APPENDIX F
Traffic Memo

Level of Service Calculations are available on CD & City Website at:
http://www.cityofsantacruz.com/government/city-departments/planning-and-community-development-2/environmental-documents

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MEMORANDUM

To: Ron Powers, City of Santa Cruz

From: Frederik Venter, Reaa Ali, Kimley-Horn

Date: May 10, 2017

Subject: **Santa Cruz Downtown Recovery Plan Amendment – Traffic Study**

This memorandum contains the traffic analysis for the Downtown Recovery Plan Project (Project), located in the City of Santa Cruz Downtown area. The objective of this project is to evaluate the traffic and circulation impacts of increasing the building densities and land use changes in Downtown Santa Cruz. The study area bounded by the San Lorenzo River, Soquel Avenue in the north, Laurel Street in the south, and the first block immediately west of Pacific Avenue. The Pacific Avenue portion of the study area is bounded by Cathcart Street on the north and Laurel Street on the south. The Front Street portion of the study area is bounded by Soquel Avenue on the north and Laurel Street on the south. The study area is divided into three areas defined as Areas X, Y, and Z for traffic assignment and analysis purposes. **Figure 1** shows the Study Area.

The traffic analysis contained in this memorandum evaluates the addition of the Downtown Recovery Plan Specific Plan to the existing conditions and cumulative conditions. This memorandum discusses the results of the traffic volumes and LOS developed for the following development scenarios and peak periods:

1. Existing (AM and PM)
2. Existing plus Project (AM and PM)
3. Cumulative plus Project (PM only) – The City General Plan was only developed for the PM peak hour, which represents the worst-case analysis. The PM peak hour volumes are typically higher in the PM compared to the AM peak hour.

The following intersections are included in the study:

1. Front Street and Laurel Street
2. Pacific Avenue and Laurel Street
3. Front Street and Cathcart Street
4. Front Street and Metro Station Access
5. Pacific Avenue and Metro Station Access
6. Pacific Avenue and Maple Street
7. Pacific Avenue and Front Street/Mission-Water Street
8. Front Street and Soquel Avenue
9. Pacific Avenue and Cathcart Street
10. Soquel Avenue and Pacific Avenue
11. Ocean Street and Water Street
12. Highway 1 and Highway 9
13. Chestnut Street and Mission Street

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Figure 1
Study Area

TRAFFIC VOLUMES/DATA COLLECTION

Intersection turning movement counts were collected for the AM (7:00 am – 9:00 am) and PM (4:00 pm – 6:00 pm) peak periods during the weekday when local schools were in session. Some data previously available was also used in the technical analysis. Previously available data was utilized for Intersections 1, 2, 3, 4, 8, and 11. The traffic counts for these intersections were collected on Thursday, May 22, 2014. For intersections 5, 6, 7, 9, 10, 12, and 13, data collection was conducted on Tuesday, November 17, 2015.

Cumulative conditions volumes were obtained from the City of Santa Cruz 2030 General Plan (GP) (PM peak hour only). This development scenario accounts for growth per the General Plan including growth for the University of Santa Cruz and also newer approved projects in and around the downtown area which were not reflected in the GP. The latter resulted in an approximate 5% increase in GP volumes at the study intersections.

TRIP GENERATION

The number of trips anticipated to be generated by the proposed project were derived using trip generation rates obtained from Appendix C of the City's General Plan for the Downtown area. The proposed project is understood to consist of commercial, office, and residential (townhomes and apartments) land uses. Since the General Plan only specifies the daily and PM peak hour trip rates, the AM peak hour trip rates were calculated by applying the proportion of the AM peak hour trip rate to the daily rate for these land uses as found in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 9th Edition*. The following land use codes (LU) from the ITE *Trip Generation Manual* were used: Shopping Center (LU 820) for commercial; General Office Building (LU 710) for office; Residential Condominium/Townhouse (LU 230) for townhomes; and Apartment (LU 220) for apartments.

Trip generation calculations were performed by study area – Area X, Y, and Z of the project, and include a 40% trip reduction for mixed use development in the Downtown Area. The reductions are generated by proximity to the Transit center, mixed use development and, bicycle use and walking trips. The area also proposes added parking in downtown. Additional trips were assumed to be generated by the parking structure as indicted in the trip generation table. The added trips were based on the anticipated parking spaces that would not be utilized by the new land uses in the DRP and accounted for approximately 20% of the spaces at 85% parking occupancy, which is conservative. The anticipated trip generation characteristics for the proposed project are depicted in **Table 1**.

The proposed project trips were distributed on the transportation network based on distribution percentages provided by the City of Santa Cruz. **Figure 2** shows the in and out percent distribution near the project. The resulting AM and PM peak-hour traffic volumes attributed to the proposed project are illustrated in **Figure 3**.

Table 1. Project Trip Generation

Land Uses	Project Size[6]		WEEKDAY	AM PEAK HOUR[2]					PM PEAK HOUR				
			Daily Trips	Total Peak Hour	% Of ADT	IN	/	OUT	Total Peak Hour	% Of ADT	IN	/	OUT
City of Santa Cruz General Plan 2030 Future City Buildout Trip Generation Rates[1]													
Commercial		1,000 Sq Ft	44.32	1.00	2%	62%	/	38%	2.71	6%	44%	/	56%
Office		1,000 Sq Ft	11.01	1.56	14%	88%	/	12%	1.49	14%	17%	/	83%
Townhomes[3]		Dwelling Unit(s)	7.50	0.51	7%	22%	/	78%	0.62	8%	65%	/	35%
Apartments		Dwelling Unit(s)	6.65	0.51	8%	20%	/	80%	0.62	9%	65%	/	35%
Trips Generated													
Area X - Riverfront													
Commercial	11.171	1,000 Sq Ft	496	11		7	/	4	30		13	/	17
Office	18.296	1,000 Sq Ft	202	29		26	/	3	27		5	/	22
Townhomes	321	Dwelling Unit(s)	2,408	164		36	/	128	199		129	/	70
Apartments	0	Dwelling Unit(s)	0	0		0	/	0	0		0	/	0
Total Area X Trips			*3,106*	*204*		*69*	/	*135*	*256*		*147*	/	*109*
40% Reduction for Downtown Area[4]			*(1,242)*	*(82)*		*(28)*	/	*(54)*	*(102)*		*(59)*	/	*(44)*
Net Area X Trips			***1,864***	***122***		***41***	/	***81***	***154***		***88***	/	***65***
Area Y - E. Pacific/W. Front Pacific Station													
Commercial	(27.864)	1,000 Sq Ft	(1,236)	(28)		(17)	/	(11)	(76)		(33)	/	(43)
Office	(16.105)	1,000 Sq Ft	(178)	(25)		(22)	/	(3)	(24)		(4)	/	(20)
Townhomes	0	Dwelling Unit(s)	0	0		0	/	0	0		0	/	0
Apartments	370	Dwelling Unit(s)	2,462	189		38	/	151	229		149	/	80
Total Area Y Trips			*1,048*	*136*		*(1)*	/	*137*	*129*		*112*	/	*17*
40% Reduction for Downtown Area[4]			*(419)*	*(54)*		*0*	/	*(55)*	*(52)*		*(45)*	/	*(7)*
Parking Garage Added Trips[5]				*26*		*20*	/	*6*	*52*		*26*	/	*26*
Net Area Y Trips			***629***	***108***		***19***	/	***88***	***129***		***93***	/	***36***
Area Z - W. Pacific													
Commercial	2	1,000 Sq Ft	90	2		1	/	1	5		2	/	3
Office	0	1,000 Sq Ft	0	0		0	/	0	0		0	/	0
Townhomes	0	Dwelling Unit(s)	0	0		0	/	0	0		0	/	0
Apartments	20	Dwelling Unit(s)	134	10		2	/	8	12		8	/	4
Total Area Z Trips			*224*	*12*		*3*	/	*9*	*17*		*10*	/	*7*
40% Reduction for Downtown Area[4]			*(90)*	*(5)*		*(1)*	/	*(4)*	*(7)*		*(4)*	/	*(3)*
Net Area Z Trips			***134***	***7***		***2***	/	***5***	***10***		***6***	/	***4***
Total New Downtown Recovery Plan Buildout Trips			***2,627***	***237***		***63***	/	***174***	***293***		***188***	/	***106***

Notes:

1. Trip generation rates obtained from Appendix C of the City of Santa Cruz General Plan 2030 Draft EIR, September 2011.
2. The AM Peak Hour rates for Commercial, Office, Townhomes, and Apartment uses was calculated by applying the proportion of the AM peak hour rate to the daily rate for Shopping Center (LUC 820), General Office Building (LUC 710), Residential Condominium/Townhouse (LU 230), and Apartment (LUC 220), respectively. The in/out percentages for the uses were obtained from these same ITE LUCs.
3. ITE Land Use 270 Rates used for Townhomes per City direction (email correspondence with Ron Marquez dated 04/22/16).
4. 40% Reduction for mixed use development in Downtown Santa Cruz per City direction (email correspondence with Ron Marquez dated 04/22/16).
5. Required parking per City Code= 414+880+871=2,165 spaces. With 20% reduction=1,732, so 259 aditional spaces (1,991-1,732) that will generate traffic. 10% in the AM peak = 26 trips, 20% in the PM peak = 52 trips.
6. Total project size can be obtained by calculating the sum of each land use for Area X, Area Y, and Area Z.
   Commercial land use = 11,171 sf + (-27,864 sf) + 2,000 sf = -14,693 sf
   Office land use = 18,296 sf + (-16,105 sf) + 0 sf = +2,191 sf
   Residential land use = 321 units + 370 units + 20 units = +711 units

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Figure 2
Project Trip Distribution

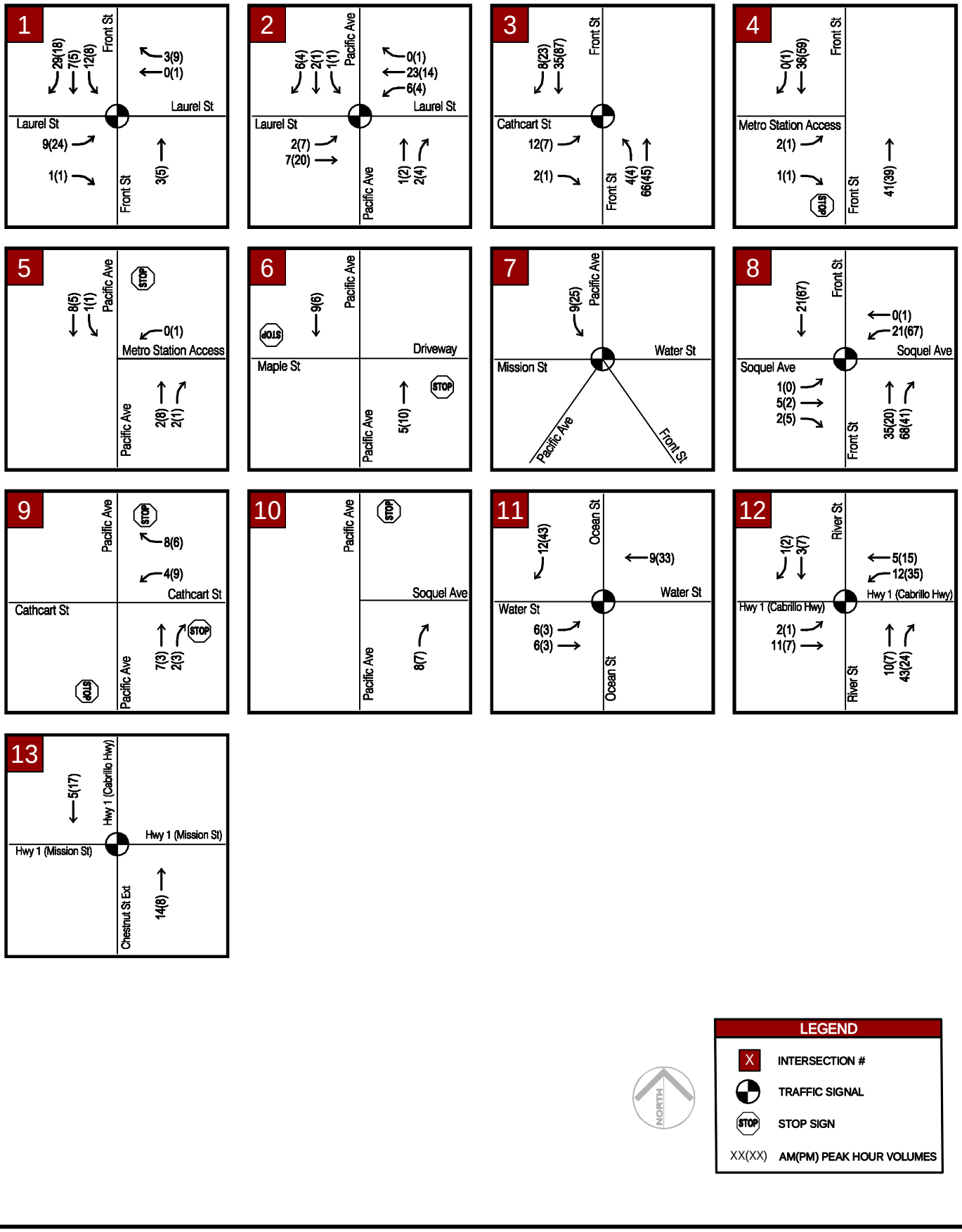

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Figure 3
Project Trip Assignment

TRAFFIC IMPACT ANALYSIS METHODOLOGY

Consistent with the City of Santa Cruz TIA Guidelines, the concept of Level of Service (LOS) is utilized to analyze both the signalized and unsignalized study intersections. The LOS of a transportation facility is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. As defined in Section 4.4 of the City of Santa Cruz 2030 General Plan Draft EIR, the City of Santa Cruz has established LOS D as the minimum acceptable LOS for overall intersection operations during weekday AM and PM peak hours. However, due to environmental, economic, and/or feasibility constraints with implementing improvements at certain major regional intersections, the City accepts a lower LOS at these locations under the current General Plan per existing Circulation Policy 5.1.2. The threshold for each study intersection is specified in the LOS analysis tables below.

Intersection Levels of Service for this study were determined using methods defined in the *Highway Capacity Manual, 2010 and 2000 (HCM)*, and appropriate traffic analysis software. The *HCM* includes procedures for analyzing side-street stop controlled (SASS), all-way stop controlled (AWSC), and signalized intersections and *HCM 2010* uses multimodal analysis principles (bicycle and pedestrians). The SASS procedure defines LOS as a function of average control delay for each minor street approach movement. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for the intersection. *HCM 2010* was used for all intersections except for Intersection 7 due to the presence of a fifth approach at this location, which HCM 2010 cannot analyze correctly and *HCM 2000* was used to analyze this study intersection.

EXISTING AND EXISTING PLUS PROJECT CONDITIONS

Traffic volumes for Existing conditions were obtained from traffic counts. Peak-hour traffic associated with the proposed Downtown Recovery Plan amendments was added to the Existing traffic volumes to generate traffic volumes for Existing plus Project conditions. **Figures 4 and 5** show the volumes at the study intersections under Existing and Existing plus Project conditions.

Table 2 below presents the peak-hour intersection operating conditions for the Existing and Existing plus Project development scenarios.

As indicated in **Table 2**, the study intersections operate at LOS A through LOS F under Existing conditions and with the addition of project traffic during the AM and PM peak hours. The addition of project trips does not worsen the LOS at the study intersections lower than the minimum acceptable LOS accept at the following intersection.

Intersection #12, Highway 1/Highway 9, is currently operating at LOS E and would continue to operate at LOS E with the addition of the project.

Intersection #13, Chestnut Street/Mission Street, is currently operating at LOS F in the AM peak hour and LOS E in the PM peak hour, and would continue to operate at these conditions with the addition of the project.

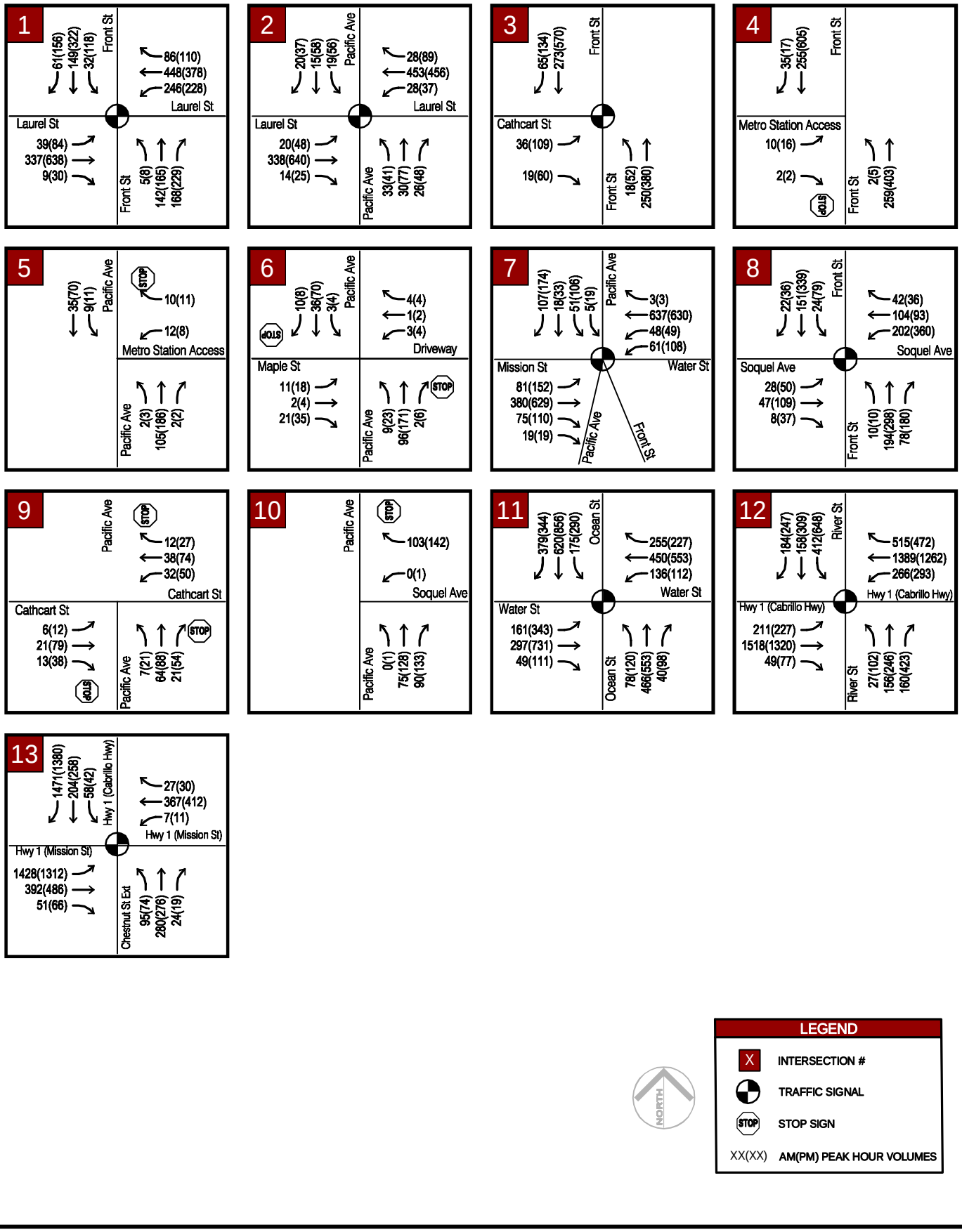

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Figure 4
Existing Trips

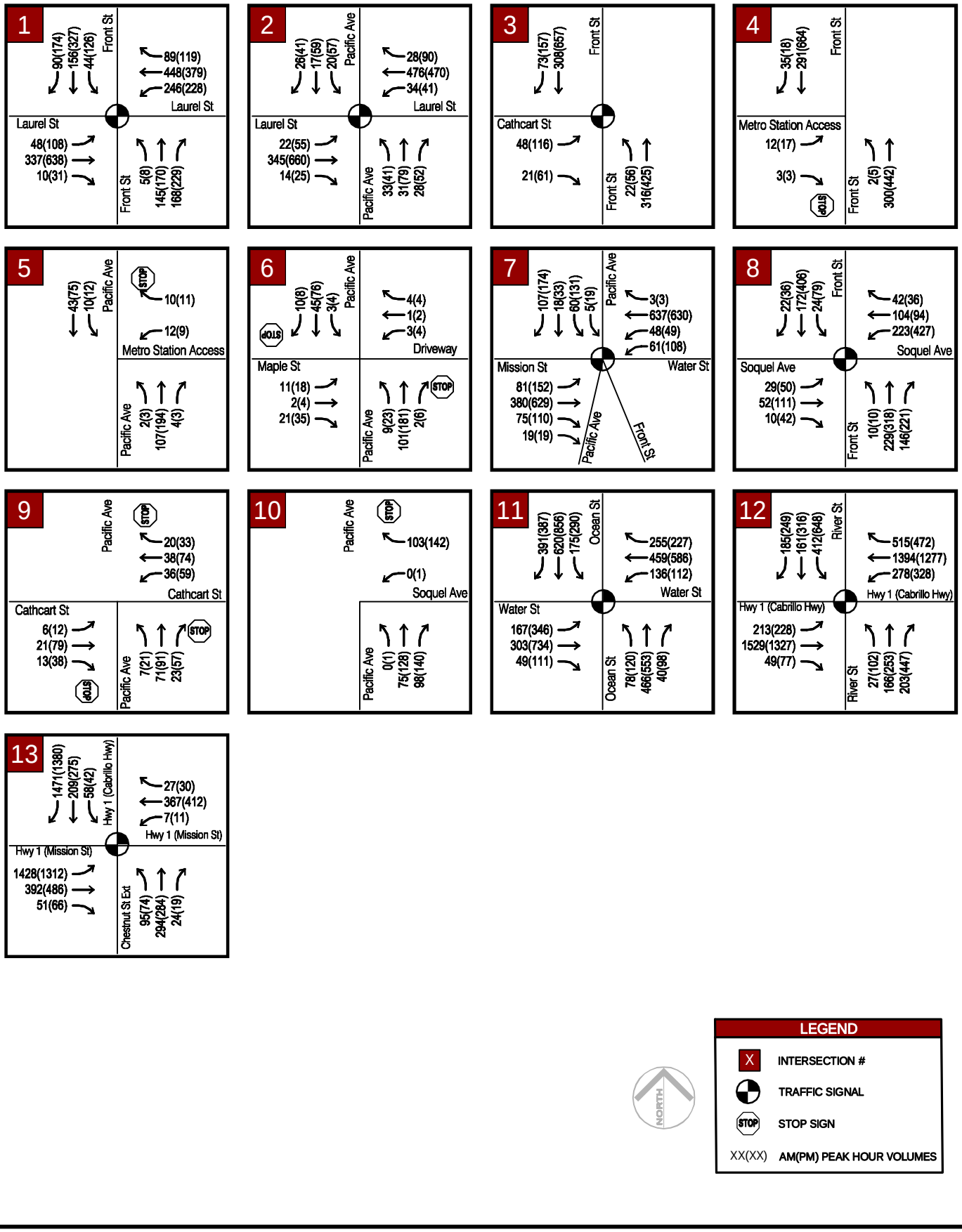

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Figure 5
Existing plus Project Trips

Table 2. Existing and Existing plus Project Conditions Levels of Service

#	Intersection	Control Type	City of Santa Cruz Threshold[2]	Existing Conditions[1]						Existing Plus Project Conditions[1]					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Movement	Delay[3]	LOS	Movement	Delay[3]	LOS	Movement	Delay[3]	LOS	Movement	Delay[3]	LOS
1	Front Street / Laurel Street	Signal	D	Overall	26.4	C	Overall	30.8	C	Overall	27.2	C	Overall	31.2	C
2	Pacific Avenue / Laurel Street	Signal	D	Overall	14.5	B	Overall	17.9	B	Overall	15.0	B	Overall	18.5	B
3	Front Street / Cathcart Street	Signal	D	Overall	16.2	B	Overall	19.0	B	Overall	16.2	B	Overall	18.9	B
4	Front Street / Metro Station Access	Signal	D	Overall	5.3	A	Overall	4.9	A	Overall	6.0	A	Overall	5.1	A
5	Pacific Avenue / Metro Station Access	SSSC	D	Overall	1.7	A	Overall	1.1	A	Overall	1.6	A	Overall	1.1	A
		Worst Approach	D	WB	9.5	A	WB	11.4	B	WB	9.6	A	WB	11.6	B
6	Pacific Avenue / Maple Street	AWSC	D	Overall	7.6	A	Overall	8.1	A	Overall	7.7	A	Overall	8.2	A
7	Pacific Avenue / Front Street / Mission-Water Street	Signal	D	Overall	17.7	B	Overall	20.2	C	Overall	17.7	B	Overall	21.1	C
8	Front Street / Soquel Avenue	Signal	D	Overall	18.6	B	Overall	21.9	C	Overall	19.2	B	Overall	23.1	C
9	Pacific Avenue / Cathcart Street	AWSC	D	Overall	8.0	A	Overall	8.8	A	Overall	8.1	A	Overall	8.9	A
10	Soquel Avenue / Pacific Avenue	SSSC	D	Overall	3.7	A	Overall	3.6	A	Overall	3.6	A	Overall	3.6	A
		Worst Approach	D	WB	9.6	A	WB	10.3	B	WB	9.7	A	WB	10.3	B
11	Ocean Street / Water Street	Signal	F	Overall	22.6	C	Overall	35.3	D	Overall	22.8	C	Overall	35.6	D
12	Highway 1 / Highway 9	Signal	F	Overall	**58.0**	**E**	Overall	**71.7**	**E**	Overall	**59.5**	**E**	Overall	**74.1**	**E**
13	Chestnut Street / Mission Street	Signal	F	Overall	**140.9**	**F**	Overall	**74.1**	**E**	Overall	**140.4**	**F**	Overall	**73.8**	**E**

Notes:

1. Analysis performed using HCM 2010 methodologies, except for Intersection 7 where HCM 2000 methodology was applied.
2. The City of Santa Cruz has established LOS D as the minimum acceptable LOS for overall intersection operations during the AM and PM peak hours. However, under the existing General Plan, the City accepts a lower LOS (F) at some major regional intersections per existing Circulation Policy 5.1.2.
3. Delay indicated in seconds/vehicle.
4. Intersections that fall below City standard are shown in **bold**.

