421	40	122	272	22	63

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	461	0	957	441
Stage 1	-	-	-	-	441	-
Stage 2	-	-	-	-	516	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-2.218		-3.518	3.318	
Pot Cap-1 Maneuver	-	-	1100	-	286	616
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	599	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1100	-	249	616
Mov Cap-2 Maneuver	-	-	-	-	249	-
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	599	-

Approach EB WB NB

HCM Control Delay, s	0	2.7	13.9
HCM LOS			B

Minor Lane/Major Mvm NBLn1 NBLn2 EBT EBR WBL WBT

Capacity (veh/h)	249	616	-	-	1100	-
HCM Lane V/C Ratio	0.087	0.102	-	-	0.111	-
HCM Control Delay (s)	20.8	11.5	-	-	8.7	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	0.3	-	-	0.4	-

HCM 6th Signalized Intersection Summary

3: Mt. Vernon Ave & M St

06/18/2019



Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	225	266	203	1121	1081	170
Future Volume (veh/h)	225	266	203	1121	1081	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1772	1870	1772	1870	1870	1870
Adj Flow Rate, veh/h	245	289	221	1218	1175	185
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	350	328	258	0	1227	0
Arrive On Green	0.21	0.21	0.15	0.00	0.69	0.00
Sat Flow, veh/h	1688	1585	1688		1781	
Grp Volume(v), veh/h	245	289	221		1175	
Grp Sat Flow(s),veh/h/ln	1688	1585	1688		1781	
Q Serve(g_s), s	11.6	15.3	11.0		52.1	
Cycle Q Clear(g_c), s	11.6	15.3	11.0		52.1	
Prop In Lane	1.00	1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	350	328	258		1227	
V/C Ratio(X)	0.70	0.88	0.86		0.96	
Avail Cap(c_a), veh/h	401	376	303		1454	
HCM Platoon Ratio	1.00	1.00	1.00		1.00	
Upstream Filter(l)	1.00	1.00	1.00		1.00	
Uniform Delay (d), s/veh	31.7	33.2	35.7		12.3	
Incr Delay (d2), s/veh	4.6	18.9	18.8		13.6	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	
%ile BackOfQ(50%),veh/ln	4.9	7.3	5.7		19.7	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.3	52.1	54.5		25.9	
LnGrp LOS	D	D	D		C	
Approach Vol, veh/h	534		221		1175	
Approach Delay, s/veh	44.9		54.5		25.9	
Approach LOS	D		D		C	
Timer - Assigned Phs		2	3			7
Phs Duration (G+Y+Rc), s		22.4	64.0			17.7
Change Period (Y+Rc), s		4.5	4.5			4.5
Max Green Setting (Gmax), s		20.5	70.5			15.5
Max Q Clear Time (g_c+l1), s		17.3	54.1			13.0
Green Ext Time (p_c), s		0.6	5.3			0.1
Intersection Summary						
HCM 6th Ctrl Delay			34.4			
HCM 6th LOS			C			

Notes

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

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	SEL2	SEL	SER2	NEL2	NEL
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.2		0.1	0.1	0.1	0.1	0.1	0.1	4.1	3.2
Total Delay (hr)	0.3	0.1	0.2	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.1
Total Del/Veh (s)	31.7	37.8	12.6		33.6	34.6	5.1	37.6	32.8	13.9	43.5	50.2
Total Stops	34	5	47	0	6	10	2	4	22	6	5	7
Stop/Veh	0.92	1.00	0.92		1.00	1.00	1.00	1.00	0.96	0.86	1.00	1.40
Travel Dist (mi)	5.8	0.8	8.0	0.1	0.7	1.1	0.2	0.4	2.3	0.6	0.6	0.6
Travel Time (hr)	0.6	0.1	0.5	0.0	0.1	0.1	0.0	0.1	0.3	0.1	0.1	0.1
Vehicles Entered	37	5	50	0	6	10	2	4	23	6	5	5
Vehicles Exited	36	5	50	0	6	10	2	4	23	6	4	5
Hourly Exit Rate	36	5	50	0	6	10	2	4	23	6	4	5
Input Volume	41	5	50	1	6	9	1	5	20	6	6	6
% of Volume	88	100	100	0	100	111	200	80	115	100	67	83