CUMULATIVE PLUS PROJECT CONDITIONS

Peak-hour traffic volumes for Cumulative conditions were obtained from the City of Santa Cruz 2030 General Plan and include the growth anticipated by the University of Santa Cruz. These volumes were increased by an additional 5% at all approaches except at the bus driveways to account for other currently planned projects not envisioned in the General Plan Environmental Impact Report.

Figure 6 shows the traffic volumes at the study intersections under this development scenario. Planned improvements, included in the City Traffic Impact Fee Program, was assumed to be constructed for GP scenario analysis.

Peak-hour traffic associated with the proposed Downtown Recovery Plan amendments was added to the Cumulative traffic volumes and Levels of Service were determined at the study intersections.

Table 3 presents the peak-hour intersection operating conditions for this analysis scenario.

As indicated in **Table 3**, the study intersections operate at LOS A through LOS F during the PM peak hour.

- Intersection #1, Front Street and Laurel Street, would fail in the PM peak hour
- Intersection #2, Pacific Avenue and Laurel Street, would fail in the PM peak hour
- Intersection #8, Front Street and Soquel Avenue, would fail in the PM peak hour
- Intersection #11, Ocean Street and Water Street, would fail in the PM peak hour
- Intersection #12, Highway 1/Highway 9, would fail in the PM peak hour
- Intersection #13, Chestnut Street/Mission Street, would fail in the PM peak hour.

Table 3. Cumulative plus Project Conditions Levels of Service

#	Intersection	Control Type	City of Santa Cruz Threshold[2]	Cumulative Plus Project Conditions[1]		
				PM Peak Hour		
				Movement	Delay[3]	LOS
1	Front Street / Laurel Street	Signal	D	Overall	**100.2**	**F**
2	Pacific Avenue / Laurel Street	Signal	D	Overall	**105.9**	**F**
3	Front Street / Cathcart Street	Signal	D	Overall	23.5	C
4	Front Street / Metro Station Access	Signal	D	Overall	6.4	A
5	Pacific Avenue / Metro Station Access	SSSC	D	Overall	1.7	A
		Worst Approach	D	WB	10.5	B
6	Pacific Avenue / Maple Street	AWSC	D	Overall	7.7	A
7	Pacific Avenue / Front Street / Mission-Water Street	Signal	D	Overall	32.3	C
8	Front Street / Soquel Avenue	Signal	D	Overall	**59.9**	**E**
9	Pacific Avenue / Cathcart Street	AWSC	D	Overall	8.3	A
10	Soquel Avenue / Pacific Avenue	SSSC	D	Overall	4.3	A
		Worst Approach	D	WB	9.5	A
11	Ocean Street / Water Street	Signal	F	Overall	**228.1**	**F**
12	Highway 1 / Highway 9	Signal	F	Overall	**269.2**	**F**
13	Chestnut Street / Mission Street	Signal	F	Overall	**344.0**	**F**

Notes:

1. Analysis performed using HCM 2010 methodologies, except for Intersection 7 where HCM 2000 methodology was applied.
2. The City of Santa Cruz has established LOS D as the minimum acceptable LOS for overall intersection operations during the AM and PM peak hours. However, under the existing General Plan, the City accepts a lower LOS (F) at some major regional intersections per existing Circulation Policy 5.1.2.
3. Delay indicated in seconds/vehicle.
4. Intersection geometry under cumulative plus project conditions was improved at the following intersections per modifications noted under the City's Capital Improvement Projects list: Highway 1 & Highway 9; Ocean Street & Water Street; and Chestnut Street and Mission Street.
5. Intersections that fall below City standard are shown in **bold.**

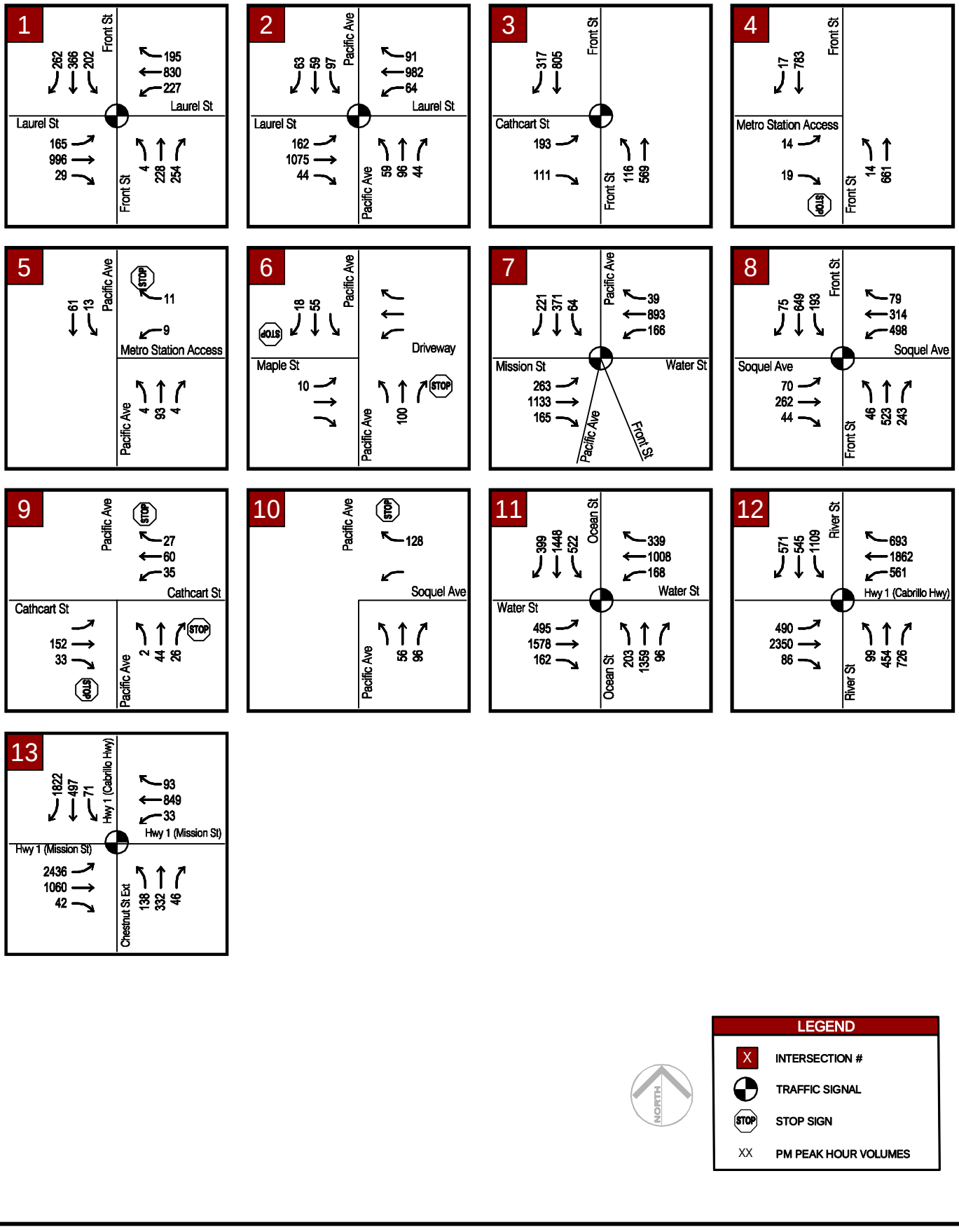

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Figure 6
Cumulative plus Project Trips

APPENDICES

Appendix A. Synchro Analysis Reports

Appendix B. Synchro Timing Reports

Appendix A

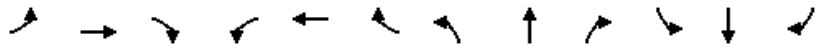
Synchro Analysis Reports

Santa Cruz DRP Study
1: Front Street & Laurel Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	337	9	246	448	86	5	142	168	32	149	61
Future Volume (veh/h)	39	337	9	246	448	86	5	142	168	32	149	61
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1810	1853	1900	1845	1863	1845	1583	1827	1881	1743	1827	1792
Adj Flow Rate, veh/h	42	366	10	267	487	93	5	154	183	35	162	66
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	2	2	3	2	3	20	4	1	9	4	6
Cap, veh/h	375	1466	40	317	710	597	8	285	249	46	326	272
Arrive On Green	0.22	0.42	0.42	0.18	0.38	0.38	0.01	0.16	0.16	0.03	0.18	0.18
Sat Flow, veh/h	1723	3501	95	1757	1863	1568	1508	1827	1599	1660	1827	1524
Grp Volume(v), veh/h	42	184	192	267	487	93	5	154	183	35	162	66
Grp Sat Flow(s),veh/h/ln	1723	1760	1836	1757	1863	1568	1508	1827	1599	1660	1827	1524
Q Serve(g_s), s	1.4	5.0	5.0	10.8	16.1	2.9	0.2	5.7	8.0	1.5	5.9	2.7
Cycle Q Clear(g_c), s	1.4	5.0	5.0	10.8	16.1	2.9	0.2	5.7	8.0	1.5	5.9	2.7
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	375	737	769	317	710	597	8	285	249	46	326	272
V/C Ratio(X)	0.11	0.25	0.25	0.84	0.69	0.16	0.63	0.54	0.73	0.76	0.50	0.24
Avail Cap(c_a), veh/h	375	737	769	502	710	597	82	398	348	90	398	332
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	13.9	13.9	29.1	19.1	15.0	36.5	28.6	29.6	35.5	27.2	25.9
Incr Delay (d2), s/veh	0.6	0.8	0.8	7.4	5.3	0.6	60.5	1.6	4.9	22.0	1.2	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	2.6	2.7	5.8	9.3	1.3	0.2	3.0	3.9	1.0	3.1	1.2
LnGrp Delay(d),s/veh	23.7	14.7	14.7	36.5	24.4	15.5	97.0	30.2	34.5	57.5	28.4	26.4
LnGrp LOS	C	B	B	D	C	B	F	C	C	E	C	C
Approach Vol, veh/h		418			847			342			263	
Approach Delay, s/veh		15.6			27.2			33.5			31.8	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.2	34.8	4.4	17.1	20.0	32.0	6.0	15.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	23.0	4.0	16.0	16.0	28.0	4.0	16.0
Max Q Clear Time (g_c+I1), s	12.8	7.0	2.2	7.9	3.4	18.1	3.5	10.0
Green Ext Time (p_c), s	0.5	5.2	0.0	1.7	0.0	4.0	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	26.4
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	338	14	28	453	28	33	30	26	19	15	20
Future Volume (veh/h)	20	338	14	28	453	28	33	30	26	19	15	20
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1520	1872	1900	1845	1862	1900	1900	1549	1900	1900	1630	1900
Adj Flow Rate, veh/h	23	393	16	33	527	33	38	35	30	22	17	23
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	0	1	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	25	1	1	3	2	2	0	13	13	13	13	13
Cap, veh/h	85	946	38	103	918	57	446	181	156	160	118	121
Arrive On Green	0.06	0.53	0.53	0.06	0.53	0.53	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1448	1786	73	1757	1734	109	1389	771	661	374	501	516
Grp Volume(v), veh/h	23	0	409	33	0	560	38	0	65	62	0	0
Grp Sat Flow(s),veh/h/ln	1448	0	1859	1757	0	1843	1389	0	1432	1390	0	0
Q Serve(g_s), s	1.0	0.0	9.0	1.2	0.0	14.0	0.0	0.0	2.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0	9.0	1.2	0.0	14.0	1.1	0.0	2.5	2.2	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.06	1.00		0.46	0.35		0.37
Lane Grp Cap(c), veh/h	85	0	984	103	0	975	446	0	337	399	0	0
V/C Ratio(X)	0.27	0.00	0.42	0.32	0.00	0.57	0.09	0.00	0.19	0.16	0.00	0.00
Avail Cap(c_a), veh/h	341	0	984	413	0	975	446	0	337	399	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.6	0.0	9.7	30.7	0.0	10.8	20.3	0.0	20.8	20.7	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	1.3	1.8	0.0	2.5	0.4	0.0	1.3	0.8	0.0	0.0
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	0.5	0.0	4.9	0.6	0.0	7.7	0.6	0.0	1.1	1.0	0.0	0.0
LnGrp Delay(d),s/veh	32.3	0.0	10.9	32.4	0.0	13.3	20.7	0.0	22.1	21.6	0.0	0.0
LnGrp LOS	C		B	C		B	C		C	C		
Approach Vol, veh/h		432			593			103			62	
Approach Delay, s/veh		12.1			14.3			21.6			21.6	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	40.0		20.0	8.0	40.0		20.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	4.0	36.0		16.0	16.0	36.0		16.0
Max Q Clear Time (g_c+I1), s	3.2	11.0		4.2	3.0	16.0		4.5
Green Ext Time (p_c), s	0.0	7.0		0.6	0.0	6.5		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B

Santa Cruz DRP Study
3: Front Street & Cathcart Street

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	36	19	18	250	273	65
Future Volume (veh/h)	36	19	18	250	273	65
Number	5	12	3	8	4	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1638	1810	1712	1743	1706	1900
Adj Flow Rate, veh/h	41	22	21	287	314	75
Adj No. of Lanes	1	1	1	1	2	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	16	5	11	9	11	11
Cap, veh/h	440	434	345	1087	950	224
Arrive On Green	0.28	0.28	0.21	0.62	0.36	0.36
Sat Flow, veh/h	1560	1538	1630	1743	2690	613
Grp Volume(v), veh/h	41	22	21	287	194	195
Grp Sat Flow(s),veh/h/ln	1560	1538	1630	1743	1620	1598
Q Serve(g_s), s	1.6	0.9	0.9	6.3	7.3	7.5
Cycle Q Clear(g_c), s	1.6	0.9	0.9	6.3	7.3	7.5
Prop In Lane	1.00	1.00	1.00			0.38
Lane Grp Cap(c), veh/h	440	434	345	1087	591	583
V/C Ratio(X)	0.09	0.05	0.06	0.26	0.33	0.34
Avail Cap(c_a), veh/h	440	434	345	1087	591	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	22.2	26.8	7.2	19.5	19.5
Incr Delay (d2), s/veh	0.4	0.2	0.3	0.1	1.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.4	0.4	3.1	3.5	3.6
LnGrp Delay(d),s/veh	22.9	22.4	27.1	7.3	21.0	21.1
LnGrp LOS	C	C	C	A	C	C
Approach Vol, veh/h	63			308	389	
Approach Delay, s/veh	22.7			8.7	21.0	
Approach LOS	C			A	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		28.0	22.0	35.0				57.0
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		24.0	18.0	31.0				53.0
Max Q Clear Time (g_c+I1), s		3.6	2.9	9.5				8.3
Green Ext Time (p_c), s		0.1	0.0	4.2				4.7

Intersection Summary	
HCM 2010 Ctrl Delay	16.2
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	2	2	259	255	35
Future Volume (veh/h)	10	2	2	259	255	35
Number	5	12	3	8	4	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	950	1900	950	1810	1632	1900
Adj Flow Rate, veh/h	12	2	2	305	300	41
Adj No. of Lanes	0	0	1	1	1	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	100	5	5	5
Cap, veh/h	11	2	563	1425	1108	151
Arrive On Green	0.02	0.02	0.79	0.79	0.79	0.79
Sat Flow, veh/h	715	119	528	1810	1406	192
Grp Volume(v), veh/h	15	0	2	305	0	341
Grp Sat Flow(s),veh/h/ln	893	0	528	1810	0	1598
Q Serve(g_s), s	0.6	0.0	0.0	1.7	0.0	2.3
Cycle Q Clear(g_c), s	0.6	0.0	2.4	1.7	0.0	2.3
Prop In Lane	0.80	0.13	1.00			0.12
Lane Grp Cap(c), veh/h	14	0	563	1425	0	1259
V/C Ratio(X)	1.10	0.00	0.00	0.21	0.00	0.27
Avail Cap(c_a), veh/h	440	0	563	1425	0	1259
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	1.5	1.1	0.0	1.2
Incr Delay (d2), s/veh	141.6	0.0	0.0	0.3	0.0	0.5
Initial Q Delay(d3),s/veh	4.2	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	1.1
LnGrp Delay(d),s/veh	165.8	0.0	1.5	1.4	0.0	1.7
LnGrp LOS	F		A	A		A
Approach Vol, veh/h	15			307	341	
Approach Delay, s/veh	165.8			1.4	1.7	
Approach LOS	F			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		4.6		36.0				36.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		20.0		32.0				32.0
Max Q Clear Time (g_c+I1), s		2.6		4.3				4.4
Green Ext Time (p_c), s		0.0		4.3				4.3

Intersection Summary	
HCM 2010 Ctrl Delay	5.3
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	10	105	2	9	35
Future Vol, veh/h	12	10	105	2	9	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	12	10	13	100	100	8
Mvmt Flow	15	12	130	2	11	43

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	196	131	0	0	132	0
Stage 1	131	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.52	6.3	-	-	5.1	-
Critical Hdwy Stg 1	5.52	-	-	-	-	-
Critical Hdwy Stg 2	5.52	-	-	-	-	-
Follow-up Hdwy	3.608	3.39	-	-	3.1	-
Pot Cap-1 Maneuver	771	898	-	-	1019	-
Stage 1	871	-	-	-	-	-
Stage 2	933	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	763	898	-	-	1019	-
Mov Cap-2 Maneuver	763	-	-	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	923	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	1.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	819	1019	-
HCM Lane V/C Ratio	-	-	0.033	0.011	-
HCM Control Delay (s)	-	-	9.5	8.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	11	2	21	0	3	1	4	0	9	96	2
Future Vol, veh/h	0	11	2	21	0	3	1	4	0	9	96	2
Peak Hour Factor	0.92	0.80	0.80	0.80	0.92	0.80	0.80	0.80	0.92	0.80	0.80	0.80
Heavy Vehicles, %	2	9	50	14	2	33	0	0	2	0	16	0
Mvmt Flow	0	14	3	26	0	4	1	5	0	11	120	3
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.4	7.8	7.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	32%	38%	6%
Vol Thru, %	90%	6%	12%	73%
Vol Right, %	2%	62%	50%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	107	34	8	49
LT Vol	9	11	3	3
Through Vol	96	2	1	36
RT Vol	2	21	4	10
Lane Flow Rate	134	42	10	61
Geometry Grp	1	1	1	1
Degree of Util (X)	0.15	0.048	0.013	0.068
Departure Headway (Hd)	4.044	4.09	4.606	3.983
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	884	862	766	892
Service Time	2.083	2.179	2.703	2.038
HCM Lane V/C Ratio	0.152	0.049	0.013	0.068
HCM Control Delay	7.8	7.4	7.8	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.2	0	0.2

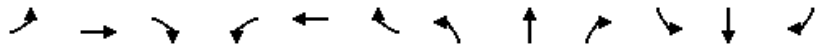
Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	3	36	10
Future Vol, veh/h	0	3	36	10
Peak Hour Factor	0.92	0.80	0.80	0.80
Heavy Vehicles, %	2	0	41	10
Mvmt Flow	0	4	45	13
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.3
HCM LOS	A

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	SBL2	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	380	75	19	61	48	637	3	5	51	18	107
Future Volume (vph)	81	380	75	19	61	48	637	3	5	51	18	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0				4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	1.00	0.95				1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	1.00				1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	0.95	1.00				0.96	1.00
Satd. Flow (prot)	1736	3471	1524		1597	1770	3537				1619	1599
Flt Permitted	0.95	1.00	1.00		0.95	0.95	1.00				0.96	1.00
Satd. Flow (perm)	1736	3471	1524		1597	1770	3537				1619	1599
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	91	427	84	21	69	54	716	3	6	57	20	120
RTOR Reduction (vph)	0	0	31	0	0	0	1	0	0	0	0	88
Lane Group Flow (vph)	91	427	74	0	69	54	718	0	0	0	83	32
Heavy Vehicles (%)	4%	4%	5%	10%	13%	2%	2%	0%	0%	19%	0%	1%
Turn Type	Prot	NA	Perm		Prot	Prot	NA		Perm	Perm	NA	Perm
Protected Phases	5	2			1	1	6				8	
Permitted Phases			2						8	8		8
Actuated Green, G (s)	8.2	40.9	40.9		7.6	7.6	40.3				22.1	22.1
Effective Green, g (s)	8.2	40.9	40.9		7.6	7.6	40.3				22.1	22.1
Actuated g/C Ratio	0.10	0.50	0.50		0.09	0.09	0.49				0.27	0.27
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0				4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0				3.0	3.0
Lane Grp Cap (vph)	172	1718	754		146	162	1725				433	427
v/s Ratio Prot	c0.05	0.12			0.04	0.03	c0.20					
v/s Ratio Perm			0.05								0.05	0.02
v/c Ratio	0.53	0.25	0.10		0.47	0.33	0.42				0.19	0.08
Uniform Delay, d1	35.4	12.0	11.1		35.6	35.1	13.6				23.4	22.6
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00				1.00	1.00
Incremental Delay, d2	2.9	0.1	0.1		2.4	1.2	0.7				1.0	0.3
Delay (s)	38.3	12.1	11.1		38.0	36.3	14.3				24.3	23.0
Level of Service	D	B	B		D	D	B				C	C
Approach Delay (s)		15.7					17.7				23.5	
Approach LOS		B					B				C	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	82.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	36.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	47	8	202	104	42	10	194	78	24	151	22
Future Volume (veh/h)	28	47	8	202	104	42	10	194	78	24	151	22
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1837	1900	1792	1827	1827	1900	1729	1900	1638	1607	1900
Adj Flow Rate, veh/h	33	55	9	178	201	0	12	226	91	28	176	26
Adj No. of Lanes	0	2	0	1	1	1	0	2	0	1	1	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	6	3	4	8	8	8	16	19	19
Cap, veh/h	62	109	18	929	994	845	71	469	180	223	288	43
Arrive On Green	0.05	0.05	0.05	0.54	0.54	0.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1156	2054	346	1707	1827	1553	45	2227	853	931	1369	202
Grp Volume(v), veh/h	51	0	46	178	201	0	177	0	152	28	0	202
Grp Sat Flow(s),veh/h/ln	1780	0	1776	1707	1827	1553	1702	0	1422	931	0	1571
Q Serve(g_s), s	1.7	0.0	1.6	3.3	3.5	0.0	0.0	0.0	5.9	1.7	0.0	7.3
Cycle Q Clear(g_c), s	1.7	0.0	1.6	3.3	3.5	0.0	5.6	0.0	5.9	7.6	0.0	7.3
Prop In Lane	0.65		0.19	1.00		1.00	0.07		0.60	1.00		0.13
Lane Grp Cap(c), veh/h	95	0	95	929	994	845	420	0	300	223	0	331
V/C Ratio(X)	0.54	0.00	0.49	0.19	0.20	0.00	0.42	0.00	0.51	0.13	0.00	0.61
Avail Cap(c_a), veh/h	541	0	540	929	994	845	1001	0	797	549	0	880
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.8	0.0	28.8	7.2	7.3	0.0	21.7	0.0	21.8	25.2	0.0	22.3
Incr Delay (d2), s/veh	4.6	0.0	3.9	0.5	0.5	0.0	0.7	0.0	1.3	0.2	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9	1.7	1.9	0.0	2.7	0.0	2.4	0.5	0.0	3.3
LnGrp Delay(d),s/veh	33.5	0.0	32.6	7.7	7.8	0.0	22.4	0.0	23.1	25.4	0.0	24.2
LnGrp LOS	C		C	A	A		C		C	C		C
Approach Vol, veh/h		97			379			329			230	
Approach Delay, s/veh		33.0			7.7			22.7			24.3	
Approach LOS		C			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		7.3		17.2		38.0		17.2
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		19.0		35.0		34.0		35.0
Max Q Clear Time (g_c+I1), s		3.7		9.6		5.5		7.9
Green Ext Time (p_c), s		0.4		3.6		1.7		3.6

Intersection Summary	
HCM 2010 Ctrl Delay	18.6
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	6	21	13	0	32	38	12	0	7	64	21	0	0	0	0
Future Vol, veh/h	0	6	21	13	0	32	38	12	0	7	64	21	0	0	0	0
Peak Hour Factor	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81
Heavy Vehicles, %	2	16	9	15	2	28	2	25	2	0	4	28	2	0	0	0
Mvmt Flow	0	7	26	16	0	40	47	15	0	9	79	26	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.7	8.4	7.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	8%	15%	39%
Vol Thru, %	70%	53%	46%
Vol Right, %	23%	33%	15%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	92	40	82
LT Vol	7	6	32
Through Vol	64	21	38
RT Vol	21	13	12
Lane Flow Rate	114	49	101
Geometry Grp	1	1	1
Degree of Util (X)	0.131	0.059	0.129
Departure Headway (Hd)	4.14	4.285	4.605
Convergence, Y/N	Yes	Yes	Yes
Cap	871	823	771
Service Time	2.14	2.38	2.678
HCM Lane V/C Ratio	0.131	0.06	0.131
HCM Control Delay	7.8	7.7	8.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.2	0.4