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NET	NER	SWL	SWT	SWR	SWR2	All
Denied Delay (hr)	0.8	0.0	0.0	0.0	0.0	0.0	0.8
Denied Del/Veh (s)	2.9	2.8	0.0	0.0	0.0	0.0	1.3
Total Delay (hr)	8.1	0.0	0.7	3.2	0.0	0.0	13.1
Total Del/Veh (s)	29.3	3.2	40.9	11.6	11.6	3.7	21.1
Total Stops	695	12	64	193	1	4	1117
Stop/Veh	0.70	0.39	1.00	0.20	0.20	0.22	0.50
Travel Dist (mi)	122.9	3.8	17.5	251.3	1.4	4.8	422.9
Travel Time (hr)	11.6	0.2	1.2	8.9	0.1	0.1	24.1
Vehicles Entered	983	31	62	966	5	18	2218
Vehicles Exited	979	31	62	966	5	18	2212
Hourly Exit Rate	979	31	62	966	5	18	2212
Input Volume	988	30	59	986	4	17	2240
% of Volume	99	103	105	98	125	106	99

Intersection: 4: La Cadena Dr & 7th St & Maple St

Movement	NB	SB	SE	NE	NE	NE	SW	SW	SW
Directions Served	<LTR	LTR>	<LR>	<L	T	R	L	TR>	>
Maximum Queue (ft)	94	5	54	95	647	659	94	303	23
Average Queue (ft)	28	0	16	5	316	103	13	93	2
95th Queue (ft)	71	3	39	47	670	485	62	222	12
Link Distance (ft)	816	521	508		639	639		1354	1354
Upstream Blk Time (%)					10	6			
Queuing Penalty (veh)					0	0			
Storage Bay Dist (ft)				100			85		
Storage Blk Time (%)					24		0	5	
Queuing Penalty (veh)					3		1	3	

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↕	↕		↕	↕	
Traffic Vol, veh/h	6	63	4	17	121	2	2	0	9	1	0	1
Future Vol, veh/h	6	63	4	17	121	2	2	0	9	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	68	4	18	132	2	2	0	10	1	0	1

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	134	0	0	72
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	451	-	-	1528
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	451	-	-	1528
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.9	9	9.6
HCM LOS			A	A

Minor Lane/Major Mvm	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)		919	1451	-	-	1528	-	781
HCM Lane V/C Ratio		0.013	0.004	-	-	0.012	-	0.003
HCM Control Delay (s)		9	7.5	-	-	7.4	-	9.6
HCM Lane LOS		A	A	-	-	A	-	A
HCM 95th %tile Q(veh)		0	0	-	-	0	-	0

Intersection

Int Delay, s/veh 2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	50	22	43	81	11	22
Future Vol, veh/h	50	22	43	81	11	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	24	47	88	12	24

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	78
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1520
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1520
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-























Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	9.2
HCM LOS			A

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	716	998	-	-	1520	-
HCM Lane V/C Ratio	0.017	0.024	-	-	0.031	-
HCM Control Delay (s)	10.1	8.7	-	-	7.4	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-