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	103	75	90	0	0
Future Vol, veh/h	0	103	75	90	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	4	6	5	0	0
Mvmt Flow	0	123	89	107	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	143	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.24	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.336	-	-
Pot Cap-1 Maneuver	0	899	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	899	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

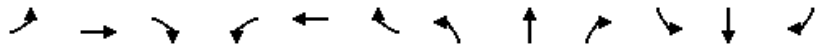
Approach	WB	NB
HCM Control Delay, s	9.6	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	899
HCM Lane V/C Ratio	-	-	0.136
HCM Control Delay (s)	-	-	9.6
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	297	49	136	450	255	78	466	40	175	620	379
Future Volume (veh/h)	161	297	49	136	450	255	78	466	40	175	620	379
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1827	1822	1900	1881	1827	1863	1845	1845	1900	1863	1845	1845
Adj Flow Rate, veh/h	173	319	53	146	484	0	84	501	43	188	667	0
Adj No. of Lanes	2	2	0	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	1	4	2	3	3	0	2	3	3
Cap, veh/h	276	664	109	191	861	393	109	991	457	241	1250	559
Arrive On Green	0.08	0.22	0.22	0.11	0.25	0.00	0.06	0.28	0.28	0.14	0.36	0.00
Sat Flow, veh/h	3375	2977	489	1792	3471	1583	1757	3505	1615	1774	3505	1568
Grp Volume(v), veh/h	173	184	188	146	484	0	84	501	43	188	667	0
Grp Sat Flow(s),veh/h/ln	1688	1731	1736	1792	1736	1583	1757	1752	1615	1774	1752	1568
Q Serve(g_s), s	3.2	5.9	6.0	5.0	7.8	0.0	3.0	7.6	1.2	6.5	9.6	0.0
Cycle Q Clear(g_c), s	3.2	5.9	6.0	5.0	7.8	0.0	3.0	7.6	1.2	6.5	9.6	0.0
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	276	386	387	191	861	393	109	991	457	241	1250	559
V/C Ratio(X)	0.63	0.48	0.49	0.76	0.56	0.00	0.77	0.51	0.09	0.78	0.53	0.00
Avail Cap(c_a), veh/h	689	734	736	619	1963	895	386	1652	761	697	2257	1010
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.3	21.5	21.5	27.6	20.9	0.0	29.4	19.1	16.8	26.6	16.3	0.0
Incr Delay (d2), s/veh	2.3	0.9	0.9	6.2	0.6	0.0	10.9	0.4	0.1	5.4	0.4	0.0
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	1.6	2.9	3.0	2.8	3.8	0.0	1.8	3.7	0.6	3.5	4.7	0.0
LnGrp Delay(d),s/veh	30.6	22.4	22.5	33.8	21.5	0.0	40.3	19.5	16.9	32.0	16.6	0.0
LnGrp LOS	C	C	C	C	C		D	B	B	C	B	
Approach Vol, veh/h		545			630			628			855	
Approach Delay, s/veh		25.0			24.4			22.1			20.0	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	18.2	7.9	26.7	9.2	19.8	12.6	22.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	22.0	27.0	14.0	41.0	13.0	36.0	25.0	30.0
Max Q Clear Time (g_c+I1), s	7.0	8.0	5.0	11.6	5.2	9.8	8.5	9.6
Green Ext Time (p_c), s	0.3	5.4	0.1	9.7	0.3	6.0	0.5	8.4

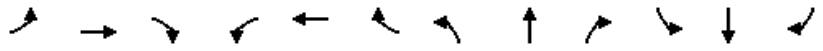
Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	1518	49	266	1389	515	27	156	160	412	158	184
Future Volume (veh/h)	211	1518	49	266	1389	515	27	156	160	412	158	184
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1827	1827	1792	1712	1810	1810	1610	1727	1743
Adj Flow Rate, veh/h	218	1565	0	274	1432	0	28	161	165	425	163	190
Adj No. of Lanes	1	3	0	2	3	1	1	1	2	2	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	4	4	6	11	5	5	18	10	9
Cap, veh/h	238	2388	0	314	2154	658	235	261	391	613	356	305
Arrive On Green	0.14	0.47	0.00	0.09	0.43	0.00	0.14	0.14	0.14	0.21	0.21	0.21
Sat Flow, veh/h	1757	5204	0	3375	4988	1524	1630	1810	2707	2975	1727	1482
Grp Volume(v), veh/h	218	1565	0	274	1432	0	28	161	165	425	163	190
Grp Sat Flow(s),veh/h/ln	1757	1679	0	1688	1663	1524	1630	1810	1354	1487	1727	1482
Q Serve(g_s), s	23.8	46.0	0.0	15.5	44.4	0.0	2.9	16.2	10.8	25.7	16.1	22.7
Cycle Q Clear(g_c), s	23.8	46.0	0.0	15.5	44.4	0.0	2.9	16.2	10.8	25.7	16.1	22.7
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	2388	0	314	2154	658	235	261	391	613	356	305
V/C Ratio(X)	0.92	0.66	0.00	0.87	0.66	0.00	0.12	0.62	0.42	0.69	0.46	0.62
Avail Cap(c_a), veh/h	344	2388	0	417	2154	658	235	261	391	613	356	305
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	82.8	38.9	0.0	86.9	43.9	0.0	72.3	78.0	75.7	71.3	67.5	70.1
Incr Delay (d2), s/veh	22.4	1.4	0.0	14.4	1.6	0.0	1.0	10.5	3.3	6.3	4.2	9.2
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	13.0	21.6	0.0	7.9	20.7	0.0	1.4	8.9	4.2	11.1	8.1	10.1
LnGrp Delay(d),s/veh	105.2	40.4	0.0	101.3	45.6	0.0	73.3	88.4	79.0	77.7	71.7	79.4
LnGrp LOS	F	D		F	D		E	F	E	E	E	E
Approach Vol, veh/h		1783			1706			354			778	
Approach Delay, s/veh		48.3			54.5			82.8			76.8	
Approach LOS		D			D			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	32.1	96.0		32.0	30.2	87.8		44.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	24.0	92.0		28.0	38.0	78.0		40.0
Max Q Clear Time (g_c+I1), s	17.5	48.0		18.2	25.8	46.4		27.7
Green Ext Time (p_c), s	0.5	35.9		1.1	0.5	27.2		2.7

Intersection Summary	
HCM 2010 Ctrl Delay	58.0
HCM 2010 LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1428	392	51	7	367	27	95	280	24	58	204	1471
Future Volume (veh/h)	1428	392	51	7	367	27	95	280	24	58	204	1471
Number	1	6	16	5	2	12	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1845	1839	1900	1900	1849	1900	1881	1883	1900	1881	1845	1827
Adj Flow Rate, veh/h	1587	436	57	8	408	0	106	311	27	64	227	1634
Adj No. of Lanes	2	1	0	0	2	0	1	2	0	1	2	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	4	4	3	3	3	1	1	1	1	3	4
Cap, veh/h	1222	554	72	10	520	0	139	1052	91	84	1000	1182
Arrive On Green	0.35	0.35	0.35	0.15	0.15	0.00	0.08	0.32	0.32	0.05	0.29	0.29
Sat Flow, veh/h	3514	1594	208	66	3629	0	1792	3333	288	1792	3505	2733
Grp Volume(v), veh/h	1587	0	493	223	193	0	106	166	172	64	227	1634
Grp Sat Flow(s),veh/h/ln	1757	0	1803	1846	1757	0	1792	1789	1832	1792	1752	1367
Q Serve(g_s), s	39.0	0.0	27.5	13.1	11.8	0.0	6.5	7.9	8.0	4.0	5.6	32.0
Cycle Q Clear(g_c), s	39.0	0.0	27.5	13.1	11.8	0.0	6.5	7.9	8.0	4.0	5.6	32.0
Prop In Lane	1.00		0.12	0.04		0.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	1222	0	627	271	258	0	139	564	578	84	1000	1182
V/C Ratio(X)	1.30	0.00	0.79	0.82	0.75	0.00	0.77	0.29	0.30	0.76	0.23	1.38
Avail Cap(c_a), veh/h	1222	0	627	362	345	0	655	564	578	639	1000	1182
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	0.0	32.8	46.4	45.8	0.0	50.7	29.0	29.0	52.8	30.6	27.2
Incr Delay (d2), s/veh	140.6	0.0	6.6	10.7	6.1	0.0	8.5	0.3	0.3	13.0	0.1	177.7
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	42.7	0.0	14.8	7.5	6.2	0.0	3.5	3.9	4.1	2.3	2.7	47.4
LnGrp Delay(d),s/veh	177.2	0.0	39.4	57.1	51.9	0.0	59.2	29.2	29.3	65.8	30.7	204.8
LnGrp LOS	F		D	E	D		E	C	C	E	C	F
Approach Vol, veh/h		2080			416			444			1925	
Approach Delay, s/veh		144.6			54.7			36.4			179.7	
Approach LOS		F			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.5	12.7	36.0		43.0	9.3	39.4
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		22.0	41.0	32.0		39.0	40.0	33.0
Max Q Clear Time (g_c+I1), s		15.1	8.5	34.0		41.0	6.0	10.0
Green Ext Time (p_c), s		1.3	0.6	0.0		0.0	0.2	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	140.9
HCM 2010 LOS	F

Notes

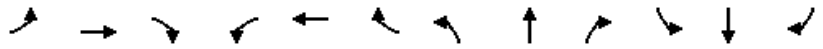
User approved volume balancing among the lanes for turning movement.

Santa Cruz DRP Study
1: Front Street & Laurel Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	638	30	228	378	110	8	165	229	118	322	156
Future Volume (veh/h)	84	638	30	228	378	110	8	165	229	118	322	156
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1897	1900	1900	1881	1900	1900	1881	1900	1827	1900	1900
Adj Flow Rate, veh/h	89	679	32	243	402	117	9	176	244	126	343	166
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	0	0	1	0	0	1	0	4	0	0
Cap, veh/h	372	1237	58	286	567	486	16	355	305	158	514	437
Arrive On Green	0.21	0.35	0.35	0.16	0.30	0.30	0.01	0.19	0.19	0.09	0.27	0.27
Sat Flow, veh/h	1774	3506	165	1810	1881	1615	1810	1881	1615	1740	1900	1615
Grp Volume(v), veh/h	89	349	362	243	402	117	9	176	244	126	343	166
Grp Sat Flow(s),veh/h/ln	1774	1803	1868	1810	1881	1615	1810	1881	1615	1740	1900	1615
Q Serve(g_s), s	3.2	11.9	11.9	10.0	14.5	4.2	0.4	6.4	11.0	5.4	12.3	6.4
Cycle Q Clear(g_c), s	3.2	11.9	11.9	10.0	14.5	4.2	0.4	6.4	11.0	5.4	12.3	6.4
Prop In Lane	1.00		0.09	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	372	636	659	286	567	486	16	355	305	158	514	437
V/C Ratio(X)	0.24	0.55	0.55	0.85	0.71	0.24	0.55	0.50	0.80	0.80	0.67	0.38
Avail Cap(c_a), veh/h	372	636	659	332	567	486	95	394	338	205	523	444
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	19.8	19.8	31.3	23.7	20.1	37.7	27.7	29.6	34.0	24.8	22.6
Incr Delay (d2), s/veh	1.5	3.4	3.3	16.7	7.3	1.2	25.3	1.1	11.8	15.1	3.2	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	1.7	6.5	6.7	6.3	8.6	2.0	0.3	3.4	5.9	3.3	6.8	2.9
LnGrp Delay(d),s/veh	26.6	23.2	23.1	48.0	31.1	21.3	63.0	28.8	41.4	49.1	28.0	23.2
LnGrp LOS	C	C	C	D	C	C	E	C	D	D	C	C
Approach Vol, veh/h		800			762			429			635	
Approach Delay, s/veh		23.5			35.0			36.7			30.9	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	30.9	4.7	24.7	20.0	27.0	10.9	18.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	14.0	25.0	4.0	21.0	16.0	23.0	9.0	16.0
Max Q Clear Time (g_c+I1), s	12.0	13.9	2.4	14.3	5.2	16.5	7.4	13.0
Green Ext Time (p_c), s	0.1	5.5	0.0	2.6	0.1	3.7	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	30.8
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	640	25	37	456	89	41	77	48	56	58	37
Future Volume (veh/h)	48	640	25	37	456	89	41	77	48	56	58	37
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1727	1900	1900	1900	1894	1900	1900	1843	1900	1900	1808	1900
Adj Flow Rate, veh/h	51	681	27	39	485	95	44	82	51	60	62	39
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	10	0	0	0	0	0	0	5	5	5	5	5
Cap, veh/h	99	962	38	106	814	159	402	250	156	167	161	81
Arrive On Green	0.06	0.53	0.53	0.06	0.53	0.53	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1645	1815	72	1810	1539	301	1314	1064	662	401	684	347
Grp Volume(v), veh/h	51	0	708	39	0	580	44	0	133	161	0	0
Grp Sat Flow(s),veh/h/ln	1645	0	1887	1810	0	1841	1314	0	1726	1431	0	0
Q Serve(g_s), s	2.0	0.0	19.2	1.4	0.0	14.8	0.0	0.0	4.3	2.6	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	19.2	1.4	0.0	14.8	2.0	0.0	4.3	6.9	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.16	1.00		0.38	0.37		0.24
Lane Grp Cap(c), veh/h	99	0	1001	106	0	973	402	0	406	409	0	0
V/C Ratio(X)	0.51	0.00	0.71	0.37	0.00	0.60	0.11	0.00	0.33	0.39	0.00	0.00
Avail Cap(c_a), veh/h	386	0	1001	425	0	973	402	0	406	409	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.0	0.0	12.0	30.8	0.0	11.1	20.7	0.0	21.6	22.4	0.0	0.0
Incr Delay (d2), s/veh	4.1	0.0	4.2	2.1	0.0	2.7	0.5	0.0	2.2	2.8	0.0	0.0
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	1.0	0.0	11.0	0.8	0.0	8.1	0.7	0.0	2.3	3.0	0.0	0.0
LnGrp Delay(d),s/veh	35.1	0.0	16.2	32.9	0.0	13.7	21.2	0.0	23.7	25.2	0.0	0.0
LnGrp LOS	D		B	C		B	C		C	C		
Approach Vol, veh/h		759			619			177			161	
Approach Delay, s/veh		17.5			15.0			23.1			25.2	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	40.1		20.0	8.1	40.0		20.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	16.0	36.0		16.0	16.0	36.0		16.0
Max Q Clear Time (g_c+I1), s	3.4	21.2		8.9	4.0	16.8		6.3
Green Ext Time (p_c), s	0.0	7.7		1.1	0.1	9.0		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	17.9
HCM 2010 LOS	B

Santa Cruz DRP Study
3: Front Street & Cathcart Street

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	109	60	52	380	570	134
Future Volume (veh/h)	109	60	52	380	570	134
Number	5	12	3	8	4	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1845	1810	1827	1860	1900
Adj Flow Rate, veh/h	114	62	54	396	594	140
Adj No. of Lanes	1	1	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	3	5	4	1	1
Cap, veh/h	464	406	365	1182	1103	259
Arrive On Green	0.26	0.26	0.21	0.65	0.39	0.39
Sat Flow, veh/h	1792	1568	1723	1827	2934	668
Grp Volume(v), veh/h	114	62	54	396	369	365
Grp Sat Flow(s),veh/h/ln	1792	1568	1723	1827	1767	1742
Q Serve(g_s), s	4.3	2.6	2.2	8.3	13.7	13.8
Cycle Q Clear(g_c), s	4.3	2.6	2.2	8.3	13.7	13.8
Prop In Lane	1.00	1.00	1.00			0.38
Lane Grp Cap(c), veh/h	464	406	365	1182	686	676
V/C Ratio(X)	0.25	0.15	0.15	0.33	0.54	0.54
Avail Cap(c_a), veh/h	464	406	365	1182	686	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	24.3	27.3	6.8	20.1	20.1
Incr Delay (d2), s/veh	1.3	0.8	0.9	0.2	3.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.2	1.1	4.2	7.2	7.2
LnGrp Delay(d),s/veh	26.2	25.1	28.1	6.9	23.1	23.2
LnGrp LOS	C	C	C	A	C	C
Approach Vol, veh/h	176			450	734	
Approach Delay, s/veh	25.8			9.5	23.2	
Approach LOS	C			A	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		26.0	22.0	37.0				59.0
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		22.0	18.0	33.0				55.0
Max Q Clear Time (g_c+I1), s		6.3	4.2	15.8				10.3
Green Ext Time (p_c), s		0.4	0.1	6.8				9.2

Intersection Summary	
HCM 2010 Ctrl Delay	19.0
HCM 2010 LOS	B

Santa Cruz DRP Study
4: Front Street & Metro Station Access North

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	2	5	403	605	17
Future Volume (veh/h)	16	2	5	403	605	17
Number	5	12	3	8	4	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	976	1900	1056	1900	1839	1900
Adj Flow Rate, veh/h	17	2	5	420	630	18
Adj No. of Lanes	0	0	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	80	0	1	1
Cap, veh/h	15	2	469	1508	1412	40
Arrive On Green	0.02	0.02	0.79	0.79	0.79	0.79
Sat Flow, veh/h	782	92	442	1900	1779	51
Grp Volume(v), veh/h	20	0	5	420	0	648
Grp Sat Flow(s),veh/h/ln	920	0	442	1900	0	1830
Q Serve(g_s), s	0.8	0.0	0.2	2.5	0.0	4.8
Cycle Q Clear(g_c), s	0.8	0.0	5.0	2.5	0.0	4.8
Prop In Lane	0.85	0.10	1.00			0.03
Lane Grp Cap(c), veh/h	18	0	469	1508	0	1452
V/C Ratio(X)	1.10	0.00	0.01	0.28	0.00	0.45
Avail Cap(c_a), veh/h	387	0	469	1508	0	1452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.0	0.0	2.2	1.2	0.0	1.4
Incr Delay (d2), s/veh	127.4	0.0	0.0	0.5	0.0	1.0
Initial Q Delay(d3),s/veh	4.7	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	1.5	0.0	2.7
LnGrp Delay(d),s/veh	153.1	0.0	2.3	1.6	0.0	2.4
LnGrp LOS	F		A	A		A
Approach Vol, veh/h	20			425	648	
Approach Delay, s/veh	153.1			1.6	2.4	
Approach LOS	F			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		4.8		38.0				38.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		18.0		34.0				34.0
Max Q Clear Time (g_c+I1), s		2.8		6.8				7.0
Green Ext Time (p_c), s		0.0		8.3				8.3

Intersection Summary	
HCM 2010 Ctrl Delay	4.9
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	11	186	2	11	70
Future Vol, veh/h	8	11	186	2	11	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	100	90	4	100	90	1
Mvmt Flow	9	12	207	2	12	78

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	310	208	0	0	209	0
Stage 1	208	-	-	-	-	-
Stage 2	102	-	-	-	-	-
Critical Hdwy	7.4	7.1	-	-	5	-
Critical Hdwy Stg 1	6.4	-	-	-	-	-
Critical Hdwy Stg 2	6.4	-	-	-	-	-
Follow-up Hdwy	4.4	4.11	-	-	3.01	-
Pot Cap-1 Maneuver	520	653	-	-	975	-
Stage 1	640	-	-	-	-	-
Stage 2	726	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	513	653	-	-	975	-
Mov Cap-2 Maneuver	513	-	-	-	-	-
Stage 1	640	-	-	-	-	-
Stage 2	717	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	586	975	-
HCM Lane V/C Ratio	-	-	0.036	0.013	-
HCM Control Delay (s)	-	-	11.4	8.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	18	4	35	0	4	2	4	0	23	171	6
Future Vol, veh/h	0	18	4	35	0	4	2	4	0	23	171	6
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	7	0
Mvmt Flow	0	19	4	38	0	4	2	4	0	25	184	6
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.6	7.5	8.5
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	32%	40%	5%
Vol Thru, %	85%	7%	20%	85%
Vol Right, %	3%	61%	40%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	200	57	10	82
LT Vol	23	18	4	4
Through Vol	171	4	2	70
RT Vol	6	35	4	8
Lane Flow Rate	215	61	11	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.245	0.073	0.013	0.101
Departure Headway (Hd)	4.097	4.267	4.47	4.141
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	869	845	805	852
Service Time	2.161	2.267	2.474	2.232
HCM Lane V/C Ratio	0.247	0.072	0.014	0.103
HCM Control Delay	8.5	7.6	7.5	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.2	0	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

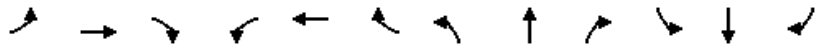
Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	4	70	8
Future Vol, veh/h	0	4	70	8
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	17	0
Mvmt Flow	0	4	75	9
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.7
HCM LOS	A

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	SBL2	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	629	110	19	108	49	630	3	19	106	33	174
Future Volume (vph)	152	629	110	19	108	49	630	3	19	106	33	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0				4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	1.00	0.95				1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	1.00				1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	0.95	1.00				0.96	1.00
Satd. Flow (prot)	1787	3574	1590		1787	1770	3572				1747	1599
Flt Permitted	0.95	1.00	1.00		0.95	0.95	1.00				0.96	1.00
Satd. Flow (perm)	1787	3574	1590		1787	1770	3572				1747	1599
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	163	676	118	20	116	53	677	3	20	114	35	187
RTOR Reduction (vph)	0	0	32	0	0	0	1	0	0	0	0	129
Lane Group Flow (vph)	163	676	106	0	116	53	679	0	0	0	169	58
Heavy Vehicles (%)	1%	1%	1%	5%	1%	2%	1%	0%	5%	5%	3%	1%
Turn Type	Prot	NA	Perm		Prot	Prot	NA		Perm	Perm	NA	Perm
Protected Phases	5	2			1	1	6				8	
Permitted Phases			2						8	8		8
Actuated Green, G (s)	12.6	39.4	39.4		9.2	9.2	36.0				22.0	22.0
Effective Green, g (s)	12.6	39.4	39.4		9.2	9.2	36.0				22.0	22.0
Actuated g/C Ratio	0.15	0.48	0.48		0.11	0.11	0.44				0.27	0.27
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0				4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0				3.0	3.0
Lane Grp Cap (vph)	272	1704	758		199	197	1556				465	425
v/s Ratio Prot	c0.09	c0.19			0.06	0.03	c0.19					
v/s Ratio Perm			0.07								0.10	0.04
v/c Ratio	0.60	0.40	0.14		0.58	0.27	0.44				0.36	0.14
Uniform Delay, d1	32.6	13.9	12.1		34.9	33.6	16.2				24.6	23.1
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00				1.00	1.00
Incremental Delay, d2	3.5	0.2	0.1		4.3	0.7	0.9				2.2	0.7
Delay (s)	36.2	14.1	12.2		39.2	34.4	17.1				26.8	23.7
Level of Service	D	B	B		D	C	B				C	C
Approach Delay (s)		17.5					21.2				25.2	
Approach LOS		B					C				C	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	82.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Santa Cruz DRP Study
8: Front Street & Soquel Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	109	37	360	93	36	10	298	180	79	339	36
Future Volume (veh/h)	50	109	37	360	93	36	10	298	180	79	339	36
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1859	1900	1900	1877	1900	1900	1831	1900	1881	1818	1900
Adj Flow Rate, veh/h	53	115	39	238	295	0	11	314	189	83	357	38
Adj No. of Lanes	0	2	0	1	1	1	0	2	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	0	3	0	5	5	5	1	5	5
Cap, veh/h	83	187	66	757	786	676	58	668	385	274	525	56
Arrive On Green	0.09	0.09	0.09	0.42	0.42	0.00	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	880	1978	693	1810	1877	1615	24	2056	1186	901	1616	172
Grp Volume(v), veh/h	109	0	98	238	295	0	282	0	232	83	0	395
Grp Sat Flow(s),veh/h/ln	1815	0	1736	1810	1877	1615	1809	0	1457	901	0	1788
Q Serve(g_s), s	4.3	0.0	4.0	6.5	8.0	0.0	0.0	0.0	9.5	6.0	0.0	14.2
Cycle Q Clear(g_c), s	4.3	0.0	4.0	6.5	8.0	0.0	9.1	0.0	9.5	15.5	0.0	14.2
Prop In Lane	0.49		0.40	1.00		1.00	0.04		0.81	1.00		0.10
Lane Grp Cap(c), veh/h	172	0	165	757	786	676	638	0	473	274	0	581
V/C Ratio(X)	0.64	0.00	0.59	0.31	0.38	0.00	0.44	0.00	0.49	0.30	0.00	0.68
Avail Cap(c_a), veh/h	441	0	422	757	786	676	995	0	767	456	0	941
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.3	0.0	32.2	14.4	14.9	0.0	20.0	0.0	20.1	26.3	0.0	21.7
Incr Delay (d2), s/veh	3.9	0.0	3.4	1.1	1.4	0.0	0.5	0.0	0.8	0.6	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	2.1	3.5	4.4	0.0	4.7	0.0	3.9	1.5	0.0	7.2
LnGrp Delay(d),s/veh	36.2	0.0	35.6	15.5	16.2	0.0	20.4	0.0	20.9	26.9	0.0	23.1
LnGrp LOS	D		D	B	B		C		C	C		C
Approach Vol, veh/h		207			533			514			478	
Approach Delay, s/veh		35.9			15.9			20.6			23.8	
Approach LOS		D			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		11.0		28.1		35.0		28.1
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		18.0		39.0		31.0		39.0
Max Q Clear Time (g_c+I1), s		6.3		17.5		10.0		11.5
Green Ext Time (p_c), s		0.8		6.5		2.4		7.1

Intersection Summary		
HCM 2010 Ctrl Delay		21.9
HCM 2010 LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	12	79	38	0	50	74	27	0	21	88	54	0	0	0	0
Future Vol, veh/h	0	12	79	38	0	50	74	27	0	21	88	54	0	0	0	0
Peak Hour Factor	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	0	0	2	2	22	2	14	2	0	1	9	2	0	0	0
Mvmt Flow	0	13	87	42	0	55	81	30	0	23	97	59	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	9.2	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	13%	9%	33%
Vol Thru, %	54%	61%	49%
Vol Right, %	33%	29%	18%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	163	129	151
LT Vol	21	12	50
Through Vol	88	79	74
RT Vol	54	38	27
Lane Flow Rate	179	142	166
Geometry Grp	1	1	1
Degree of Util (X)	0.221	0.171	0.221
Departure Headway (Hd)	4.444	4.355	4.803
Convergence, Y/N	Yes	Yes	Yes
Cap	810	824	748
Service Time	2.466	2.382	2.829
HCM Lane V/C Ratio	0.221	0.172	0.222
HCM Control Delay	8.7	8.3	9.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.8	0.6	0.8

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	142	128	133	0	0
Future Vol, veh/h	1	142	128	133	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	1	0	0
Mvmt Flow	1	154	139	145	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	211	211	0	0
Stage 1	211	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	6.2	-	-
Critical Hdwy Stg 1	5.4	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	782	834	-	-
Stage 1	829	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	782	834	-	-
Mov Cap-2 Maneuver	782	-	-	-
Stage 1	829	-	-	-
Stage 2	-	-	-	-

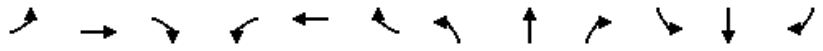
Approach	WB	NB
HCM Control Delay, s	10.3	0
HCM LOS	B	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	834
HCM Lane V/C Ratio	-	-	0.185
HCM Control Delay (s)	-	-	10.3
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	343	731	111	112	553	227	120	553	98	290	856	344
Future Volume (veh/h)	343	731	111	112	553	227	120	553	98	290	856	344
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1881	1900	1900	1881	1900	1900	1881	1881	1881	1900	1863
Adj Flow Rate, veh/h	357	761	116	117	576	0	125	576	102	302	892	0
Adj No. of Lanes	2	2	0	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	1	1	0	1	0	0	1	1	1	0	2
Cap, veh/h	447	1016	155	148	996	450	157	832	372	343	1219	535
Arrive On Green	0.13	0.33	0.33	0.08	0.28	0.00	0.09	0.23	0.23	0.19	0.34	0.00
Sat Flow, veh/h	3442	3111	474	1810	3574	1615	1810	3574	1599	1792	3610	1583
Grp Volume(v), veh/h	357	437	440	117	576	0	125	576	102	302	892	0
Grp Sat Flow(s),veh/h/ln	1721	1787	1798	1810	1787	1615	1810	1787	1599	1792	1805	1583
Q Serve(g_s), s	9.6	20.8	20.9	6.1	13.3	0.0	6.5	14.1	5.0	15.7	20.8	0.0
Cycle Q Clear(g_c), s	9.6	20.8	20.9	6.1	13.3	0.0	6.5	14.1	5.0	15.7	20.8	0.0
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	447	584	587	148	996	450	157	832	372	343	1219	535
V/C Ratio(X)	0.80	0.75	0.75	0.79	0.58	0.00	0.80	0.69	0.27	0.88	0.73	0.00
Avail Cap(c_a), veh/h	684	710	714	246	1196	541	265	935	418	525	1472	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.4	28.7	28.7	43.1	29.7	0.0	42.8	33.6	30.1	37.6	27.9	0.0
Incr Delay (d2), s/veh	3.9	3.5	3.5	9.1	0.5	0.0	8.8	1.9	0.4	10.7	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	10.8	10.8	3.4	6.6	0.0	3.6	7.2	2.2	8.7	10.5	0.0
LnGrp Delay(d),s/veh	44.3	32.2	32.2	52.2	30.2	0.0	51.7	35.5	30.5	48.2	29.4	0.0
LnGrp LOS	D	C	C	D	C		D	D	C	D	C	
Approach Vol, veh/h		1234			693			803			1194	
Approach Delay, s/veh		35.7			33.9			37.4			34.2	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	35.2	12.3	36.3	16.4	30.6	22.3	26.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	13.0	38.0	14.0	39.0	19.0	32.0	28.0	25.0
Max Q Clear Time (g_c+I1), s	8.1	22.9	8.5	22.8	11.6	15.3	17.7	16.1
Green Ext Time (p_c), s	0.1	8.4	0.1	9.5	0.8	8.9	0.7	6.1

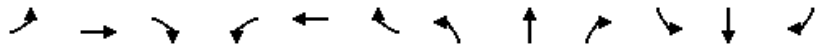
Intersection Summary	
HCM 2010 Ctrl Delay	35.3
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	1320	77	293	1262	472	102	246	423	648	309	247
Future Volume (veh/h)	227	1320	77	293	1262	472	102	246	423	648	309	247
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1847	1900	1845	1863	1810	1881	1845	1881	1863	1845	1863
Adj Flow Rate, veh/h	241	1404	0	312	1343	0	109	262	450	689	329	263
Adj No. of Lanes	1	3	0	2	3	1	1	1	2	2	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	3	3	3	2	5	1	3	1	2	3	2
Cap, veh/h	260	1922	0	353	1727	522	341	352	536	833	447	383
Arrive On Green	0.15	0.38	0.00	0.10	0.34	0.00	0.19	0.19	0.19	0.24	0.24	0.24
Sat Flow, veh/h	1792	5208	0	3408	5085	1538	1792	1845	2814	3442	1845	1583
Grp Volume(v), veh/h	241	1404	0	312	1343	0	109	262	450	689	329	263
Grp Sat Flow(s),veh/h/ln	1792	1680	0	1704	1695	1538	1792	1845	1407	1721	1845	1583
Q Serve(g_s), s	25.8	46.4	0.0	17.5	46.0	0.0	10.2	26.0	29.9	36.8	31.9	29.3
Cycle Q Clear(g_c), s	25.8	46.4	0.0	17.5	46.0	0.0	10.2	26.0	29.9	36.8	31.9	29.3
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	1922	0	353	1727	522	341	352	536	833	447	383
V/C Ratio(X)	0.93	0.73	0.00	0.88	0.78	0.00	0.32	0.75	0.84	0.83	0.74	0.69
Avail Cap(c_a), veh/h	323	1922	0	456	1727	522	341	352	536	833	447	383
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	81.9	51.5	0.0	85.8	57.5	0.0	67.7	74.1	75.7	69.7	67.9	66.9
Incr Delay (d2), s/veh	28.3	2.5	0.0	15.0	3.5	0.0	2.5	13.4	14.6	9.2	10.4	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.8	22.0	0.0	9.0	22.1	0.0	5.3	14.6	12.7	18.6	17.6	13.9
LnGrp Delay(d),s/veh	110.2	54.0	0.0	100.9	61.0	0.0	70.2	87.5	90.3	78.9	78.2	76.5
LnGrp LOS	F	D		F	E		E	F	F	E	E	E
Approach Vol, veh/h		1645			1655			821			1281	
Approach Delay, s/veh		62.2			68.5			86.7			78.3	
Approach LOS		E			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	34.1	78.0		41.0	32.2	69.9		51.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	26.0	74.0		37.0	35.0	65.0		47.0
Max Q Clear Time (g_c+I1), s	19.5	48.4		31.9	27.8	48.0		38.8
Green Ext Time (p_c), s	0.6	21.5		1.8	0.4	15.0		3.7

Intersection Summary	
HCM 2010 Ctrl Delay	71.7
HCM 2010 LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1312	486	66	11	412	30	74	276	19	42	258	1380
Future Volume (veh/h)	1312	486	66	11	412	30	74	276	19	42	258	1380
Number	1	6	16	5	2	12	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1881	1882	1900	1900	1850	1900	1881	1900	1900	1900	1900	1863
Adj Flow Rate, veh/h	1353	501	68	11	425	0	76	285	20	43	266	1423
Adj No. of Lanes	2	1	0	0	2	0	1	2	0	1	2	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	3	3	3	1	0	0	0	0	2
Cap, veh/h	1237	561	76	13	539	0	100	1112	78	56	1083	1263
Arrive On Green	0.35	0.35	0.35	0.15	0.15	0.00	0.06	0.32	0.32	0.03	0.30	0.30
Sat Flow, veh/h	3583	1623	220	87	3608	0	1792	3424	239	1810	3610	2787
Grp Volume(v), veh/h	1353	0	569	234	202	0	76	149	156	43	266	1423
Grp Sat Flow(s),veh/h/ln	1792	0	1843	1845	1757	0	1792	1805	1858	1810	1805	1393
Q Serve(g_s), s	38.0	0.0	32.2	13.5	12.1	0.0	4.6	6.7	6.8	2.6	6.1	33.0
Cycle Q Clear(g_c), s	38.0	0.0	32.2	13.5	12.1	0.0	4.6	6.7	6.8	2.6	6.1	33.0
Prop In Lane	1.00		0.12	0.05		0.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	1237	0	637	283	269	0	100	586	603	56	1083	1263
V/C Ratio(X)	1.09	0.00	0.89	0.83	0.75	0.00	0.76	0.26	0.26	0.76	0.25	1.13
Avail Cap(c_a), veh/h	1237	0	637	369	351	0	668	586	603	756	1083	1263
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	0.0	34.1	45.2	44.6	0.0	51.2	27.4	27.4	52.9	29.1	25.5
Incr Delay (d2), s/veh	55.0	0.0	15.1	11.2	6.4	0.0	11.0	0.2	0.2	18.7	0.1	67.7
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	28.2	0.0	18.9	7.8	6.4	0.0	2.6	3.4	3.5	1.6	3.1	31.0
LnGrp Delay(d),s/veh	91.0	0.0	49.2	56.4	51.0	0.0	62.2	27.6	27.6	71.6	29.2	93.1
LnGrp LOS	F		D	E	D		E	C	C	E	C	F
Approach Vol, veh/h		1922			436			381			1732	
Approach Delay, s/veh		78.6			53.9			34.5			82.8	
Approach LOS		E			D			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.9	10.2	37.0		42.0	7.4	39.7
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		22.0	41.0	33.0		38.0	46.0	28.0
Max Q Clear Time (g_c+I1), s		15.5	6.6	35.0		40.0	4.6	8.8
Green Ext Time (p_c), s		1.4	0.4	0.0		0.0	0.1	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	74.1
HCM 2010 LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Santa Cruz DRP Study
1: Front Street & Laurel Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	337	10	246	448	89	5	145	168	44	156	90
Future Volume (veh/h)	48	337	10	246	448	89	5	145	168	44	156	90
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1810	1852	1900	1845	1863	1845	1583	1827	1881	1743	1827	1792
Adj Flow Rate, veh/h	52	366	11	267	487	97	5	158	183	48	170	98
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	2	2	3	2	3	20	4	1	9	4	6
Cap, veh/h	372	1441	43	316	703	592	8	286	250	58	340	284
Arrive On Green	0.22	0.41	0.41	0.18	0.38	0.38	0.01	0.16	0.16	0.03	0.19	0.19
Sat Flow, veh/h	1723	3489	105	1757	1863	1568	1508	1827	1599	1660	1827	1524
Grp Volume(v), veh/h	52	184	193	267	487	97	5	158	183	48	170	98
Grp Sat Flow(s),veh/h/ln	1723	1760	1834	1757	1863	1568	1508	1827	1599	1660	1827	1524
Q Serve(g_s), s	1.8	5.1	5.1	10.9	16.4	3.0	0.2	5.9	8.1	2.1	6.2	4.2
Cycle Q Clear(g_c), s	1.8	5.1	5.1	10.9	16.4	3.0	0.2	5.9	8.1	2.1	6.2	4.2
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	372	727	757	316	703	592	8	286	250	58	340	284
V/C Ratio(X)	0.14	0.25	0.25	0.84	0.69	0.16	0.63	0.55	0.73	0.83	0.50	0.35
Avail Cap(c_a), veh/h	372	727	757	497	703	592	81	394	345	89	394	328
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	14.3	14.3	29.4	19.5	15.3	36.8	28.9	29.8	35.6	27.1	26.3
Incr Delay (d2), s/veh	0.8	0.8	0.8	7.7	5.6	0.6	60.6	1.7	5.0	29.3	1.1	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	2.6	2.7	5.9	9.5	1.4	0.2	3.1	3.9	1.4	3.2	1.8
LnGrp Delay(d),s/veh	24.3	15.1	15.1	37.1	25.0	15.9	97.4	30.6	34.8	64.9	28.2	27.0
LnGrp LOS	C	B	B	D	C	B	F	C	C	E	C	C
Approach Vol, veh/h		429			851			346			316	
Approach Delay, s/veh		16.2			27.8			33.8			33.4	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	34.7	4.4	17.8	20.0	32.0	6.6	15.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	21.0	23.0	4.0	16.0	16.0	28.0	4.0	16.0
Max Q Clear Time (g_c+I1), s	12.9	7.1	2.2	8.2	3.8	18.4	4.1	10.1
Green Ext Time (p_c), s	0.5	5.3	0.0	1.8	0.1	4.0	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	27.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	345	14	34	476	28	33	31	28	20	17	26
Future Volume (veh/h)	22	345	14	34	476	28	33	31	28	20	17	26
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1520	1872	1900	1845	1862	1900	1900	1544	1900	1900	1611	1900
Adj Flow Rate, veh/h	26	401	16	40	553	33	38	36	33	23	20	30
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	0	1	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	25	1	1	3	2	2	0	13	13	13	13	13
Cap, veh/h	85	947	38	103	921	55	447	175	160	143	118	134
Arrive On Green	0.06	0.53	0.53	0.06	0.53	0.53	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1448	1788	71	1757	1740	104	1376	743	681	314	501	569
Grp Volume(v), veh/h	26	0	417	40	0	586	38	0	69	73	0	0
Grp Sat Flow(s),veh/h/ln	1448	0	1859	1757	0	1843	1376	0	1424	1384	0	0
Q Serve(g_s), s	1.2	0.0	9.3	1.5	0.0	14.9	0.0	0.0	2.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	9.3	1.5	0.0	14.9	1.1	0.0	2.6	2.7	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.06	1.00		0.48	0.32		0.41
Lane Grp Cap(c), veh/h	85	0	984	103	0	976	447	0	335	395	0	0
V/C Ratio(X)	0.31	0.00	0.42	0.39	0.00	0.60	0.09	0.00	0.21	0.18	0.00	0.00
Avail Cap(c_a), veh/h	341	0	984	413	0	976	447	0	335	395	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.7	0.0	9.7	30.8	0.0	11.0	20.3	0.0	20.9	20.9	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	1.3	2.4	0.0	2.7	0.4	0.0	1.4	1.0	0.0	0.0
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	0.5	0.0	5.0	0.8	0.0	8.2	0.6	0.0	1.2	1.2	0.0	0.0
LnGrp Delay(d),s/veh	32.7	0.0	11.0	33.2	0.0	13.8	20.7	0.0	22.3	21.9	0.0	0.0
LnGrp LOS	C		B	C		B	C		C	C		
Approach Vol, veh/h		443			626			107			73	
Approach Delay, s/veh		12.3			15.0			21.7			21.9	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	40.0		20.0	8.0	40.0		20.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	4.0	36.0		16.0	4.0	36.0		16.0
Max Q Clear Time (g_c+I1), s	3.5	11.3		4.7	3.2	16.9		4.6
Green Ext Time (p_c), s	0.0	7.3		0.6	0.0	6.6		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	15.0
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	21	22	316	308	73
Future Volume (veh/h)	48	21	22	316	308	73
Number	5	12	3	8	4	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1638	1810	1712	1743	1706	1900
Adj Flow Rate, veh/h	55	24	25	363	354	84
Adj No. of Lanes	1	1	1	1	2	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	16	5	11	9	11	11
Cap, veh/h	422	416	364	1107	951	223
Arrive On Green	0.27	0.27	0.22	0.64	0.36	0.36
Sat Flow, veh/h	1560	1538	1630	1743	2692	611
Grp Volume(v), veh/h	55	24	25	363	218	220
Grp Sat Flow(s),veh/h/ln	1560	1538	1630	1743	1621	1598
Q Serve(g_s), s	2.3	1.0	1.0	8.2	8.4	8.6
Cycle Q Clear(g_c), s	2.3	1.0	1.0	8.2	8.4	8.6
Prop In Lane	1.00	1.00	1.00			0.38
Lane Grp Cap(c), veh/h	422	416	364	1107	591	583
V/C Ratio(X)	0.13	0.06	0.07	0.33	0.37	0.38
Avail Cap(c_a), veh/h	422	416	364	1107	591	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	23.0	26.0	7.1	19.8	19.9
Incr Delay (d2), s/veh	0.6	0.3	0.4	0.2	1.8	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.4	0.5	3.9	4.1	4.1
LnGrp Delay(d),s/veh	24.1	23.2	26.4	7.3	21.6	21.7
LnGrp LOS	C	C	C	A	C	C
Approach Vol, veh/h	79			388	438	
Approach Delay, s/veh	23.8			8.5	21.7	
Approach LOS	C			A	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		27.0	23.0	35.0				58.0
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		23.0	19.0	31.0				54.0
Max Q Clear Time (g_c+I1), s		4.3	3.0	10.6				10.2
Green Ext Time (p_c), s		0.2	0.0	5.0				5.8

Intersection Summary	
HCM 2010 Ctrl Delay	16.2
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	3	2	300	291	35
Future Volume (veh/h)	12	3	2	300	291	35
Number	5	12	3	8	4	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	950	1900	950	1810	1650	1900
Adj Flow Rate, veh/h	14	4	2	353	342	41
Adj No. of Lanes	0	0	1	1	1	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	100	5	5	5
Cap, veh/h	12	4	540	1429	1142	137
Arrive On Green	0.02	0.02	0.79	0.79	0.79	0.79
Sat Flow, veh/h	652	186	508	1810	1446	173
Grp Volume(v), veh/h	19	0	2	353	0	383
Grp Sat Flow(s),veh/h/ln	885	0	508	1810	0	1619
Q Serve(g_s), s	0.8	0.0	0.0	2.1	0.0	2.7
Cycle Q Clear(g_c), s	0.8	0.0	2.8	2.1	0.0	2.7
Prop In Lane	0.74	0.21	1.00			0.11
Lane Grp Cap(c), veh/h	17	0	540	1429	0	1279
V/C Ratio(X)	1.13	0.00	0.00	0.25	0.00	0.30
Avail Cap(c_a), veh/h	402	0	540	1429	0	1279
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.5	0.0	1.6	1.1	0.0	1.2
Incr Delay (d2), s/veh	143.0	0.0	0.0	0.4	0.0	0.6
Initial Q Delay(d3),s/veh	8.5	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	1.1	0.0	1.4
LnGrp Delay(d),s/veh	172.0	0.0	1.6	1.6	0.0	1.8
LnGrp LOS	F		A	A		A
Approach Vol, veh/h	19			355	383	
Approach Delay, s/veh	172.0			1.6	1.8	
Approach LOS	F			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		4.8		37.0				37.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		19.0		33.0				33.0
Max Q Clear Time (g_c+I1), s		2.8		4.7				4.8
Green Ext Time (p_c), s		0.0		5.1				5.1

Intersection Summary	
HCM 2010 Ctrl Delay	6.0
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	10	107	4	10	43
Future Vol, veh/h	12	10	107	4	10	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	12	10	13	100	100	8
Mvmt Flow	15	12	132	5	12	53

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	213	135	0	0	137	0
Stage 1	135	-	-	-	-	-
Stage 2	78	-	-	-	-	-
Critical Hdwy	6.52	6.3	-	-	5.1	-
Critical Hdwy Stg 1	5.52	-	-	-	-	-
Critical Hdwy Stg 2	5.52	-	-	-	-	-
Follow-up Hdwy	3.608	3.39	-	-	3.1	-
Pot Cap-1 Maneuver	753	893	-	-	1014	-
Stage 1	867	-	-	-	-	-
Stage 2	920	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	744	893	-	-	1014	-
Mov Cap-2 Maneuver	744	-	-	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	909	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	1.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	805	1014	-
HCM Lane V/C Ratio	-	-	0.034	0.012	-
HCM Control Delay (s)	-	-	9.6	8.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	11	2	21	0	3	1	4	0	9	101	2
Future Vol, veh/h	0	11	2	21	0	3	1	4	0	9	101	2
Peak Hour Factor	0.92	0.80	0.80	0.80	0.92	0.80	0.80	0.80	0.92	0.80	0.80	0.80
Heavy Vehicles, %	2	9	50	14	2	33	0	0	2	0	16	0
Mvmt Flow	0	14	3	26	0	4	1	5	0	11	126	3
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.4	7.8	7.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	32%	38%	5%
Vol Thru, %	90%	6%	12%	78%
Vol Right, %	2%	62%	50%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	112	34	8	58
LT Vol	9	11	3	3
Through Vol	101	2	1	45
RT Vol	2	21	4	10
Lane Flow Rate	140	42	10	72
Geometry Grp	1	1	1	1
Degree of Util (X)	0.158	0.049	0.013	0.081
Departure Headway (Hd)	4.052	4.118	4.744	4.004
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	881	854	759	887
Service Time	2.096	2.218	2.744	2.064
HCM Lane V/C Ratio	0.159	0.049	0.013	0.081
HCM Control Delay	7.9	7.4	7.8	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.2	0	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

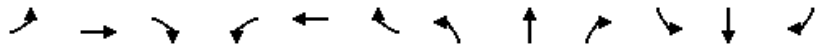
Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	3	45	10
Future Vol, veh/h	0	3	45	10
Peak Hour Factor	0.92	0.80	0.80	0.80
Heavy Vehicles, %	2	0	41	10
Mvmt Flow	0	4	56	13
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.4
HCM LOS	A

Santa Cruz DRP Study
7: Pacific Street & Front Street & Mission Street/Water Street

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	SBL2	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	380	75	19	61	48	637	3	5	60	18	107
Future Volume (vph)	81	380	75	19	61	48	637	3	5	60	18	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0				4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	1.00	0.95				1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	1.00				1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	0.95	1.00				0.96	1.00
Satd. Flow (prot)	1736	3471	1524		1597	1770	3537				1608	1599
Flt Permitted	0.95	1.00	1.00		0.95	0.95	1.00				0.96	1.00
Satd. Flow (perm)	1736	3471	1524		1597	1770	3537				1608	1599
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	91	427	84	21	69	54	716	3	6	67	20	120
RTOR Reduction (vph)	0	0	31	0	0	0	1	0	0	0	0	88
Lane Group Flow (vph)	91	427	74	0	69	54	718	0	0	0	93	32
Heavy Vehicles (%)	4%	4%	5%	10%	13%	2%	2%	0%	0%	19%	0%	1%
Turn Type	Prot	NA	Perm		Prot	Prot	NA		Perm	Perm	NA	Perm
Protected Phases	5	2			1	1	6				8	
Permitted Phases			2						8	8		8
Actuated Green, G (s)	8.2	40.9	40.9		7.6	7.6	40.3				22.1	22.1
Effective Green, g (s)	8.2	40.9	40.9		7.6	7.6	40.3				22.1	22.1
Actuated g/C Ratio	0.10	0.50	0.50		0.09	0.09	0.49				0.27	0.27
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0				4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0				3.0	3.0
Lane Grp Cap (vph)	172	1718	754		146	162	1725				430	427
v/s Ratio Prot	c0.05	0.12			0.04	0.03	c0.20					
v/s Ratio Perm			0.05								0.06	0.02
v/c Ratio	0.53	0.25	0.10		0.47	0.33	0.42				0.22	0.08
Uniform Delay, d1	35.4	12.0	11.1		35.6	35.1	13.6				23.5	22.6
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00				1.00	1.00
Incremental Delay, d2	2.9	0.1	0.1		2.4	1.2	0.7				1.2	0.3
Delay (s)	38.3	12.1	11.1		38.0	36.3	14.3				24.7	23.0
Level of Service	D	B	B		D	D	B				C	C
Approach Delay (s)		15.7					17.7				23.7	
Approach LOS		B					B				C	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	82.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	52	10	223	104	42	10	229	146	24	172	22
Future Volume (veh/h)	29	52	10	223	104	42	10	229	146	24	172	22
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1841	1900	1792	1825	1827	1900	1714	1900	1638	1606	1900
Adj Flow Rate, veh/h	34	60	12	190	218	0	12	266	170	28	200	26
Adj No. of Lanes	0	2	0	1	1	1	0	2	0	1	1	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	6	3	4	8	8	8	16	19	19
Cap, veh/h	62	116	24	855	914	778	65	489	296	218	362	47
Arrive On Green	0.06	0.06	0.06	0.50	0.50	0.00	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1093	2040	420	1707	1825	1553	30	1883	1141	834	1393	181
Grp Volume(v), veh/h	56	0	50	190	218	0	246	0	202	28	0	226
Grp Sat Flow(s),veh/h/ln	1786	0	1767	1707	1825	1553	1696	0	1359	834	0	1574
Q Serve(g_s), s	2.0	0.0	1.8	4.1	4.5	0.0	0.0	0.0	8.5	2.0	0.0	8.2
Cycle Q Clear(g_c), s	2.0	0.0	1.8	4.1	4.5	0.0	8.1	0.0	8.5	10.5	0.0	8.2
Prop In Lane	0.61		0.24	1.00		1.00	0.05		0.84	1.00		0.12
Lane Grp Cap(c), veh/h	102	0	101	855	914	778	498	0	353	218	0	409
V/C Ratio(X)	0.55	0.00	0.50	0.22	0.24	0.00	0.49	0.00	0.57	0.13	0.00	0.55
Avail Cap(c_a), veh/h	515	0	510	855	914	778	975	0	743	457	0	860
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.2	0.0	30.2	9.2	9.3	0.0	21.1	0.0	21.2	25.8	0.0	21.1
Incr Delay (d2), s/veh	4.5	0.0	3.8	0.6	0.6	0.0	0.8	0.0	1.5	0.3	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	1.0	2.0	2.4	0.0	3.9	0.0	3.4	0.5	0.0	3.6
LnGrp Delay(d),s/veh	34.7	0.0	34.0	9.8	9.9	0.0	21.8	0.0	22.7	26.0	0.0	22.2
LnGrp LOS	C		C	A	A		C		C	C		C
Approach Vol, veh/h		106			408			448			254	
Approach Delay, s/veh		34.4			9.9			22.2			22.7	
Approach LOS		C			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		7.8		21.1		37.0		21.1
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		19.0		36.0		33.0		36.0
Max Q Clear Time (g_c+I1), s		4.0		12.5		6.5		10.5
Green Ext Time (p_c), s		0.4		4.6		1.8		4.7