HCM 6th Signalized Intersection Summary

1: La Cadena Dr & M St

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	7	7	44	9	127	0	646	40	125	557	16
Future Volume (veh/h)	27	7	7	44	9	127	0	646	40	125	557	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1772	1870	1870	1772	1870	1870
Adj Flow Rate, veh/h	29	8	8	48	10	138	0	702	43	136	605	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	32	420	199	27	420	4	1050	64	164	1821	51
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.00	0.31	0.31	0.10	0.52	0.52
Sat Flow, veh/h	91	120	1585	146	102	1585	1688	3401	208	1688	3530	99
Grp Volume(v), veh/h	37	0	8	58	0	138	0	367	378	136	304	318
Grp Sat Flow(s),veh/h/ln	211	0	1585	248	0	1585	1688	1777	1833	1688	1777	1853
Q Serve(g_s), s	0.3	0.0	0.2	1.1	0.0	2.9	0.0	7.4	7.4	3.2	4.1	4.1
Cycle Q Clear(g_c), s	10.3	0.0	0.2	10.6	0.0	2.9	0.0	7.4	7.4	3.2	4.1	4.1
Prop In Lane	0.78		1.00	0.83		1.00	1.00		0.11	1.00		0.05
Lane Grp Cap(c), veh/h	213	0	420	226	0	420	4	549	566	164	916	955
V/C Ratio(X)	0.17	0.00	0.02	0.26	0.00	0.33	0.00	0.67	0.67	0.83	0.33	0.33
Avail Cap(c_a), veh/h	429	0	676	463	0	676	226	1018	1050	226	1018	1062
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	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	11.1	16.5	0.0	12.1	0.0	12.3	12.3	18.2	5.8	5.8
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.6	0.0	0.5	0.0	1.4	1.4	16.4	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.5	0.0	0.8	0.0	2.2	2.3	1.7	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.5	0.0	11.2	17.1	0.0	12.6	0.0	13.8	13.7	34.6	6.0	6.0
LnGrp LOS	B	A	B	B	A	B	A	B	B	C	A	A
Approach Vol, veh/h		45			196			745			758	
Approach Delay, s/veh		13.0			13.9			13.7			11.1	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	17.3		16.0	0.0	25.9		16.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),s	23.5	23.5		17.5	5.5	23.5		17.5				
Max Q Clear Time (g_c+l1),s	9.4	9.4		12.3	0.0	6.1		12.6				
Green Ext Time (p_c), s	0.0	3.6		0.0	0.0	3.1		0.3				
Intersection Summary												
HCM 6th Ctrl Delay	12.6											
HCM 6th LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												

Intersection						
Int Delay, s/veh	4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	203	51	103	177	51	110
Future Vol, veh/h	203	51	103	177	51	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	-	65
Veh in Median Storage#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	221	55	112	192	55	120

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	276
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1287
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1287
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	12.2
HCM LOS			B

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	384	790	-	-	1287	-
HCM Lane V/C Ratio	0.144	0.151	-	-	0.087	-
HCM Control Delay (s)	16	10.4	-	-	8.1	0
HCM Lane LOS	C	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	0.5	-	-	0.3	-

HCM 6th Signalized Intersection Summary
 3: Mt. Vernon Ave & M St

06/18/2019



Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	163	178	141	735	641	109
Future Volume (veh/h)	163	178	141	735	641	109
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1772	1870	1772	1870	1870	1870
Adj Flow Rate, veh/h	177	193	153	799	697	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	339	319	292	0	868	0
Arrive On Green	0.20	0.20	0.17	0.00	0.49	0.00
Sat Flow, veh/h	1688	1585	1688		1781	
Grp Volume(v), veh/h	177	193	153		697	
Grp Sat Flow(s),veh/h/ln	1688	1585	1688		1781	
Q Serve(g_s), s	2.7	3.2	2.4		9.5	
Cycle Q Clear(g_c), s	2.7	3.2	2.4		9.5	
Prop In Lane	1.00	1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	339	319	292		868	
V/C Ratio(X)	0.52	0.61	0.52		0.80	
Avail Cap(c_a), veh/h	1023	961	1023		2562	
HCM Platoon Ratio	1.00	1.00	1.00		1.00	
Upstream Filter(l)	1.00	1.00	1.00		1.00	
Uniform Delay (d), s/veh	10.3	10.5	10.8		6.2	
Incr Delay (d2), s/veh	1.2	1.9	1.5		1.8	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0		0.0	
%ile BackOfQ(50%),veh/ln	0.7	0.8	0.7		1.6	
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.5	12.3	12.3		8.0	
LnGrp LOS	B	B	B		A	
Approach Vol, veh/h	370		153		697	
Approach Delay, s/veh	12.0		12.3		8.0	
Approach LOS	B		B		A	
Timer - Assigned Phs		2	3			7
Phs Duration (G+Y+Rc), s		10.3	18.6			9.5
Change Period (Y+Rc), s		4.5	4.5			4.5
Max Green Setting (Gmax), s		17.5	41.5			17.5
Max Q Clear Time (g_c+l1), s		5.2	11.5			4.4
Green Ext Time (p_c), s		0.9	2.5			0.3
Intersection Summary						
HCM 6th Ctrl Delay			9.8			
HCM 6th LOS			A			