Intersection Summary	
HCM 2010 Ctrl Delay	19.2
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	6	21	13	0	36	38	20	0	7	71	23	0	0	0	0
Future Vol, veh/h	0	6	21	13	0	36	38	20	0	7	71	23	0	0	0	0
Peak Hour Factor	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81	0.92	0.81	0.81	0.81
Heavy Vehicles, %	2	16	9	15	2	28	2	25	2	0	4	28	2	0	0	0
Mvmt Flow	0	7	26	16	0	44	47	25	0	9	88	28	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.7	8.5	7.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	7%	15%	38%
Vol Thru, %	70%	53%	40%
Vol Right, %	23%	33%	21%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	101	40	94
LT Vol	7	6	36
Through Vol	71	21	38
RT Vol	23	13	20
Lane Flow Rate	125	49	116
Geometry Grp	1	1	1
Degree of Util (X)	0.145	0.061	0.148
Departure Headway (Hd)	4.175	4.418	4.584
Convergence, Y/N	Yes	Yes	Yes
Cap	863	814	773
Service Time	2.179	2.426	2.667
HCM Lane V/C Ratio	0.145	0.06	0.15
HCM Control Delay	7.9	7.7	8.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.2	0.5

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	103	75	98	0	0
Future Vol, veh/h	0	103	75	98	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	4	6	5	0	0
Mvmt Flow	0	123	89	117	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	148	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.24	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.336	-	-
Pot Cap-1 Maneuver	0	894	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	894	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

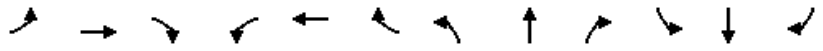
Approach	WB	NB
HCM Control Delay, s	9.7	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	894
HCM Lane V/C Ratio	-	-	0.137
HCM Control Delay (s)	-	-	9.7
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	303	49	136	459	255	78	466	40	175	620	391
Future Volume (veh/h)	167	303	49	136	459	255	78	466	40	175	620	391
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1827	1822	1900	1881	1827	1863	1845	1845	1900	1863	1845	1845
Adj Flow Rate, veh/h	180	326	53	146	494	0	84	501	43	188	667	0
Adj No. of Lanes	2	2	0	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	1	4	2	3	3	0	2	3	3
Cap, veh/h	284	682	110	191	871	397	109	984	454	241	1242	556
Arrive On Green	0.08	0.23	0.23	0.11	0.25	0.00	0.06	0.28	0.28	0.14	0.35	0.00
Sat Flow, veh/h	3375	2987	481	1792	3471	1583	1757	3505	1615	1774	3505	1568
Grp Volume(v), veh/h	180	187	192	146	494	0	84	501	43	188	667	0
Grp Sat Flow(s),veh/h/ln	1688	1731	1737	1792	1736	1583	1757	1752	1615	1774	1752	1568
Q Serve(g_s), s	3.3	6.0	6.2	5.1	8.0	0.0	3.0	7.7	1.3	6.6	9.8	0.0
Cycle Q Clear(g_c), s	3.3	6.0	6.2	5.1	8.0	0.0	3.0	7.7	1.3	6.6	9.8	0.0
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	284	395	397	191	871	397	109	984	454	241	1242	556
V/C Ratio(X)	0.63	0.47	0.48	0.76	0.57	0.00	0.77	0.51	0.09	0.78	0.54	0.00
Avail Cap(c_a), veh/h	681	725	728	612	1940	885	382	1632	752	688	2230	998
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.5	21.5	21.6	28.0	21.1	0.0	29.8	19.4	17.1	26.9	16.6	0.0
Incr Delay (d2), s/veh	2.3	0.9	0.9	6.2	0.6	0.0	10.9	0.4	0.1	5.5	0.4	0.0
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	1.6	3.0	3.0	2.8	3.9	0.0	1.8	3.7	0.6	3.6	4.8	0.0
LnGrp Delay(d),s/veh	30.9	22.4	22.5	34.2	21.7	0.0	40.6	19.8	17.2	32.4	16.9	0.0
LnGrp LOS	C	C	C	C	C		D	B	B	C	B	
Approach Vol, veh/h		559			640			628			855	
Approach Delay, s/veh		25.1			24.5			22.4			20.3	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	18.7	8.0	26.8	9.4	20.2	12.7	22.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	22.0	27.0	14.0	41.0	13.0	36.0	25.0	30.0
Max Q Clear Time (g_c+I1), s	7.1	8.2	5.0	11.8	5.3	10.0	8.6	9.7
Green Ext Time (p_c), s	0.3	5.5	0.1	9.7	0.3	6.2	0.4	8.4

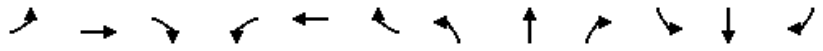
Intersection Summary	
HCM 2010 Ctrl Delay	22.8
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	1529	49	278	1394	515	27	166	203	412	161	185
Future Volume (veh/h)	213	1529	49	278	1394	515	27	166	203	412	161	185
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1827	1827	1792	1712	1810	1810	1610	1727	1743
Adj Flow Rate, veh/h	220	1576	0	287	1437	0	28	171	209	425	166	191
Adj No. of Lanes	1	3	0	2	3	1	1	1	2	2	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	4	4	6	11	5	5	18	10	9
Cap, veh/h	239	2339	0	328	2120	648	252	280	419	599	348	298
Arrive On Green	0.14	0.46	0.00	0.10	0.43	0.00	0.15	0.15	0.15	0.20	0.20	0.20
Sat Flow, veh/h	1757	5204	0	3375	4988	1524	1630	1810	2707	2975	1727	1482
Grp Volume(v), veh/h	220	1576	0	287	1437	0	28	171	209	425	166	191
Grp Sat Flow(s),veh/h/ln	1757	1679	0	1688	1663	1524	1630	1810	1354	1487	1727	1482
Q Serve(g_s), s	24.0	47.3	0.0	16.3	45.1	0.0	2.9	17.1	13.7	25.8	16.5	22.9
Cycle Q Clear(g_c), s	24.0	47.3	0.0	16.3	45.1	0.0	2.9	17.1	13.7	25.8	16.5	22.9
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	239	2339	0	328	2120	648	252	280	419	599	348	298
V/C Ratio(X)	0.92	0.67	0.00	0.88	0.68	0.00	0.11	0.61	0.50	0.71	0.48	0.64
Avail Cap(c_a), veh/h	335	2339	0	435	2120	648	252	280	419	599	348	298
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	82.6	40.5	0.0	86.3	45.0	0.0	70.4	76.5	75.0	72.1	68.4	71.0
Incr Delay (d2), s/veh	23.7	1.6	0.0	14.3	1.8	0.0	0.9	9.6	4.2	7.0	4.6	10.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	22.2	0.0	8.3	21.1	0.0	1.4	9.3	5.4	11.2	8.3	10.2
LnGrp Delay(d),s/veh	106.4	42.0	0.0	100.7	46.8	0.0	71.3	86.0	79.2	79.1	73.1	81.1
LnGrp LOS	F	D		F	D		E	F	E	E	E	F
Approach Vol, veh/h		1796			1724			408			782	
Approach Delay, s/veh		49.9			55.7			81.5			78.3	
Approach LOS		D			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	22.8	94.0		34.0	30.4	86.4		43.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	25.0	90.0		30.0	37.0	78.0		39.0
Max Q Clear Time (g_c+I1), s	18.3	49.3		19.1	26.0	47.1		27.8
Green Ext Time (p_c), s	0.6	33.8		1.4	0.5	26.7		2.6

Intersection Summary	
HCM 2010 Ctrl Delay	59.5
HCM 2010 LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1428	392	51	7	367	27	95	294	24	58	209	1471
Future Volume (veh/h)	1428	392	51	7	367	27	95	294	24	58	209	1471
Number	1	6	16	5	2	12	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1845	1839	1900	1900	1849	1900	1881	1883	1900	1881	1845	1827
Adj Flow Rate, veh/h	1587	436	57	8	408	0	106	327	27	64	232	1634
Adj No. of Lanes	2	1	0	0	2	0	1	2	0	1	2	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	4	4	3	3	3	1	1	1	1	3	4
Cap, veh/h	1209	548	72	10	518	0	138	1075	88	84	1020	1196
Arrive On Green	0.34	0.34	0.34	0.15	0.15	0.00	0.08	0.32	0.32	0.05	0.29	0.29
Sat Flow, veh/h	3514	1594	208	66	3629	0	1792	3348	275	1792	3505	2733
Grp Volume(v), veh/h	1587	0	493	223	193	0	106	174	180	64	232	1634
Grp Sat Flow(s),veh/h/ln	1757	0	1803	1846	1757	0	1792	1788	1834	1792	1752	1367
Q Serve(g_s), s	39.0	0.0	28.0	13.3	11.9	0.0	6.6	8.3	8.4	4.0	5.7	33.0
Cycle Q Clear(g_c), s	39.0	0.0	28.0	13.3	11.9	0.0	6.6	8.3	8.4	4.0	5.7	33.0
Prop In Lane	1.00		0.12	0.04		0.00	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	1209	0	620	271	257	0	138	574	589	84	1020	1196
V/C Ratio(X)	1.31	0.00	0.79	0.82	0.75	0.00	0.77	0.30	0.31	0.76	0.23	1.37
Avail Cap(c_a), veh/h	1209	0	620	358	341	0	632	574	589	711	1020	1196
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	0.0	33.6	47.0	46.4	0.0	51.3	28.9	29.0	53.4	30.5	27.2
Incr Delay (d2), s/veh	146.8	0.0	7.1	11.2	6.3	0.0	8.5	0.3	0.3	12.9	0.1	170.2
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	48.4	0.0	15.2	7.6	6.2	0.0	3.6	4.2	4.3	2.3	2.8	46.9
LnGrp Delay(d),s/veh	184.0	0.0	40.7	58.1	52.7	0.0	59.8	29.2	29.3	66.3	30.6	197.4
LnGrp LOS	F		D	E	D		E	C	C	E	C	F
Approach Vol, veh/h		2080			416			460			1930	
Approach Delay, s/veh		150.0			55.6			36.3			173.0	
Approach LOS		F			E			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.6	12.8	37.0		43.0	9.3	40.4
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		22.0	40.0	33.0		39.0	45.0	28.0
Max Q Clear Time (g_c+I1), s		15.3	8.6	35.0		41.0	6.0	10.4
Green Ext Time (p_c), s		1.3	0.6	0.0		0.0	0.2	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	140.4
HCM 2010 LOS	F

Notes

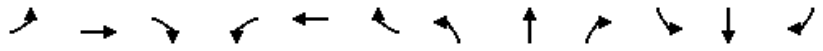
User approved volume balancing among the lanes for turning movement.

Santa Cruz DRP Study
1: Front Street & Laurel Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	638	31	228	379	119	8	170	229	126	327	174
Future Volume (veh/h)	108	638	31	228	379	119	8	170	229	126	327	174
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1897	1900	1900	1881	1900	1900	1881	1900	1827	1900	1900
Adj Flow Rate, veh/h	115	679	33	243	403	127	9	181	244	134	348	185
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	0	0	1	0	0	1	0	4	0	0
Cap, veh/h	370	1226	60	285	564	484	16	353	303	167	522	443
Arrive On Green	0.21	0.35	0.35	0.16	0.30	0.30	0.01	0.19	0.19	0.10	0.27	0.27
Sat Flow, veh/h	1774	3500	170	1810	1881	1615	1810	1881	1615	1740	1900	1615
Grp Volume(v), veh/h	115	350	362	243	403	127	9	181	244	134	348	185
Grp Sat Flow(s),veh/h/ln	1774	1802	1867	1810	1881	1615	1810	1881	1615	1740	1900	1615
Q Serve(g_s), s	4.2	12.0	12.0	10.0	14.7	4.6	0.4	6.6	11.1	5.8	12.5	7.2
Cycle Q Clear(g_c), s	4.2	12.0	12.0	10.0	14.7	4.6	0.4	6.6	11.1	5.8	12.5	7.2
Prop In Lane	1.00		0.09	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	370	631	654	285	564	484	16	353	303	167	522	443
V/C Ratio(X)	0.31	0.55	0.55	0.85	0.72	0.26	0.55	0.51	0.81	0.80	0.67	0.42
Avail Cap(c_a), veh/h	370	631	654	330	564	484	94	392	337	204	522	443
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	20.1	20.1	31.5	24.0	20.4	37.9	28.0	29.9	34.0	24.7	22.8
Incr Delay (d2), s/veh	2.2	3.5	3.4	16.9	7.6	1.3	25.3	1.2	12.3	16.9	3.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	6.5	6.8	6.3	8.8	2.2	0.3	3.5	5.9	3.6	6.9	3.3
LnGrp Delay(d),s/veh	27.9	23.6	23.5	48.4	31.5	21.8	63.2	29.2	42.1	50.9	28.0	23.4
LnGrp LOS	C	C	C	D	C	C	E	C	D	D	C	C
Approach Vol, veh/h		827			773			434			667	
Approach Delay, s/veh		24.1			35.2			37.2			31.3	
Approach LOS		C			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	30.9	4.7	25.1	20.0	27.0	11.4	18.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	14.0	25.0	4.0	21.0	16.0	23.0	9.0	16.0
Max Q Clear Time (g_c+I1), s	12.0	14.0	2.4	14.5	6.2	16.7	7.8	13.1
Green Ext Time (p_c), s	0.1	5.5	0.0	2.6	0.2	3.7	0.0	1.3

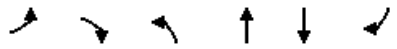
Intersection Summary	
HCM 2010 Ctrl Delay	31.2
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	660	25	41	470	90	41	79	52	57	59	41
Future Volume (veh/h)	55	660	25	41	470	90	41	79	52	57	59	41
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1727	1900	1900	1900	1894	1900	1900	1844	1900	1900	1805	1900
Adj Flow Rate, veh/h	59	702	27	44	500	96	44	84	55	61	63	44
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	10	0	0	0	0	0	0	5	5	5	5	5
Cap, veh/h	107	968	37	106	812	156	392	243	159	161	155	87
Arrive On Green	0.07	0.53	0.53	0.06	0.53	0.53	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1645	1818	70	1810	1545	297	1307	1042	682	381	665	371
Grp Volume(v), veh/h	59	0	729	44	0	596	44	0	139	168	0	0
Grp Sat Flow(s),veh/h/ln	1645	0	1888	1810	0	1842	1307	0	1724	1416	0	0
Q Serve(g_s), s	2.4	0.0	20.1	1.6	0.0	15.5	0.0	0.0	4.6	2.8	0.0	0.0
Cycle Q Clear(g_c), s	2.4	0.0	20.1	1.6	0.0	15.5	2.1	0.0	4.6	7.4	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.16	1.00		0.40	0.36		0.26
Lane Grp Cap(c), veh/h	107	0	1005	106	0	968	392	0	403	403	0	0
V/C Ratio(X)	0.55	0.00	0.73	0.42	0.00	0.62	0.11	0.00	0.34	0.42	0.00	0.00
Avail Cap(c_a), veh/h	384	0	1005	423	0	968	392	0	403	403	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.0	0.0	12.2	31.1	0.0	11.4	20.9	0.0	21.9	22.8	0.0	0.0
Incr Delay (d2), s/veh	4.4	0.0	4.6	2.6	0.0	2.9	0.6	0.0	2.3	3.2	0.0	0.0
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	1.2	0.0	11.6	0.9	0.0	8.6	0.7	0.0	2.5	3.1	0.0	0.0
LnGrp Delay(d),s/veh	35.4	0.0	16.7	33.7	0.0	14.3	21.5	0.0	24.2	25.9	0.0	0.0
LnGrp LOS	D		B	C		B	C		C	C		
Approach Vol, veh/h		788			640			183			168	
Approach Delay, s/veh		18.1			15.6			23.5			25.9	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	40.5		20.0	8.5	40.0		20.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	16.0	36.0		16.0	16.0	36.0		16.0
Max Q Clear Time (g_c+I1), s	13.6	22.1		9.4	4.4	17.5		6.6
Green Ext Time (p_c), s	0.0	7.7		1.1	0.1	9.1		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	18.5
HCM 2010 LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	116	61	56	425	657	157
Future Volume (veh/h)	116	61	56	425	657	157
Number	5	12	3	8	4	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1845	1810	1827	1860	1900
Adj Flow Rate, veh/h	121	64	58	443	684	164
Adj No. of Lanes	1	1	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	3	5	4	1	1
Cap, veh/h	443	387	345	1204	1165	279
Arrive On Green	0.25	0.25	0.20	0.66	0.41	0.41
Sat Flow, veh/h	1792	1568	1723	1827	2922	678
Grp Volume(v), veh/h	121	64	58	443	427	421
Grp Sat Flow(s),veh/h/ln	1792	1568	1723	1827	1767	1740
Q Serve(g_s), s	4.6	2.7	2.4	9.3	15.9	16.0
Cycle Q Clear(g_c), s	4.6	2.7	2.4	9.3	15.9	16.0
Prop In Lane	1.00	1.00	1.00			0.39
Lane Grp Cap(c), veh/h	443	387	345	1204	728	717
V/C Ratio(X)	0.27	0.17	0.17	0.37	0.59	0.59
Avail Cap(c_a), veh/h	443	387	345	1204	728	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	25.1	28.1	6.5	19.4	19.4
Incr Delay (d2), s/veh	1.5	0.9	1.1	0.2	3.5	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	1.3	1.2	4.6	8.4	8.3
LnGrp Delay(d),s/veh	27.4	26.0	29.2	6.7	22.8	22.9
LnGrp LOS	C	C	C	A	C	C
Approach Vol, veh/h	185			501	848	
Approach Delay, s/veh	26.9			9.3	22.9	
Approach LOS	C			A	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		25.0	21.0	39.0				60.0
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		21.0	17.0	35.0				56.0
Max Q Clear Time (g_c+I1), s		6.6	4.4	18.0				11.3
Green Ext Time (p_c), s		0.4	0.1	7.9				11.2

Intersection Summary	
HCM 2010 Ctrl Delay	18.9
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	3	5	442	664	18
Future Volume (veh/h)	17	3	5	442	664	18
Number	5	12	3	8	4	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	985	1900	1056	1900	1841	1900
Adj Flow Rate, veh/h	18	3	5	460	692	19
Adj No. of Lanes	0	0	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	80	0	1	1
Cap, veh/h	16	3	443	1505	1412	39
Arrive On Green	0.02	0.02	0.79	0.79	0.79	0.79
Sat Flow, veh/h	757	126	417	1900	1783	49
Grp Volume(v), veh/h	22	0	5	460	0	711
Grp Sat Flow(s),veh/h/ln	925	0	417	1900	0	1832
Q Serve(g_s), s	0.9	0.0	0.2	2.9	0.0	5.7
Cycle Q Clear(g_c), s	0.9	0.0	5.8	2.9	0.0	5.7
Prop In Lane	0.82	0.14	1.00			0.03
Lane Grp Cap(c), veh/h	20	0	443	1505	0	1451
V/C Ratio(X)	1.11	0.00	0.01	0.31	0.00	0.49
Avail Cap(c_a), veh/h	388	0	443	1505	0	1451
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.0	0.0	2.5	1.2	0.0	1.5
Incr Delay (d2), s/veh	125.4	0.0	0.0	0.5	0.0	1.2
Initial Q Delay(d3),s/veh	5.5	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	3.2
LnGrp Delay(d),s/veh	151.8	0.0	2.6	1.7	0.0	2.7
LnGrp LOS	F		A	A		A
Approach Vol, veh/h	22			465	711	
Approach Delay, s/veh	151.8			1.8	2.7	
Approach LOS	F			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		4.9		38.0				38.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		18.0		34.0				34.0
Max Q Clear Time (g_c+I1), s		2.9		7.7				7.8
Green Ext Time (p_c), s		0.0		9.3				9.3

Intersection Summary	
HCM 2010 Ctrl Delay	5.1
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	11	194	3	12	75
Future Vol, veh/h	9	11	194	3	12	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	100	90	4	100	90	1
Mvmt Flow	10	12	216	3	13	83

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	327	217	0	0	219	0
Stage 1	217	-	-	-	-	-
Stage 2	110	-	-	-	-	-
Critical Hdwy	7.4	7.1	-	-	5	-
Critical Hdwy Stg 1	6.4	-	-	-	-	-
Critical Hdwy Stg 2	6.4	-	-	-	-	-
Follow-up Hdwy	4.4	4.11	-	-	3.01	-
Pot Cap-1 Maneuver	507	645	-	-	966	-
Stage 1	633	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	500	645	-	-	966	-
Mov Cap-2 Maneuver	500	-	-	-	-	-
Stage 1	633	-	-	-	-	-
Stage 2	709	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	571	966	-
HCM Lane V/C Ratio	-	-	0.039	0.014	-
HCM Control Delay (s)	-	-	11.6	8.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	18	4	35	0	4	2	4	0	23	181	6
Future Vol, veh/h	0	18	4	35	0	4	2	4	0	23	181	6
Peak Hour Factor	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	7	0
Mvmt Flow	0	19	4	38	0	4	2	4	0	25	195	6
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.6	7.6	8.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	32%	40%	5%
Vol Thru, %	86%	7%	20%	86%
Vol Right, %	3%	61%	40%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	210	57	10	88
LT Vol	23	18	4	4
Through Vol	181	4	2	76
RT Vol	6	35	4	8
Lane Flow Rate	226	61	11	95
Geometry Grp	1	1	1	1
Degree of Util (X)	0.257	0.073	0.013	0.109
Departure Headway (Hd)	4.102	4.304	4.509	4.152
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	867	837	798	850
Service Time	2.168	2.304	2.511	2.246
HCM Lane V/C Ratio	0.261	0.073	0.014	0.112
HCM Control Delay	8.6	7.6	7.6	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.2	0	0.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

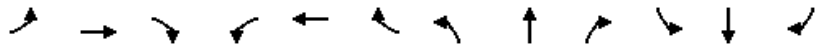
Movement	SBU	SBL	SBT	SBR
Lane Configurations			↕	
Traffic Vol, veh/h	0	4	76	8
Future Vol, veh/h	0	4	76	8
Peak Hour Factor	0.92	0.93	0.93	0.93
Heavy Vehicles, %	2	0	17	0
Mvmt Flow	0	4	82	9
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.8
HCM LOS	A

Santa Cruz DRP Study
7: Pacific Street & Front Street & Mission Street/Water Street

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	SBL2	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	629	110	19	108	49	630	3	19	131	33	174
Future Volume (vph)	152	629	110	19	108	49	630	3	19	131	33	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0				4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	1.00	0.95				1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	1.00				1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	0.95	1.00				0.96	1.00
Satd. Flow (prot)	1787	3574	1590		1787	1770	3572				1744	1599
Flt Permitted	0.95	1.00	1.00		0.95	0.95	1.00				0.96	1.00
Satd. Flow (perm)	1787	3574	1590		1787	1770	3572				1744	1599
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	163	676	118	20	116	53	677	3	20	141	35	187
RTOR Reduction (vph)	0	0	33	0	0	0	1	0	0	0	0	111
Lane Group Flow (vph)	163	676	105	0	116	53	679	0	0	0	196	76
Heavy Vehicles (%)	1%	1%	1%	5%	1%	2%	1%	0%	5%	5%	3%	1%
Turn Type	Prot	NA	Perm		Prot	Prot	NA		Perm	Perm	NA	Perm
Protected Phases	5	2			1	1	6				8	
Permitted Phases			2						8	8		8
Actuated Green, G (s)	12.6	37.4	37.4		9.2	9.2	34.0				24.0	24.0
Effective Green, g (s)	12.6	37.4	37.4		9.2	9.2	34.0				24.0	24.0
Actuated g/C Ratio	0.15	0.45	0.45		0.11	0.11	0.41				0.29	0.29
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0				4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0				3.0	3.0
Lane Grp Cap (vph)	272	1618	719		199	197	1470				506	464
v/s Ratio Prot	c0.09	c0.19			0.06	0.03	c0.19					
v/s Ratio Perm			0.07								0.11	0.05
v/c Ratio	0.60	0.42	0.15		0.58	0.27	0.46				0.39	0.16
Uniform Delay, d1	32.6	15.3	13.2		34.9	33.6	17.7				23.4	21.8
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00				1.00	1.00
Incremental Delay, d2	3.5	0.2	0.1		4.3	0.7	1.0				2.2	0.8
Delay (s)	36.2	15.4	13.3		39.2	34.4	18.7				25.7	22.6
Level of Service	D	B	B		D	C	B				C	C
Approach Delay (s)		18.6					22.5				24.2	
Approach LOS		B					C				C	

Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	82.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	111	42	427	94	36	10	318	221	79	406	36
Future Volume (veh/h)	50	111	42	427	94	36	10	318	221	79	406	36
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1859	1900	1900	1880	1900	1900	1832	1900	1881	1817	1900
Adj Flow Rate, veh/h	53	117	44	520	0	0	11	335	233	83	427	38
Adj No. of Lanes	0	2	0	2	0	1	0	2	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	0	3	0	5	5	5	1	5	5
Cap, veh/h	80	182	71	1467	0	655	54	674	451	266	573	51
Arrive On Green	0.09	0.09	0.09	0.41	0.00	0.00	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	851	1939	753	3619	0	1615	21	1934	1295	848	1644	146
Grp Volume(v), veh/h	113	0	101	520	0	0	320	0	259	83	0	465
Grp Sat Flow(s),veh/h/ln	1817	0	1726	1810	0	1615	1811	0	1439	848	0	1791
Q Serve(g_s), s	4.8	0.0	4.4	7.9	0.0	0.0	0.0	0.0	11.3	6.8	0.0	18.0
Cycle Q Clear(g_c), s	4.8	0.0	4.4	7.9	0.0	0.0	18.0	0.0	11.3	18.1	0.0	18.0
Prop In Lane	0.47		0.44	1.00		1.00	0.03		0.90	1.00		0.08
Lane Grp Cap(c), veh/h	171	0	162	1467	0	655	679	0	502	266	0	625
V/C Ratio(X)	0.66	0.00	0.62	0.35	0.00	0.00	0.47	0.00	0.52	0.31	0.00	0.74
Avail Cap(c_a), veh/h	368	0	350	1467	0	655	958	0	729	400	0	907
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	34.4	16.3	0.0	0.0	20.3	0.0	20.4	27.6	0.0	22.6
Incr Delay (d2), s/veh	4.3	0.0	3.8	0.7	0.0	0.0	0.5	0.0	0.8	0.7	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	2.3	4.0	0.0	0.0	5.6	0.0	4.6	1.6	0.0	9.3
LnGrp Delay(d),s/veh	38.9	0.0	38.3	17.0	0.0	0.0	20.8	0.0	21.2	28.3	0.0	24.6
LnGrp LOS	D		D	B			C		C	C		C
Approach Vol, veh/h		214			520			579			548	
Approach Delay, s/veh		38.6			17.0			21.0			25.1	
Approach LOS		D			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		11.4		31.5		36.0		31.5
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		16.0		40.0		32.0		40.0
Max Q Clear Time (g_c+I1), s		6.8		20.1		9.9		20.0
Green Ext Time (p_c), s		0.7		7.4		1.9		7.5

Intersection Summary		
HCM 2010 Ctrl Delay		23.1
HCM 2010 LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	12	79	38	0	59	74	33	0	21	91	57	0	0	0	0
Future Vol, veh/h	0	12	79	38	0	59	74	33	0	21	91	57	0	0	0	0
Peak Hour Factor	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	0	0	2	2	22	2	14	2	0	1	9	2	0	0	0
Mvmt Flow	0	13	87	42	0	65	81	36	0	23	100	63	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	9.4	8.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	12%	9%	36%
Vol Thru, %	54%	61%	45%
Vol Right, %	34%	29%	20%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	169	129	166
LT Vol	21	12	59
Through Vol	91	79	74
RT Vol	57	38	33
Lane Flow Rate	186	142	182
Geometry Grp	1	1	1
Degree of Util (X)	0.231	0.173	0.244
Departure Headway (Hd)	4.48	4.393	4.815
Convergence, Y/N	Yes	Yes	Yes
Cap	802	817	746
Service Time	2.507	2.424	2.844
HCM Lane V/C Ratio	0.232	0.174	0.244
HCM Control Delay	8.9	8.3	9.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.9	0.6	1

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	142	128	140	0	0
Future Vol, veh/h	1	142	128	140	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	1	0	0
Mvmt Flow	1	154	139	152	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	215	215	0	0
Stage 1	215	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	6.2	-	-
Critical Hdwy Stg 1	5.4	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	778	830	-	-
Stage 1	826	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	778	830	-	-
Mov Cap-2 Maneuver	778	-	-	-
Stage 1	826	-	-	-
Stage 2	-	-	-	-

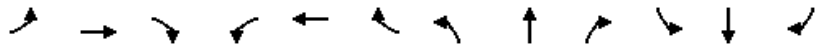
Approach	WB	NB
HCM Control Delay, s	10.3	0
HCM LOS	B	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	830
HCM Lane V/C Ratio	-	-	0.186
HCM Control Delay (s)	-	-	10.3
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	346	734	111	112	586	227	120	553	98	290	856	387
Future Volume (veh/h)	346	734	111	112	586	227	120	553	98	290	856	387
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1881	1900	1900	1881	1900	1900	1881	1881	1881	1900	1863
Adj Flow Rate, veh/h	360	765	116	117	610	0	125	576	102	302	892	0
Adj No. of Lanes	2	2	0	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	1	1	0	1	0	0	1	1	1	0	2
Cap, veh/h	447	1022	155	148	1002	453	157	829	371	343	1216	533
Arrive On Green	0.13	0.33	0.33	0.08	0.28	0.00	0.09	0.23	0.23	0.19	0.34	0.00
Sat Flow, veh/h	3442	3113	472	1810	3574	1615	1810	3574	1599	1792	3610	1583
Grp Volume(v), veh/h	360	439	442	117	610	0	125	576	102	302	892	0
Grp Sat Flow(s),veh/h/ln	1721	1787	1798	1810	1787	1615	1810	1787	1599	1792	1805	1583
Q Serve(g_s), s	9.8	21.0	21.0	6.1	14.2	0.0	6.5	14.2	5.0	15.7	20.9	0.0
Cycle Q Clear(g_c), s	9.8	21.0	21.0	6.1	14.2	0.0	6.5	14.2	5.0	15.7	20.9	0.0
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	447	587	590	148	1002	453	157	829	371	343	1216	533
V/C Ratio(X)	0.81	0.75	0.75	0.79	0.61	0.00	0.80	0.69	0.28	0.88	0.73	0.00
Avail Cap(c_a), veh/h	645	707	711	245	1228	555	264	930	416	522	1465	643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.6	28.7	28.7	43.3	30.0	0.0	43.0	33.8	30.3	37.8	28.1	0.0
Incr Delay (d2), s/veh	4.9	3.6	3.6	9.1	0.6	0.0	8.9	2.0	0.4	10.9	1.6	0.0
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	5.0	11.0	11.0	3.4	7.1	0.0	3.6	7.2	2.2	8.8	10.7	0.0
LnGrp Delay(d),s/veh	45.5	32.3	32.3	52.5	30.6	0.0	51.9	35.8	30.7	48.6	29.6	0.0
LnGrp LOS	D	C	C	D	C		D	D	C	D	C	
Approach Vol, veh/h		1241			727			803			1194	
Approach Delay, s/veh		36.1			34.1			37.6			34.4	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	35.5	12.3	36.4	16.5	30.9	22.4	26.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	13.0	38.0	14.0	39.0	18.0	33.0	28.0	25.0
Max Q Clear Time (g_c+I1), s	8.1	23.0	8.5	22.9	11.8	16.2	17.7	16.2
Green Ext Time (p_c), s	0.1	8.5	0.1	9.4	0.7	9.2	0.7	6.1

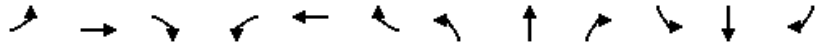
Intersection Summary	
HCM 2010 Ctrl Delay	35.6
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	228	1327	77	328	1277	472	102	253	447	648	316	249
Future Volume (veh/h)	228	1327	77	328	1277	472	102	253	447	648	316	249
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1847	1900	1845	1863	1810	1881	1845	1881	1863	1845	1863
Adj Flow Rate, veh/h	243	1412	0	349	1359	0	109	269	476	689	336	265
Adj No. of Lanes	1	3	0	2	3	1	1	1	2	2	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	3	3	3	2	5	1	3	1	2	3	2
Cap, veh/h	262	1874	0	388	1726	522	347	357	545	824	442	379
Arrive On Green	0.15	0.37	0.00	0.11	0.34	0.00	0.19	0.19	0.19	0.24	0.24	0.24
Sat Flow, veh/h	1792	5207	0	3408	5085	1538	1792	1845	2814	3442	1845	1583
Grp Volume(v), veh/h	243	1412	0	349	1359	0	109	269	476	689	336	265
Grp Sat Flow(s),veh/h/ln	1792	1680	0	1704	1695	1538	1792	1845	1407	1721	1845	1583
Q Serve(g_s), s	26.3	48.0	0.0	19.9	47.3	0.0	10.3	27.0	32.2	37.4	33.3	30.0
Cycle Q Clear(g_c), s	26.3	48.0	0.0	19.9	47.3	0.0	10.3	27.0	32.2	37.4	33.3	30.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	262	1874	0	388	1726	522	347	357	545	824	442	379
V/C Ratio(X)	0.93	0.75	0.00	0.90	0.79	0.00	0.31	0.75	0.87	0.84	0.76	0.70
Avail Cap(c_a), veh/h	328	1874	0	451	1726	522	347	357	545	824	442	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	82.8	53.8	0.0	85.9	58.5	0.0	68.0	74.8	76.9	71.0	69.5	68.2
Incr Delay (d2), s/veh	27.9	2.9	0.0	18.9	3.7	0.0	2.4	13.7	17.5	9.8	11.7	10.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.1	22.9	0.0	10.4	22.7	0.0	5.3	15.2	13.9	18.9	18.4	14.2
LnGrp Delay(d),s/veh	110.7	56.7	0.0	104.8	62.2	0.0	70.4	88.5	94.4	80.9	81.2	78.5
LnGrp LOS	F	E		F	E		E	F	F	F	F	E
Approach Vol, veh/h		1655			1708			854			1290	
Approach Delay, s/veh		64.6			70.9			89.4			80.5	
Approach LOS		E			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	26.4	77.0		42.0	32.7	70.6		51.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	22.0	73.0		38.0	36.0	63.0		47.0
Max Q Clear Time (g_c+I1), s	21.9	50.0		34.2	28.3	49.3		39.4
Green Ext Time (p_c), s	0.5	19.7		1.5	0.4	12.3		3.6

Intersection Summary	
HCM 2010 Ctrl Delay	74.1
HCM 2010 LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1312	486	66	11	412	30	74	284	19	42	275	1380
Future Volume (veh/h)	1312	486	66	11	412	30	74	284	19	42	275	1380
Number	1	6	16	5	2	12	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1881	1882	1900	1900	1850	1900	1881	1900	1900	1900	1900	1863
Adj Flow Rate, veh/h	1353	501	68	11	425	0	76	293	20	43	284	1423
Adj No. of Lanes	2	1	0	0	2	0	1	2	0	1	2	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	3	3	3	1	0	0	0	0	2
Cap, veh/h	1238	561	76	13	539	0	100	1114	76	56	1083	1263
Arrive On Green	0.35	0.35	0.35	0.15	0.15	0.00	0.06	0.32	0.32	0.03	0.30	0.30
Sat Flow, veh/h	3583	1623	220	87	3608	0	1792	3431	233	1810	3610	2787
Grp Volume(v), veh/h	1353	0	569	234	202	0	76	153	160	43	284	1423
Grp Sat Flow(s),veh/h/ln	1792	0	1843	1845	1757	0	1792	1805	1859	1810	1805	1393
Q Serve(g_s), s	38.0	0.0	32.2	13.5	12.1	0.0	4.6	6.9	7.0	2.6	6.6	33.0
Cycle Q Clear(g_c), s	38.0	0.0	32.2	13.5	12.1	0.0	4.6	6.9	7.0	2.6	6.6	33.0
Prop In Lane	1.00		0.12	0.05		0.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	1238	0	637	283	269	0	100	586	604	56	1083	1263
V/C Ratio(X)	1.09	0.00	0.89	0.83	0.75	0.00	0.76	0.26	0.26	0.76	0.26	1.13
Avail Cap(c_a), veh/h	1238	0	637	369	351	0	668	586	604	757	1083	1263
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	0.0	34.1	45.2	44.6	0.0	51.2	27.4	27.4	52.9	29.3	25.5
Incr Delay (d2), s/veh	55.0	0.0	15.1	11.2	6.4	0.0	11.0	0.2	0.2	18.7	0.1	67.7
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	28.2	0.0	18.9	7.8	6.4	0.0	2.6	3.5	3.6	1.6	3.3	31.0
LnGrp Delay(d),s/veh	91.0	0.0	49.2	56.4	51.0	0.0	62.2	27.7	27.7	71.6	29.4	93.1
LnGrp LOS	F		D	E	D		E	C	C	E	C	F
Approach Vol, veh/h		1922			436			389			1750	
Approach Delay, s/veh		78.6			53.9			34.4			82.2	
Approach LOS		E			D			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		20.9	10.2	37.0		42.0	7.4	39.7
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		22.0	41.0	33.0		38.0	46.0	28.0
Max Q Clear Time (g_c+I1), s		15.5	6.6	35.0		40.0	4.6	9.0
Green Ext Time (p_c), s		1.4	0.4	0.0		0.0	0.1	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	73.8
HCM 2010 LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	996	29	227	830	195	4	228	254	202	366	262
Future Volume (veh/h)	165	996	29	227	830	195	4	228	254	202	366	262
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1898	1900	1900	1881	1900	1900	1881	1900	1827	1900	1900
Adj Flow Rate, veh/h	179	1083	32	247	902	212	4	248	276	220	398	285
Adj No. of Lanes	1	2	0	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	0	0	1	0	0	1	0	4	0	0
Cap, veh/h	357	1327	39	286	616	529	8	365	313	131	504	429
Arrive On Green	0.20	0.37	0.37	0.16	0.33	0.33	0.00	0.19	0.19	0.08	0.27	0.27
Sat Flow, veh/h	1774	3577	106	1810	1881	1615	1810	1881	1615	1740	1900	1615
Grp Volume(v), veh/h	179	546	569	247	902	212	4	248	276	220	398	285
Grp Sat Flow(s),veh/h/ln	1774	1803	1880	1810	1881	1615	1810	1881	1615	1740	1900	1615
Q Serve(g_s), s	7.1	21.7	21.7	10.6	26.0	8.1	0.2	9.7	13.2	6.0	15.5	12.5
Cycle Q Clear(g_c), s	7.1	21.7	21.7	10.6	26.0	8.1	0.2	9.7	13.2	6.0	15.5	12.5
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	357	669	697	286	616	529	8	365	313	131	504	429
V/C Ratio(X)	0.50	0.82	0.82	0.86	1.46	0.40	0.52	0.68	0.88	1.67	0.79	0.66
Avail Cap(c_a), veh/h	357	669	697	296	616	529	91	379	325	131	504	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	22.5	22.5	32.6	26.7	20.7	39.5	29.7	31.1	36.7	27.1	26.0
Incr Delay (d2), s/veh	4.9	10.6	10.2	21.8	217.9	2.3	45.2	4.6	22.7	334.0	8.2	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	12.7	13.2	7.0	50.6	3.9	0.2	5.5	7.8	15.0	9.2	6.0
LnGrp Delay(d),s/veh	33.1	33.1	32.8	54.4	244.6	22.9	84.7	34.3	53.8	370.7	35.3	29.9
LnGrp LOS	C	C	C	D	F	C	F	C	D	F	D	C
Approach Vol, veh/h		1294			1361			528			903	
Approach Delay, s/veh		33.0			175.5			44.9			115.3	
Approach LOS		C			F			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.6	33.4	4.3	25.1	20.0	30.0	10.0	19.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	13.0	29.0	4.0	18.0	16.0	26.0	6.0	16.0
Max Q Clear Time (g_c+I1), s	12.6	23.7	2.2	17.5	9.1	28.0	8.0	15.2
Green Ext Time (p_c), s	0.0	4.7	0.0	0.4	0.3	0.0	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	100.2
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	1075	44	64	982	91	59	96	44	97	59	63
Future Volume (veh/h)	162	1075	44	64	982	91	59	96	44	97	59	63
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1727	1900	1900	1900	1897	1900	1900	1837	1900	1900	1808	1900
Adj Flow Rate, veh/h	176	1168	48	70	1067	99	64	104	48	105	64	68
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	0	0	0	0	0	0	5	5	5	5	5
Cap, veh/h	221	1006	41	119	833	77	299	258	119	159	87	71
Arrive On Green	0.13	0.56	0.56	0.07	0.49	0.49	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1645	1812	74	1810	1710	159	1278	1191	550	410	401	326
Grp Volume(v), veh/h	176	0	1216	70	0	1166	64	0	152	237	0	0
Grp Sat Flow(s),veh/h/ln	1645	0	1887	1810	0	1869	1278	0	1740	1136	0	0
Q Serve(g_s), s	7.7	0.0	41.0	2.8	0.0	36.0	0.0	0.0	5.5	9.9	0.0	0.0
Cycle Q Clear(g_c), s	7.7	0.0	41.0	2.8	0.0	36.0	4.3	0.0	5.5	15.4	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.08	1.00		0.32	0.44		0.29
Lane Grp Cap(c), veh/h	221	0	1048	119	0	910	299	0	377	316	0	0
V/C Ratio(X)	0.80	0.00	1.16	0.59	0.00	1.28	0.21	0.00	0.40	0.75	0.00	0.00
Avail Cap(c_a), veh/h	356	0	1048	392	0	910	299	0	377	316	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.0	0.0	16.4	33.5	0.0	19.0	24.4	0.0	24.9	29.6	0.0	0.0
Incr Delay (d2), s/veh	6.5	0.0	83.1	4.5	0.0	134.9	1.6	0.0	3.2	15.0	0.0	0.0
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	3.9	0.0	45.1	1.5	0.0	52.6	1.2	0.0	3.0	6.1	0.0	0.0
LnGrp Delay(d),s/veh	37.5	0.0	99.5	38.1	0.0	153.8	26.0	0.0	28.1	44.7	0.0	0.0
LnGrp LOS	D		F	D		F	C		C	D		
Approach Vol, veh/h		1392			1236			216			237	
Approach Delay, s/veh		91.7			147.3			27.5			44.7	
Approach LOS		F			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	45.0		20.0	13.9	40.0		20.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	16.0	36.0		16.0	16.0	36.0		16.0
Max Q Clear Time (g_c+I1), s	11.8	43.0		17.4	9.7	38.0		7.5
Green Ext Time (p_c), s	0.1	0.0		0.0	0.2	0.0		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	105.9
HCM 2010 LOS	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	193	111	116	569	805	317
Future Volume (veh/h)	193	111	116	569	805	317
Number	5	12	3	8	4	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1845	1810	1827	1850	1900
Adj Flow Rate, veh/h	210	121	126	618	875	345
Adj No. of Lanes	1	1	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	3	5	4	1	1
Cap, veh/h	400	350	324	1247	1103	433
Arrive On Green	0.22	0.22	0.19	0.68	0.45	0.45
Sat Flow, veh/h	1792	1568	1723	1827	2560	969
Grp Volume(v), veh/h	210	121	126	618	622	598
Grp Sat Flow(s),veh/h/ln	1792	1568	1723	1827	1758	1679
Q Serve(g_s), s	8.8	5.5	5.4	13.8	25.8	26.0
Cycle Q Clear(g_c), s	8.8	5.5	5.4	13.8	25.8	26.0
Prop In Lane	1.00	1.00	1.00			0.58
Lane Grp Cap(c), veh/h	400	350	324	1247	786	751
V/C Ratio(X)	0.52	0.35	0.39	0.50	0.79	0.80
Avail Cap(c_a), veh/h	400	350	324	1247	786	751
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	27.8	30.2	6.5	20.1	20.2
Incr Delay (d2), s/veh	4.8	2.7	3.5	0.3	8.0	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	2.6	2.9	7.0	14.2	13.7
LnGrp Delay(d),s/veh	33.9	30.4	33.7	6.8	28.1	28.8
LnGrp LOS	C	C	C	A	C	C
Approach Vol, veh/h	331			744	1220	
Approach Delay, s/veh	32.6			11.3	28.4	
Approach LOS	C			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		23.0	20.0	42.0				62.0
Change Period (Y+Rc), s		4.0	4.0	4.0				4.0
Max Green Setting (Gmax), s		19.0	16.0	38.0				58.0
Max Q Clear Time (g_c+I1), s		10.8	7.4	28.0				15.8
Green Ext Time (p_c), s		0.7	0.2	7.6				19.6

Intersection Summary	
HCM 2010 Ctrl Delay	23.5
HCM 2010 LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	19	14	661	783	17
Future Volume (veh/h)	14	19	14	661	783	17
Number	5	12	3	8	4	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1112	1900	1056	1900	1850	1900
Adj Flow Rate, veh/h	15	21	15	718	851	18
Adj No. of Lanes	0	0	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	80	0	1	1
Cap, veh/h	13	19	376	1503	1428	30
Arrive On Green	0.03	0.03	0.79	0.79	0.79	0.79
Sat Flow, veh/h	402	563	360	1900	1805	38
Grp Volume(v), veh/h	37	0	15	718	0	869
Grp Sat Flow(s),veh/h/ln	993	0	360	1900	0	1843
Q Serve(g_s), s	1.5	0.0	0.8	5.8	0.0	8.5
Cycle Q Clear(g_c), s	1.5	0.0	9.3	5.8	0.0	8.5
Prop In Lane	0.41	0.57	1.00			0.02
Lane Grp Cap(c), veh/h	33	0	376	1503	0	1458
V/C Ratio(X)	1.14	0.00	0.04	0.48	0.00	0.60
Avail Cap(c_a), veh/h	349	0	376	1503	0	1458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	3.7	1.6	0.0	1.9
Incr Delay (d2), s/veh	114.2	0.0	0.2	1.1	0.0	1.8
Initial Q Delay(d3),s/veh	6.4	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.1	3.2	0.0	4.8
LnGrp Delay(d),s/veh	142.6	0.0	3.9	2.7	0.0	3.7
LnGrp LOS	F		A	A		A
Approach Vol, veh/h	37			733	869	
Approach Delay, s/veh	142.6			2.7	3.7	
Approach LOS	F			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		5.5		40.0				40.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		16.0		36.0				36.0
Max Q Clear Time (g_c+I1), s		3.5		10.5				11.3
Green Ext Time (p_c), s		0.0		14.1				13.9

Intersection Summary	
HCM 2010 Ctrl Delay	6.4
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	11	93	4	13	61
Future Vol, veh/h	9	11	93	4	13	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	100	90	4	100	90	1
Mvmt Flow	10	12	101	4	14	66

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	198	103	0	0	105	0
Stage 1	103	-	-	-	-	-
Stage 2	95	-	-	-	-	-
Critical Hdwy	7.4	7.1	-	-	5	-
Critical Hdwy Stg 1	6.4	-	-	-	-	-
Critical Hdwy Stg 2	6.4	-	-	-	-	-
Follow-up Hdwy	4.4	4.11	-	-	3.01	-
Pot Cap-1 Maneuver	613	758	-	-	1080	-
Stage 1	725	-	-	-	-	-
Stage 2	732	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	605	758	-	-	1080	-
Mov Cap-2 Maneuver	605	-	-	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	722	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	1.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	681	1080	-
HCM Lane V/C Ratio	-	-	0.032	0.013	-
HCM Control Delay (s)	-	-	10.5	8.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations			↕				↕				↕	
Traffic Vol, veh/h	0	10	0	0	0	0	0	0	0	0	100	0
Future Vol, veh/h	0	10	0	0	0	0	0	0	0	0	100	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	0	0	0	2	0	0	0	2	0	7	0
Mvmt Flow	0	11	0	0	0	0	0	0	0	0	109	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.6	0	7.7
HCM LOS	A	-	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	100%	0%	0%
Vol Thru, %	100%	0%	100%	75%
Vol Right, %	0%	0%	0%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	10	0	73
LT Vol	0	10	0	0
Through Vol	100	0	0	55
RT Vol	0	0	0	18
Lane Flow Rate	109	11	0	79
Geometry Grp	1	1	1	1
Degree of Util (X)	0.124	0.013	0	0.091
Departure Headway (Hd)	4.098	4.424	4.234	4.142
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	875	798	0	864
Service Time	2.121	2.513	2.326	2.171
HCM Lane V/C Ratio	0.125	0.014	0	0.091
HCM Control Delay	7.7	7.6	7.3	7.6
HCM Lane LOS	A	A	N	A
HCM 95th-tile Q	0.4	0	0	0.3