Notes

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

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NBL2	NBT	NBR	SBL	SBT	SBR	SBR2	SEL2	SEL	SER2	NEL	NET
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0.1		0.1	0.1	3.9	0.3
Total Delay (hr)	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Total Del/Veh (s)	20.2	29.6	5.0	11.5	11.0	19.9	2.3		16.4	4.4	10.7	5.8
Total Stops	11	2	56	5	1	1	4	0	6	4	1	96
Stop/Veh	0.85	1.00	0.93	0.83	0.50	1.00	1.00		1.00	1.00	1.00	0.22
Travel Dist (mi)	2.0	0.3	9.5	0.6	0.2	0.1	0.5	0.0	0.6	0.3	0.2	54.8
Travel Time (hr)	0.2	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
Vehicles Entered	12	2	59	6	2	1	4	0	6	4	1	437
Vehicles Exited	12	2	59	6	2	1	4	0	6	4	1	437
Hourly Exit Rate	12	2	59	6	2	1	4	0	6	4	1	437
Input Volume	13	2	59	6	2	1	4	1	6	2	2	438
% of Volume	92	100	100	100	100	100	100	0	100	200	50	100

4: La Cadena Dr & 7th St & Maple St Performance by movement

Movement	NER	SWL	SWT	SWR	SWR2	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	0.0	0.2	0.7	0.0	0.0	1.9
Total Del/Veh (s)	0.8	14.0	4.8	3.9	2.4	5.8
Total Stops	4	40	54	2	2	289
Stop/Veh	0.24	0.91	0.10	0.22	0.17	0.25
Travel Dist (mi)	2.0	12.1	135.1	2.5	3.3	224.2
Travel Time (hr)	0.1	0.5	3.8	0.1	0.1	7.4
Vehicles Entered	17	44	541	9	12	1157
Vehicles Exited	17	43	540	9	12	1155
Hourly Exit Rate	17	43	540	9	12	1155
Input Volume	17	47	541	9	11	1161
% of Volume	100	91	100	100	109	99

Intersection: 4: La Cadena Dr & 7th St & Maple St

Movement	NB	SB	SE	NE	NE	SW	SW	SW
Directions Served	<LTR LTR>	<LR>	T	R	L	TR>	>	
Maximum Queue (ft)	47	1	19	137	19	15	80	13
Average Queue (ft)	11	0	5	36	2	1	17	1
95th Queue (ft)	34	1	17	105	11	8	55	7
Link Distance (ft)	816	521	508	639	639		1354	1354
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						85		
Storage Blk Time (%)				1			0	
Queuing Penalty (veh)				0			0	

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↕	↕		↕	↕	
Traffic Vol, veh/h	3	126	8	31	120	4	8	0	33	1	0	0
Future Vol, veh/h	3	126	8	31	120	4	8	0	33	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	137	9	34	130	4	9	0	36	1	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	134	0	0	146
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	451	-	-	1436
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	451	-	-	1436
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.5	9.6	11.5
HCM LOS			A	B

Minor Lane/Major Mvm	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)		822	1451	-	-	1436	-	556
HCM Lane V/C Ratio		0.054	0.002	-	-	0.023	-	0.002
HCM Control Delay (s)		9.6	7.5	-	-	7.6	-	11.5
HCM Lane LOS		A	A	-	-	A	-	B
HCM 95th %tile Q(veh)		0.2	0	-	-	0.1	-	0

Intersection

Int Delay, s/veh 5.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶			↷	↷	↷
Traffic Vol, veh/h	54	38	77	51	42	83
Future Vol, veh/h	54	38	77	51	42	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	0
Veh in Median Storage0#	-	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	41	84	55	46	90

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	100
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-2.218	-3.518
Pot Cap-1 Maneuver	-	-	1493
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1493
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.5	9.7
HCM LOS			A

Minor Lane/Major Mvm	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	649	980	-	-	1493	-
HCM Lane V/C Ratio	0.07	0.092	-	-	0.056	-
HCM Control Delay (s)	11	9	-	-	7.6	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	0.3	-	-	0.2	-



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