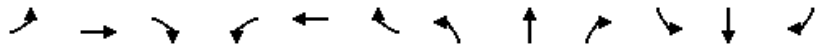
Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	0	55	18
Future Vol, veh/h	0	0	55	18
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	0	17	0
Mvmt Flow	0	0	60	20
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.6
HCM LOS	A

Movement	EBL	EBT	EBR	WBL2	WBL	WBT	WBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	263	1133	165	0	166	893	39	64	371	221
Future Volume (vph)	263	1133	165	0	166	893	39	64	371	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00		1.00	0.95			1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1787	3574	1599		1770	3553			1826	1599
Flt Permitted	0.95	1.00	1.00		0.95	1.00			0.99	1.00
Satd. Flow (perm)	1787	3574	1599		1770	3553			1826	1599
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	286	1232	179	0	180	971	42	70	403	240
RTOR Reduction (vph)	0	0	0	0	0	3	0	0	0	75
Lane Group Flow (vph)	286	1232	179	0	180	1010	0	0	473	165
Heavy Vehicles (%)	1%	1%	1%	1%	2%	1%	0%	5%	3%	1%
Turn Type	Prot	NA	Perm	Prot	Prot	NA		Perm	NA	Perm
Protected Phases	5	2		1	1	6			8	
Permitted Phases			2					8		8
Actuated Green, G (s)	16.9	37.5	37.5		11.5	32.1			28.0	28.0
Effective Green, g (s)	16.9	37.5	37.5		11.5	32.1			28.0	28.0
Actuated g/C Ratio	0.19	0.42	0.42		0.13	0.36			0.31	0.31
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	339	1505	673		228	1281			574	503
v/s Ratio Prot	c0.16	c0.34			0.10	0.28				
v/s Ratio Perm			0.11						0.26	0.10
v/c Ratio	0.84	0.82	0.27		0.79	0.79			0.82	0.33
Uniform Delay, d1	34.8	22.7	16.8		37.6	25.4			28.2	23.3
Progression Factor	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	17.1	3.6	0.2		16.4	5.0			12.7	1.7
Delay (s)	51.9	26.3	17.0		54.0	30.4			40.9	25.1
Level of Service	D	C	B		D	C			D	C
Approach Delay (s)		29.7				34.0			35.6	
Approach LOS		C				C			D	

Intersection Summary			
HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	262	44	498	314	79	46	523	243	193	649	75
Future Volume (veh/h)	70	262	44	498	314	79	46	523	243	193	649	75
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1848	1900	1900	1858	1900	1900	1830	1900	1881	1819	1900
Adj Flow Rate, veh/h	76	285	48	441	481	0	50	568	264	210	705	82
Adj No. of Lanes	0	2	0	1	1	1	0	2	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	0	3	0	5	5	5	1	5	5
Cap, veh/h	91	357	63	462	474	412	52	622	449	256	768	89
Arrive On Green	0.14	0.14	0.14	0.26	0.26	0.00	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	640	2508	440	1810	1858	1615	24	1296	936	663	1600	186
Grp Volume(v), veh/h	216	0	193	441	481	0	459	0	423	210	0	787
Grp Sat Flow(s),veh/h/ln	1817	0	1771	1810	1858	1615	756	0	1500	663	0	1786
Q Serve(g_s), s	11.3	0.0	10.3	23.5	25.0	0.0	6.8	0.0	20.0	27.0	0.0	40.2
Cycle Q Clear(g_c), s	11.3	0.0	10.3	23.5	25.0	0.0	47.0	0.0	20.0	47.0	0.0	40.2
Prop In Lane	0.35		0.25	1.00		1.00	0.11		0.62	1.00		0.10
Lane Grp Cap(c), veh/h	259	0	252	462	474	412	403	0	720	256	0	857
V/C Ratio(X)	0.83	0.00	0.77	0.95	1.01	0.00	1.14	0.00	0.59	0.82	0.00	0.92
Avail Cap(c_a), veh/h	297	0	289	462	474	412	403	0	720	256	0	857
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.9	0.0	40.4	35.9	36.5	0.0	22.7	0.0	18.5	37.2	0.0	23.7
Incr Delay (d2), s/veh	16.4	0.0	10.2	32.0	45.0	0.0	87.9	0.0	1.3	18.6	0.0	14.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.0	5.8	15.9	18.7	0.0	20.7	0.0	8.5	7.0	0.0	23.2
LnGrp Delay(d),s/veh	57.3	0.0	50.6	67.9	81.5	0.0	110.5	0.0	19.7	55.8	0.0	38.4
LnGrp LOS	E		D	E	F		F		B	E		D
Approach Vol, veh/h		409			922			882			997	
Approach Delay, s/veh		54.1			75.0			67.0			42.1	
Approach LOS		D			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		18.0		51.0		29.0		51.0
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		16.0		47.0		25.0		47.0
Max Q Clear Time (g_c+I1), s		13.3		49.0		27.0		49.0
Green Ext Time (p_c), s		0.6		0.0		0.0		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		59.9
HCM 2010 LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations																
Traffic Vol, veh/h	0	0	152	33	0	35	60	27	0	2	44	26	0	0	0	0
Future Vol, veh/h	0	0	152	33	0	35	60	27	0	2	44	26	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	0	0	2	2	22	2	14	2	0	1	9	2	0	0	0
Mvmt Flow	0	0	165	36	0	38	65	29	0	2	48	28	0	0	0	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.3	8.5	7.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	3%	0%	29%
Vol Thru, %	61%	82%	49%
Vol Right, %	36%	18%	22%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	72	185	122
LT Vol	2	0	35
Through Vol	44	152	60
RT Vol	26	33	27
Lane Flow Rate	78	201	133
Geometry Grp	1	1	1
Degree of Util (X)	0.096	0.225	0.165
Departure Headway (Hd)	4.424	4.033	4.492
Convergence, Y/N	Yes	Yes	Yes
Cap	815	875	786
Service Time	2.424	2.126	2.586
HCM Lane V/C Ratio	0.096	0.23	0.169
HCM Control Delay	7.9	8.3	8.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.9	0.6

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	128	56	96	0	0
Future Vol, veh/h	0	128	56	96	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	-
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	1	0	0
Mvmt Flow	0	139	61	104	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	113	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.2	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.3	-	-
Pot Cap-1 Maneuver	0	945	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	945	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

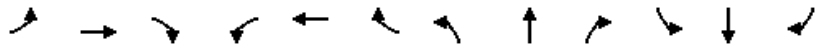
Approach	WB	NB
HCM Control Delay, s	9.5	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	945
HCM Lane V/C Ratio	-	-	0.147
HCM Control Delay (s)	-	-	9.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	495	1578	162	168	1008	339	203	1359	96	522	1448	399
Future Volume (veh/h)	495	1578	162	168	1008	339	203	1359	96	522	1448	399
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1881	1900	1900	1881	1900	1900	1881	1881	1881	1900	1863
Adj Flow Rate, veh/h	538	1715	176	183	1096	0	221	1477	104	567	1574	0
Adj No. of Lanes	2	2	0	1	2	1	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	1	1	0	1	0	0	1	1	1	0	2
Cap, veh/h	344	1175	119	121	1162	525	136	953	426	314	1324	581
Arrive On Green	0.10	0.36	0.36	0.07	0.32	0.00	0.08	0.27	0.27	0.17	0.37	0.00
Sat Flow, veh/h	3442	3278	331	1810	3574	1615	1810	3574	1599	1792	3610	1583
Grp Volume(v), veh/h	538	923	968	183	1096	0	221	1477	104	567	1574	0
Grp Sat Flow(s),veh/h/ln	1721	1787	1823	1810	1787	1615	1810	1787	1599	1792	1805	1583
Q Serve(g_s), s	12.0	43.0	43.0	8.0	35.8	0.0	9.0	32.0	6.1	21.0	44.0	0.0
Cycle Q Clear(g_c), s	12.0	43.0	43.0	8.0	35.8	0.0	9.0	32.0	6.1	21.0	44.0	0.0
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	344	640	653	121	1162	525	136	953	426	314	1324	581
V/C Ratio(X)	1.56	1.44	1.48	1.52	0.94	0.00	1.63	1.55	0.24	1.81	1.19	0.00
Avail Cap(c_a), veh/h	344	640	653	121	1162	525	136	953	426	314	1324	581
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.0	38.5	38.5	56.0	39.4	0.0	55.5	44.0	34.5	49.5	38.0	0.0
Incr Delay (d2), s/veh	267.2	207.3	225.2	270.3	14.9	0.0	313.8	252.5	0.3	376.2	92.9	0.0
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	18.5	58.0	62.4	13.0	20.1	0.0	16.3	49.2	2.8	43.1	39.0	0.0
LnGrp Delay(d),s/veh	321.2	245.8	263.7	326.3	54.3	0.0	369.3	296.5	34.8	425.7	130.9	0.0
LnGrp LOS	F	F	F	F	D		F	F	C	F	F	
Approach Vol, veh/h		2429			1279			1802			2141	
Approach Delay, s/veh		269.6			93.2			290.4			209.0	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	47.0	13.0	48.0	16.0	43.0	25.0	36.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	8.0	43.0	9.0	44.0	12.0	39.0	21.0	32.0
Max Q Clear Time (g_c+I1), s	10.0	45.0	11.0	46.0	14.0	37.8	23.0	34.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0

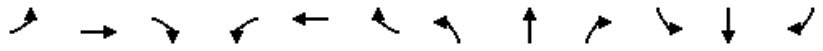
Intersection Summary	
HCM 2010 Ctrl Delay	228.1
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	490	2350	86	561	1862	693	99	454	726	1109	545	571
Future Volume (veh/h)	490	2350	86	561	1862	693	99	454	726	1109	545	571
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1846	1900	1845	1863	1810	1881	1845	1881	1863	1845	1863
Adj Flow Rate, veh/h	533	2554	0	610	2024	0	108	493	789	1205	592	621
Adj No. of Lanes	1	3	0	2	3	1	1	1	2	2	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	3	3	3	2	5	1	3	1	2	3	2
Cap, veh/h	340	1839	0	392	1475	446	349	360	549	843	452	388
Arrive On Green	0.19	0.37	0.00	0.12	0.29	0.00	0.19	0.19	0.19	0.25	0.25	0.25
Sat Flow, veh/h	1792	5205	0	3408	5085	1538	1792	1845	2814	3442	1845	1583
Grp Volume(v), veh/h	533	2554	0	610	2024	0	108	493	789	1205	592	621
Grp Sat Flow(s),veh/h/ln	1792	1680	0	1704	1695	1538	1792	1845	1407	1721	1845	1583
Q Serve(g_s), s	38.0	73.0	0.0	23.0	58.0	0.0	10.3	39.0	39.0	49.0	49.0	49.0
Cycle Q Clear(g_c), s	38.0	73.0	0.0	23.0	58.0	0.0	10.3	39.0	39.0	49.0	49.0	49.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	340	1839	0	392	1475	446	349	360	549	843	452	388
V/C Ratio(X)	1.57	1.39	0.00	1.56	1.37	0.00	0.31	1.37	1.44	1.43	1.31	1.60
Avail Cap(c_a), veh/h	340	1839	0	392	1475	446	349	360	549	843	452	388
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	81.0	63.5	0.0	88.5	71.0	0.0	69.0	80.5	80.5	75.5	75.5	75.5
Incr Delay (d2), s/veh	268.5	178.3	0.0	262.6	172.0	0.0	2.3	183.6	207.2	199.9	154.6	282.2
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	44.2	64.3	0.0	25.1	50.7	0.0	5.4	38.2	31.0	46.7	44.4	51.9
LnGrp Delay(d),s/veh	349.5	241.8	0.0	351.1	243.0	0.0	71.2	264.1	287.7	275.4	230.1	357.7
LnGrp LOS	F	F		F	F		E	F	F	F	F	F
Approach Vol, veh/h		3087			2634			1390			2418	
Approach Delay, s/veh		260.4			268.0			262.5			285.5	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	27.0	77.0		43.0	42.0	62.0		53.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	23.0	73.0		39.0	38.0	58.0		49.0
Max Q Clear Time (g_c+I1), s	25.0	75.0		41.0	40.0	60.0		51.0
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0

Intersection Summary		
HCM 2010 Ctrl Delay	269.2	
HCM 2010 LOS	F	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2436	1060	42	33	849	93	138	332	46	71	497	1822
Future Volume (veh/h)	2436	1060	42	33	849	93	138	332	46	71	497	1822
Number	1	6	16	5	2	12	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1881	1882	1900	1900	1852	1900	1881	1900	1900	1900	1900	1863
Adj Flow Rate, veh/h	2648	1152	46	36	923	0	150	361	50	77	540	1980
Adj No. of Lanes	2	1	0	0	2	0	1	2	0	1	2	2
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, %	1	1	1	3	3	3	1	0	0	0	0	2
Cap, veh/h	1430	717	29	23	623	0	186	752	103	100	676	1022
Arrive On Green	0.40	0.40	0.40	0.18	0.18	0.00	0.10	0.24	0.24	0.06	0.19	0.19
Sat Flow, veh/h	3583	1797	72	129	3567	0	1792	3189	438	1810	3610	2787
Grp Volume(v), veh/h	2648	0	1198	514	445	0	150	203	208	77	540	1980
Grp Sat Flow(s),veh/h/ln	1792	0	1869	1845	1759	0	1792	1805	1823	1810	1805	1393
Q Serve(g_s), s	49.0	0.0	49.0	22.0	22.0	0.0	10.1	11.9	12.1	5.2	17.5	23.0
Cycle Q Clear(g_c), s	49.0	0.0	49.0	22.0	22.0	0.0	10.1	11.9	12.1	5.2	17.5	23.0
Prop In Lane	1.00		0.04	0.07		0.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	1430	0	746	331	315	0	186	426	430	100	676	1022
V/C Ratio(X)	1.85	0.00	1.61	1.55	1.41	0.00	0.81	0.48	0.48	0.77	0.80	1.94
Avail Cap(c_a), veh/h	1430	0	746	331	315	0	584	426	430	516	676	1022
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	0.0	36.9	50.4	50.4	0.0	53.8	40.4	40.5	57.2	47.7	31.9
Incr Delay (d2), s/veh	385.8	0.0	278.9	263.2	203.7	0.0	7.9	0.8	0.8	11.6	6.7	425.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	100.7	0.0	82.9	35.3	28.4	0.0	5.4	6.0	6.2	2.9	9.4	77.6
LnGrp Delay(d),s/veh	422.7	0.0	315.8	313.6	254.1	0.0	61.7	41.2	41.3	68.8	54.4	457.7
LnGrp LOS	F		F	F	F		E	D	D	E	D	F
Approach Vol, veh/h		3846			959			561			2597	
Approach Delay, s/veh		389.4			286.0			46.7			362.3	
Approach LOS		F			F			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		26.0	16.8	27.0		53.0	10.8	33.0
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		22.0	40.0	23.0		49.0	35.0	28.0
Max Q Clear Time (g_c+I1), s		24.0	12.1	25.0		51.0	7.2	14.1
Green Ext Time (p_c), s		0.0	0.8	0.0		0.0	0.2	2.5

Intersection Summary		
HCM 2010 Ctrl Delay		344.0
HCM 2010 LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

Appendix B

Synchro Timing Reports

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	39	337	246	448	86	5	142	168	32	149	61
Future Volume (vph)	39	337	246	448	86	5	142	168	32	149	61
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	27.0	25.0	32.0	32.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (%)	25.0%	33.8%	31.3%	40.0%	40.0%	10.0%	25.0%	25.0%	10.0%	25.0%	25.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	16.2	28.8	15.6	28.3	28.3	4.0	11.4	11.4	4.0	14.4	14.4
Actuated g/C Ratio	0.22	0.40	0.22	0.39	0.39	0.06	0.16	0.16	0.06	0.20	0.20
v/c Ratio	0.11	0.27	0.71	0.67	0.14	0.06	0.54	0.45	0.38	0.45	0.15
Control Delay	26.0	18.1	37.3	25.6	2.6	37.2	35.9	8.7	48.3	29.7	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	18.1	37.3	25.6	2.6	37.2	35.9	8.7	48.3	29.7	0.7
LOS	C	B	D	C	A	D	D	A	D	C	A
Approach Delay		18.9		26.7			21.4			24.9	
Approach LOS		B		C			C			C	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 72.4	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 23.7	Intersection LOS: C
Intersection Capacity Utilization 51.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Front Street & Laurel Street

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	27.0	25.0	32.0	32.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (%)	25.0%	33.8%	31.3%	40.0%	40.0%	10.0%	25.0%	25.0%	10.0%	25.0%	25.0%
Maximum Green (s)	16.0	23.0	21.0	28.0	28.0	4.0	16.0	16.0	4.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0
90th %ile Green (s)	16.0	23.0	21.0	28.0	28.0	4.0	16.0	16.0	4.0	16.0	16.0
90th %ile Term Code	MaxR	MaxR	Max	MaxR	MaxR	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	16.0	24.8	19.2	28.0	28.0	0.0	13.5	13.5	4.0	21.5	21.5
70th %ile Term Code	MaxR	Hold	Gap	MaxR	MaxR	Skip	Gap	Gap	Max	Hold	Hold
50th %ile Green (s)	16.0	27.5	16.5	28.0	28.0	0.0	11.6	11.6	4.0	19.6	19.6
50th %ile Term Code	MaxR	Hold	Gap	MaxR	MaxR	Skip	Gap	Gap	Max	Hold	Hold
30th %ile Green (s)	16.0	31.1	12.9	28.0	28.0	0.0	9.5	9.5	0.0	9.5	9.5
30th %ile Term Code	MaxR	Hold	Gap	MaxR	MaxR	Skip	Hold	Hold	Skip	Gap	Gap
10th %ile Green (s)	16.0	34.2	9.8	28.0	28.0	0.0	7.2	7.2	0.0	7.2	7.2
10th %ile Term Code	MaxR	Hold	Gap	MaxR	MaxR	Skip	Hold	Hold	Skip	Gap	Gap

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 72.4
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 80
70th %ile Actuated Cycle: 77.5
50th %ile Actuated Cycle: 75.6
30th %ile Actuated Cycle: 65.5
10th %ile Actuated Cycle: 63.2

Santa Cruz DRP Study
2: Pacific Avenue & Laurel Street

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	338	28	453	33	30	19	15
Future Volume (vph)	20	338	28	453	33	30	19	15
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	40.0	20.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	25.0%	50.0%	25.0%	50.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	Max	Max	Max	Max
Act Effct Green (s)	6.7	36.3	6.8	36.3	16.1	16.1		16.1
Actuated g/C Ratio	0.10	0.56	0.10	0.56	0.25	0.25		0.25
v/c Ratio	0.16	0.39	0.18	0.54	0.10	0.17		0.17
Control Delay	30.8	10.6	30.5	12.6	21.9	15.1		16.6
Queue Delay	0.0	0.0	0.0	4.5	0.0	0.0		0.0
Total Delay	30.8	10.6	30.5	17.1	21.9	15.1		16.6
LOS	C	B	C	B	C	B		B
Approach Delay		11.7		17.9		17.6		16.6
Approach LOS		B		B		B		B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 64.8	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 15.5	Intersection LOS: B
Intersection Capacity Utilization 41.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Pacific Avenue & Laurel Street

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	40.0	20.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	25.0%	50.0%	25.0%	50.0%	25.0%	25.0%	25.0%	25.0%
Maximum Green (s)	16.0	36.0	16.0	36.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	None	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0
90th %ile Green (s)	8.5	36.0	8.7	36.2	16.0	16.0	16.0	16.0
90th %ile Term Code	Gap	MaxR	Gap	Hold	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	7.4	36.0	7.5	36.1	16.0	16.0	16.0	16.0
70th %ile Term Code	Gap	MaxR	Gap	Hold	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	0.0	36.0	0.0	36.0	16.0	16.0	16.0	16.0
50th %ile Term Code	Skip	MaxR	Skip	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	0.0	36.0	0.0	36.0	16.0	16.0	16.0	16.0
30th %ile Term Code	Skip	MaxR	Skip	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	0.0	36.0	0.0	36.0	16.0	16.0	16.0	16.0
10th %ile Term Code	Skip	MaxR	Skip	MaxR	MaxR	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 64.8
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 72.7
70th %ile Actuated Cycle: 71.5
50th %ile Actuated Cycle: 60
30th %ile Actuated Cycle: 60
10th %ile Actuated Cycle: 60

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	36	19	18	250	273
Future Volume (vph)	36	19	18	250	273
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	5		3	8	4
Permitted Phases		5			
Detector Phase	5	5	3	8	4
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0
Total Split (s)	28.0	28.0	22.0	57.0	35.0
Total Split (%)	32.9%	32.9%	25.9%	67.1%	41.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	Max	Max	Max	None	Max
Act Effct Green (s)	24.0	24.0	18.0	53.0	31.0
Actuated g/C Ratio	0.28	0.28	0.21	0.62	0.36
v/c Ratio	0.09	0.05	0.06	0.26	0.33
Control Delay	23.3	9.9	27.4	8.0	18.5
Queue Delay	0.0	0.0	0.0	1.5	0.0
Total Delay	23.3	9.9	27.4	9.5	18.5
LOS	C	A	C	A	B
Approach Delay	18.6			10.7	18.5
Approach LOS	B			B	B

Intersection Summary	
Cycle Length: 85	
Actuated Cycle Length: 85	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.33	
Intersection Signal Delay: 15.3	Intersection LOS: B
Intersection Capacity Utilization 25.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Front Street & Cathcart Street

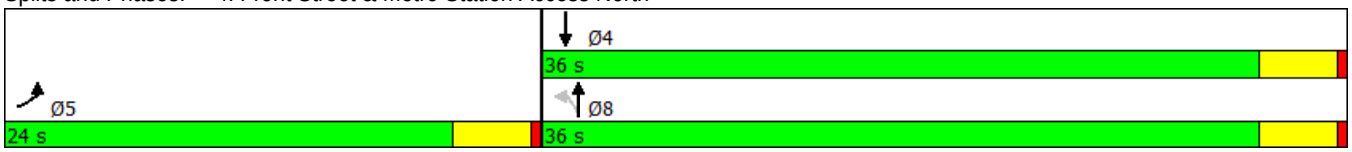
Lane Group	EBL	EBR	NBL	NBT	SBT
Protected Phases	5		3	8	4
Permitted Phases		5			
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0
Total Split (s)	28.0	28.0	22.0	57.0	35.0
Total Split (%)	32.9%	32.9%	25.9%	67.1%	41.2%
Maximum Green (s)	24.0	24.0	18.0	53.0	31.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	None	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	24.0	24.0	18.0	53.0	31.0
90th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
70th %ile Green (s)	24.0	24.0	18.0	53.0	31.0
70th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
50th %ile Green (s)	24.0	24.0	18.0	53.0	31.0
50th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
30th %ile Green (s)	24.0	24.0	18.0	53.0	31.0
30th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
10th %ile Green (s)	24.0	24.0	18.0	53.0	31.0
10th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR

Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 85
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 85
70th %ile Actuated Cycle: 85
50th %ile Actuated Cycle: 85
30th %ile Actuated Cycle: 85
10th %ile Actuated Cycle: 85

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	10	2	259	255
Future Volume (vph)	10	2	259	255
Turn Type	Prot	Perm	NA	NA
Protected Phases	5		8	4
Permitted Phases		8		
Detector Phase	5	8	8	4
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	24.0	36.0	36.0	36.0
Total Split (%)	40.0%	60.0%	60.0%	60.0%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Max	Max	Max
Act Effct Green (s)	6.5	50.8	50.8	50.8
Actuated g/C Ratio	0.12	0.95	0.95	0.95
v/c Ratio	0.13	0.00	0.18	0.22
Control Delay	23.6	1.5	1.2	1.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.6	1.5	1.2	1.3
LOS	C	A	A	A
Approach Delay	23.6		1.2	1.3
Approach LOS	C		A	A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 53.6	
Natural Cycle: 40	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.22	
Intersection Signal Delay: 1.7	Intersection LOS: A
Intersection Capacity Utilization 25.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Front Street & Metro Station Access North



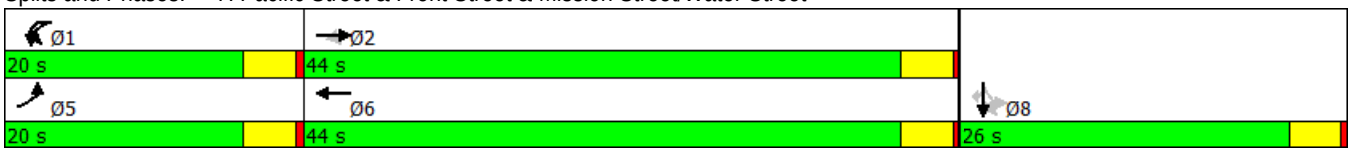
Lane Group	EBL	NBL	NBT	SBT
Protected Phases	5		8	4
Permitted Phases		8		
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	24.0	36.0	36.0	36.0
Total Split (%)	40.0%	60.0%	60.0%	60.0%
Maximum Green (s)	20.0	32.0	32.0	32.0
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0
90th %ile Green (s)	8.8	47.0	47.0	47.0
90th %ile Term Code	Gap	Dwell	Dwell	Dwell
70th %ile Green (s)	0.0	47.0	47.0	47.0
70th %ile Term Code	Skip	Dwell	Dwell	Dwell
50th %ile Green (s)	0.0	47.0	47.0	47.0
50th %ile Term Code	Skip	Dwell	Dwell	Dwell
30th %ile Green (s)	0.0	47.0	47.0	47.0
30th %ile Term Code	Skip	Dwell	Dwell	Dwell
10th %ile Green (s)	0.0	47.0	47.0	47.0
10th %ile Term Code	Skip	Dwell	Dwell	Dwell

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 53.6
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 63.8
70th %ile Actuated Cycle: 51
50th %ile Actuated Cycle: 51
30th %ile Actuated Cycle: 51
10th %ile Actuated Cycle: 51

Lane Group	EBL	EBT	EBR	WBL2	WBL	WBT	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	81	380	75	61	48	637	18	107
Future Volume (vph)	81	380	75	61	48	637	18	107
Turn Type	Prot	NA	Perm	Prot	Prot	NA	NA	Perm
Protected Phases	5	2		1	1	6	8	
Permitted Phases			2					8
Detector Phase	5	2	2	1	1	6	8	8
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	8.0	20.0	20.0	20.0
Total Split (s)	20.0	44.0	44.0	20.0	20.0	44.0	26.0	26.0
Total Split (%)	22.2%	48.9%	48.9%	22.2%	22.2%	48.9%	28.9%	28.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Max	Max	Max
Act Effct Green (s)	9.6	40.8	40.8	8.9	8.9	40.2	22.1	22.1
Actuated g/C Ratio	0.12	0.50	0.50	0.11	0.11	0.49	0.27	0.27
v/c Ratio	0.45	0.25	0.13	0.40	0.28	0.41	0.19	0.23
Control Delay	41.5	13.0	6.8	41.6	37.9	15.0	26.4	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	13.0	6.8	41.6	37.9	15.0	26.4	6.6
LOS	D	B	A	D	D	B	C	A
Approach Delay		16.1				18.7	14.7	
Approach LOS		B				B	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 81.7	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 17.2	Intersection LOS: B
Intersection Capacity Utilization 36.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Pacific Street & Front Street & Mission Street/Water Street



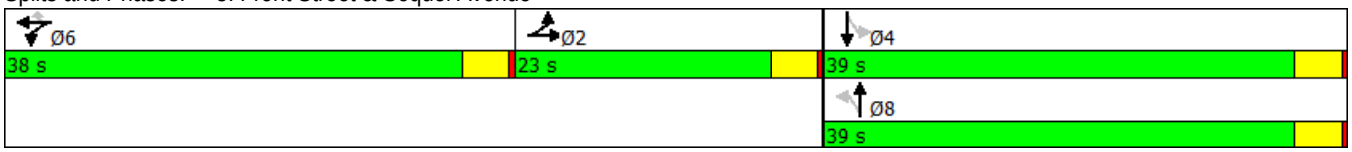
Lane Group	EBL	EBT	EBR	WBL2	WBL	WBT	SBT	SBR
Protected Phases	5	2		1	1	6	8	
Permitted Phases			2					8
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	8.0	20.0	20.0	20.0
Total Split (s)	20.0	44.0	44.0	20.0	20.0	44.0	26.0	26.0
Total Split (%)	22.2%	48.9%	48.9%	22.2%	22.2%	48.9%	28.9%	28.9%
Maximum Green (s)	16.0	40.0	40.0	16.0	16.0	40.0	22.0	22.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	Max
Walk Time (s)		5.0	5.0			5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0			0	0	0
90th %ile Green (s)	13.6	40.9	40.9	12.7	12.7	40.0	22.0	22.0
90th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
70th %ile Green (s)	11.3	40.8	40.8	10.5	10.5	40.0	22.0	22.0
70th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
50th %ile Green (s)	9.7	40.8	40.8	8.9	8.9	40.0	22.0	22.0
50th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
30th %ile Green (s)	8.1	40.6	40.6	7.5	7.5	40.0	22.0	22.0
30th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
10th %ile Green (s)	0.0	40.0	40.0	0.0	0.0	40.0	22.0	22.0
10th %ile Term Code	Skip	Hold	Hold	Skip	Skip	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 81.7
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 87.6
70th %ile Actuated Cycle: 85.3
50th %ile Actuated Cycle: 83.7
30th %ile Actuated Cycle: 82.1
10th %ile Actuated Cycle: 70

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	47	202	104	42	10	194	24	151
Future Volume (vph)	47	202	104	42	10	194	24	151
Turn Type	NA	Split	NA	Perm	Perm	NA	Perm	NA
Protected Phases	2	6	6			8		4
Permitted Phases				6	8		4	
Detector Phase	2	6	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	23.0	38.0	38.0	38.0	39.0	39.0	39.0	39.0
Total Split (%)	23.0%	38.0%	38.0%	38.0%	39.0%	39.0%	39.0%	39.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	Max	Max	None	None	None	None
Act Effct Green (s)	7.2	34.6	34.6	34.6		13.3	13.3	13.3
Actuated g/C Ratio	0.11	0.53	0.53	0.53		0.20	0.20	0.20
v/c Ratio	0.25	0.20	0.20	0.06		0.50	0.17	0.61
Control Delay	28.0	11.0	10.9	3.3		21.6	24.5	31.8
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	28.0	11.0	10.9	3.3		21.6	24.5	31.8
LOS	C	B	B	A		C	C	C
Approach Delay	28.0		10.0			21.6		30.9
Approach LOS	C		B			C		C

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 64.9	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 19.8	Intersection LOS: B
Intersection Capacity Utilization 41.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Front Street & Soquel Avenue



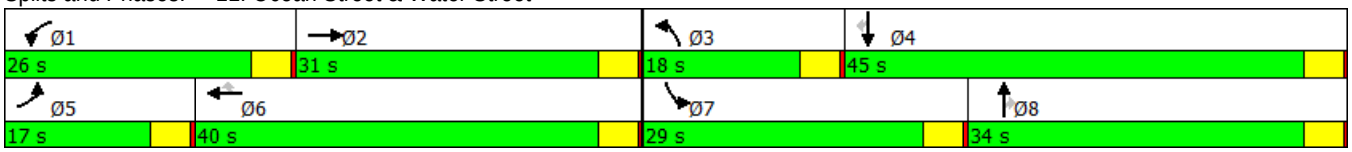
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Protected Phases	2	6	6			8		4
Permitted Phases				6	8		4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	23.0	38.0	38.0	38.0	39.0	39.0	39.0	39.0
Total Split (%)	23.0%	38.0%	38.0%	38.0%	39.0%	39.0%	39.0%	39.0%
Maximum Green (s)	19.0	34.0	34.0	34.0	35.0	35.0	35.0	35.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lag	Lead	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	Max	None	None	None	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0
90th %ile Green (s)	9.0	34.0	34.0	34.0	19.4	19.4	19.4	19.4
90th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
70th %ile Green (s)	7.9	34.0	34.0	34.0	15.7	15.7	15.7	15.7
70th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
50th %ile Green (s)	7.2	34.0	34.0	34.0	13.4	13.4	13.4	13.4
50th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
30th %ile Green (s)	6.5	34.0	34.0	34.0	11.3	11.3	11.3	11.3
30th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
10th %ile Green (s)	0.0	34.0	34.0	34.0	8.0	8.0	8.0	8.0
10th %ile Term Code	Skip	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 64.9
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 74.4
70th %ile Actuated Cycle: 69.6
50th %ile Actuated Cycle: 66.6
30th %ile Actuated Cycle: 63.8
10th %ile Actuated Cycle: 50

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	161	297	136	450	255	78	466	40	175	620	379
Future Volume (vph)	161	297	136	450	255	78	466	40	175	620	379
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	17.0	31.0	26.0	40.0	40.0	18.0	34.0	34.0	29.0	45.0	45.0
Total Split (%)	14.2%	25.8%	21.7%	33.3%	33.3%	15.0%	28.3%	28.3%	24.2%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	Min	None	Min	Min	None	Min	Min
Act Effct Green (s)	10.0	17.0	12.7	19.7	19.7	9.8	20.3	20.3	14.8	28.4	28.4
Actuated g/C Ratio	0.12	0.21	0.16	0.24	0.24	0.12	0.25	0.25	0.18	0.35	0.35
v/c Ratio	0.42	0.52	0.53	0.58	0.47	0.40	0.58	0.08	0.59	0.55	0.50
Control Delay	40.9	33.1	42.9	32.0	6.8	44.8	31.2	0.3	41.9	25.6	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	33.1	42.9	32.0	6.8	44.8	31.2	0.3	41.9	25.6	5.0
LOS	D	C	D	C	A	D	C	A	D	C	A
Approach Delay		35.5		26.2			30.9			21.4	
Approach LOS		D		C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 81.8	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 26.8	Intersection LOS: C
Intersection Capacity Utilization 53.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: Ocean Street & Water Street



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	17.0	31.0	26.0	40.0	40.0	18.0	34.0	34.0	29.0	45.0	45.0
Total Split (%)	14.2%	25.8%	21.7%	33.3%	33.3%	15.0%	28.3%	28.3%	24.2%	37.5%	37.5%
Maximum Green (s)	13.0	27.0	22.0	36.0	36.0	14.0	30.0	30.0	25.0	41.0	41.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	Min	None	Min	Min	None	Min	Min
Walk Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0
90th %ile Green (s)	13.0	23.2	19.7	29.9	29.9	14.0	30.5	30.5	23.1	39.6	39.6
90th %ile Term Code	Max	Hold	Gap	Gap	Gap	Max	Hold	Hold	Gap	Gap	Gap
70th %ile Green (s)	11.5	19.4	15.2	23.1	23.1	11.5	24.6	24.6	17.7	30.8	30.8
70th %ile Term Code	Gap	Hold	Gap	Gap	Gap	Gap	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	9.8	16.4	12.3	18.9	18.9	9.5	20.2	20.2	14.4	25.1	25.1
50th %ile Term Code	Gap	Hold	Gap	Gap	Gap	Gap	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	8.5	14.5	10.2	16.2	16.2	8.0	17.3	17.3	11.8	21.1	21.1
30th %ile Term Code	Gap	Hold	Gap	Gap	Gap	Gap	Hold	Hold	Gap	Gap	Gap
10th %ile Green (s)	6.9	11.4	7.5	12.0	12.0	0.0	11.2	11.2	8.6	23.8	23.8
10th %ile Term Code	Gap	Hold	Gap	Gap	Gap	Skip	Gap	Gap	Gap	Hold	Hold

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 81.8
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 112.5
70th %ile Actuated Cycle: 92.9
50th %ile Actuated Cycle: 79.3
30th %ile Actuated Cycle: 69.8
10th %ile Actuated Cycle: 54.7

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	211	1518	266	1389	515	27	156	160	412	158	184
Future Volume (vph)	211	1518	266	1389	515	27	156	160	412	158	184
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2	1	6		4	4		8	8	
Permitted Phases					6			4			8
Detector Phase	5	2	1	6	6	4	4	4	8	8	8
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	42.0	96.0	28.0	82.0	82.0	32.0	32.0	32.0	44.0	44.0	44.0
Total Split (%)	21.0%	48.0%	14.0%	41.0%	41.0%	16.0%	16.0%	16.0%	22.0%	22.0%	22.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	None	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	29.4	92.0	20.7	83.2	83.2	28.0	28.0	28.0	40.0	40.0	40.0
Actuated g/C Ratio	0.15	0.47	0.11	0.42	0.42	0.14	0.14	0.14	0.20	0.20	0.20
v/c Ratio	0.83	0.69	0.77	0.68	0.66	0.12	0.63	0.35	0.70	0.46	0.42
Control Delay	106.5	43.2	101.0	48.6	26.3	76.4	91.7	29.9	80.5	74.5	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.5	43.2	101.0	48.6	26.3	76.4	91.7	29.9	80.5	74.5	10.4
LOS	F	D	F	D	C	E	F	C	F	E	B
Approach Delay		50.7		49.7			61.7			62.1	
Approach LOS		D		D			E			E	

Intersection Summary	
Cycle Length: 200	
Actuated Cycle Length: 196.7	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 52.7	Intersection LOS: D
Intersection Capacity Utilization 71.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 12: Highway 9 & Highway 1

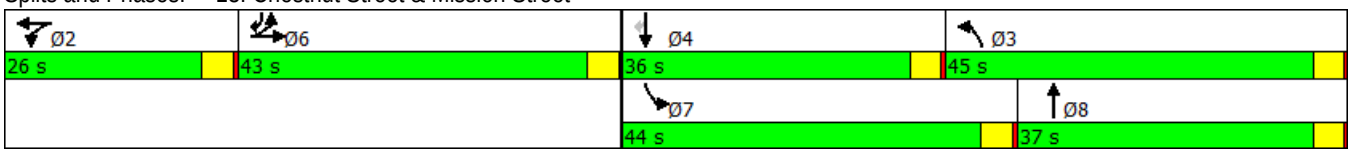
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		4	4		8	8	
Permitted Phases					6			4			8
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	42.0	96.0	28.0	82.0	82.0	32.0	32.0	32.0	44.0	44.0	44.0
Total Split (%)	21.0%	48.0%	14.0%	41.0%	41.0%	16.0%	16.0%	16.0%	22.0%	22.0%	22.0%
Maximum Green (s)	38.0	92.0	24.0	78.0	78.0	28.0	28.0	28.0	40.0	40.0	40.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	None	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	0	0
90th %ile Green (s)	38.0	92.0	24.0	78.0	78.0	28.0	28.0	28.0	40.0	40.0	40.0
90th %ile Term Code	Max	MaxR	Max	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	33.7	92.0	23.6	81.9	81.9	28.0	28.0	28.0	40.0	40.0	40.0
70th %ile Term Code	Gap	MaxR	Gap	Hold	Hold	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	29.8	92.0	21.3	83.5	83.5	28.0	28.0	28.0	40.0	40.0	40.0
50th %ile Term Code	Gap	MaxR	Gap	Hold	Hold	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	25.8	92.0	19.0	85.2	85.2	28.0	28.0	28.0	40.0	40.0	40.0
30th %ile Term Code	Gap	MaxR	Gap	Hold	Hold	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	20.4	92.0	15.8	87.4	87.4	28.0	28.0	28.0	40.0	40.0	40.0
10th %ile Term Code	Gap	MaxR	Gap	Hold	Hold	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 200
Actuated Cycle Length: 196.7
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 200
70th %ile Actuated Cycle: 199.6
50th %ile Actuated Cycle: 197.3
30th %ile Actuated Cycle: 195
10th %ile Actuated Cycle: 191.8

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	1428	392	367	95	280	58	204	1471
Future Volume (vph)	1428	392	367	95	280	58	204	1471
Turn Type	Split	NA	NA	Prot	NA	Prot	NA	pm+ov
Protected Phases	6	6	2	3	8	7	4	6
Permitted Phases								4
Detector Phase	6	6	2	3	8	7	4	4 6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	43.0	43.0	26.0	45.0	37.0	44.0	36.0	43.0
Total Split (%)	28.7%	28.7%	17.3%	30.0%	24.7%	29.3%	24.0%	28.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag				Lag	Lag	Lead	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	39.2	39.2	19.7	12.3	35.3	9.6	30.3	73.5
Actuated g/C Ratio	0.33	0.33	0.17	0.10	0.30	0.08	0.26	0.62
v/c Ratio	1.49	1.43dl	0.76	0.57	0.32	0.44	0.25	0.82
Control Delay	262.4	132.8	56.2	63.1	33.6	62.5	36.3	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	262.4	132.8	56.2	63.1	33.6	62.5	36.3	13.3
LOS	F	F	E	E	C	E	D	B
Approach Delay		182.2	56.2		40.6		17.7	
Approach LOS		F	E		D		B	

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 117.6	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.49	
Intersection Signal Delay: 93.2	Intersection LOS: F
Intersection Capacity Utilization 77.9%	ICU Level of Service D
Analysis Period (min) 15	
dl Defacto Left Lane. Recode with 1 though lane as a left lane.	

Splits and Phases: 13: Chestnut Street & Mission Street



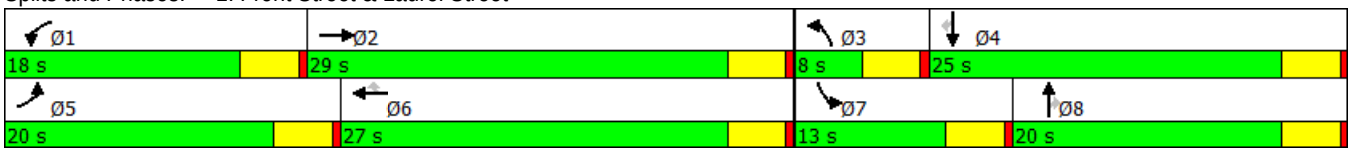
Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	6	6	2	3	8	7	4	6
Permitted Phases								4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	43.0	43.0	26.0	45.0	37.0	44.0	36.0	43.0
Total Split (%)	28.7%	28.7%	17.3%	30.0%	24.7%	29.3%	24.0%	28.7%
Maximum Green (s)	39.0	39.0	22.0	41.0	33.0	40.0	32.0	39.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag				Lag	Lag	Lead	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None
Walk Time (s)	5.0	5.0			5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0			0		0	0
90th %ile Green (s)	39.0	39.0	22.0	17.2	35.9	13.3	32.0	39.0
90th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Max	Max
70th %ile Green (s)	39.0	39.0	22.0	14.3	35.1	11.2	32.0	39.0
70th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Max	Max
50th %ile Green (s)	39.0	39.0	21.2	12.5	34.8	9.7	32.0	39.0
50th %ile Term Code	Max	Max	Gap	Gap	Hold	Gap	Max	Max
30th %ile Green (s)	39.0	39.0	18.9	10.7	33.4	8.3	31.0	39.0
30th %ile Term Code	Max	Max	Gap	Gap	Hold	Gap	Gap	Max
10th %ile Green (s)	39.0	39.0	15.0	7.8	36.4	0.0	24.6	39.0
10th %ile Term Code	Max	Max	Gap	Gap	Hold	Skip	Gap	Max

Intersection Summary
Cycle Length: 150
Actuated Cycle Length: 117.6
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 126.2
70th %ile Actuated Cycle: 123.3
50th %ile Actuated Cycle: 120.7
30th %ile Actuated Cycle: 115.6
10th %ile Actuated Cycle: 102.4

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	84	638	228	378	110	8	165	229	118	322	156
Future Volume (vph)	84	638	228	378	110	8	165	229	118	322	156
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	29.0	18.0	27.0	27.0	8.0	20.0	20.0	13.0	25.0	25.0
Total Split (%)	25.0%	36.3%	22.5%	33.8%	33.8%	10.0%	25.0%	25.0%	16.3%	31.3%	31.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	16.1	26.2	13.1	23.2	23.2	4.0	13.0	13.0	8.6	21.5	21.5
Actuated g/C Ratio	0.22	0.35	0.18	0.31	0.31	0.05	0.17	0.17	0.12	0.29	0.29
v/c Ratio	0.23	0.56	0.77	0.69	0.19	0.09	0.54	0.51	0.63	0.62	0.28
Control Delay	28.1	23.0	48.1	31.4	1.9	38.1	35.4	8.1	48.8	28.9	5.4
Queue Delay	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.1	24.1	48.1	31.4	1.9	38.1	35.4	8.1	48.8	28.9	5.4
LOS	C	C	D	C	A	D	D	A	D	C	A
Approach Delay		24.6		32.2			20.0			26.7	
Approach LOS		C		C			B			C	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 74.4	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 26.5	Intersection LOS: C
Intersection Capacity Utilization 64.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Front Street & Laurel Street



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	29.0	18.0	27.0	27.0	8.0	20.0	20.0	13.0	25.0	25.0
Total Split (%)	25.0%	36.3%	22.5%	33.8%	33.8%	10.0%	25.0%	25.0%	16.3%	31.3%	31.3%
Maximum Green (s)	16.0	25.0	14.0	23.0	23.0	4.0	16.0	16.0	9.0	21.0	21.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0
90th %ile Green (s)	16.0	25.0	14.0	23.0	23.0	4.0	16.0	16.0	9.0	21.0	21.0
90th %ile Term Code	MaxR	MaxR	Max	MaxR	MaxR	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	16.0	25.0	14.0	23.0	23.0	0.0	15.4	15.4	9.0	28.4	28.4
70th %ile Term Code	MaxR	MaxR	Max	MaxR	MaxR	Skip	Gap	Gap	Max	Hold	Hold
50th %ile Green (s)	16.0	25.0	14.0	23.0	23.0	0.0	12.3	12.3	9.0	25.3	25.3
50th %ile Term Code	MaxR	MaxR	Max	MaxR	MaxR	Skip	Gap	Gap	Max	Hold	Hold
30th %ile Green (s)	16.0	25.5	13.5	23.0	23.0	0.0	10.3	10.3	9.0	23.3	23.3
30th %ile Term Code	MaxR	Hold	Gap	MaxR	MaxR	Skip	Gap	Gap	Max	Hold	Hold
10th %ile Green (s)	16.0	28.9	10.1	23.0	23.0	0.0	11.2	11.2	0.0	11.2	11.2
10th %ile Term Code	MaxR	Hold	Gap	MaxR	MaxR	Skip	Hold	Hold	Skip	Gap	Gap

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 74.4
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 80
70th %ile Actuated Cycle: 79.4
50th %ile Actuated Cycle: 76.3
30th %ile Actuated Cycle: 74.3
10th %ile Actuated Cycle: 62.2

Santa Cruz DRP Study
2: Pacific Avenue & Laurel Street

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	48	640	37	456	41	77	56	58
Future Volume (vph)	48	640	37	456	41	77	56	58
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	40.0	20.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	25.0%	50.0%	25.0%	50.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	Max	Max	Max	Max
Act Effct Green (s)	7.6	36.8	7.0	36.3	16.1	16.1		16.1
Actuated g/C Ratio	0.11	0.54	0.10	0.54	0.24	0.24		0.24
v/c Ratio	0.28	0.69	0.21	0.58	0.16	0.30		0.44
Control Delay	32.8	17.0	32.2	14.6	24.6	19.8		25.6
Queue Delay	0.0	0.0	0.0	4.5	0.0	0.0		0.0
Total Delay	32.8	17.0	32.2	19.2	24.6	19.8		25.6
LOS	C	B	C	B	C	B		C
Approach Delay		18.0		20.0		21.0		25.6
Approach LOS		B		B		C		C

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 67.7
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 19.8 — Intersection LOS: B
Intersection Capacity Utilization 65.3% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Pacific Avenue & Laurel Street

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	40.0	20.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	25.0%	50.0%	25.0%	50.0%	25.0%	25.0%	25.0%	25.0%
Maximum Green (s)	16.0	36.0	16.0	36.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	None	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0
90th %ile Green (s)	10.3	37.2	9.1	36.0	16.0	16.0	16.0	16.0
90th %ile Term Code	Gap	Hold	Gap	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	8.7	36.9	7.8	36.0	16.0	16.0	16.0	16.0
70th %ile Term Code	Gap	Hold	Gap	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	7.6	36.7	6.9	36.0	16.0	16.0	16.0	16.0
50th %ile Term Code	Gap	Hold	Gap	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	0.0	36.0	0.0	36.0	16.0	16.0	16.0	16.0
30th %ile Term Code	Skip	MaxR	Skip	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	0.0	36.0	0.0	36.0	16.0	16.0	16.0	16.0
10th %ile Term Code	Skip	MaxR	Skip	MaxR	MaxR	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 67.7
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 74.3
70th %ile Actuated Cycle: 72.7
50th %ile Actuated Cycle: 71.6
30th %ile Actuated Cycle: 60
10th %ile Actuated Cycle: 60

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	109	60	52	380	570
Future Volume (vph)	109	60	52	380	570
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	5		3	8	4
Permitted Phases		5			
Detector Phase	5	5	3	8	4
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0
Total Split (s)	26.0	26.0	22.0	59.0	37.0
Total Split (%)	30.6%	30.6%	25.9%	69.4%	43.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	Max	Max	Max	None	Max
Act Effct Green (s)	22.0	22.0	18.0	55.0	33.0
Actuated g/C Ratio	0.26	0.26	0.21	0.65	0.39
v/c Ratio	0.25	0.14	0.15	0.34	0.54
Control Delay	26.7	7.7	28.6	7.7	20.8
Queue Delay	0.0	0.0	0.0	2.3	0.0
Total Delay	26.7	7.7	28.6	10.0	20.8
LOS	C	A	C	B	C
Approach Delay	19.9			12.2	20.8
Approach LOS	B			B	C

Intersection Summary	
Cycle Length: 85	
Actuated Cycle Length: 85	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 17.8	Intersection LOS: B
Intersection Capacity Utilization 39.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Front Street & Cathcart Street

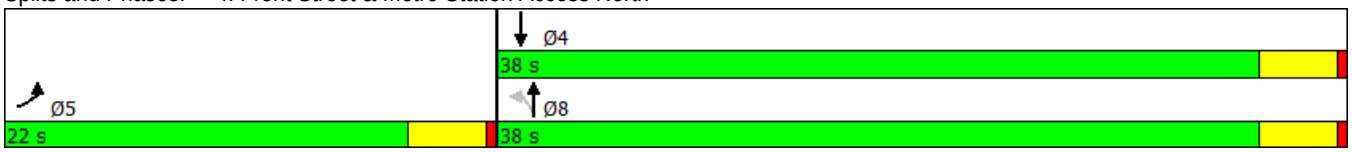
Lane Group	EBL	EBR	NBL	NBT	SBT
Protected Phases	5		3	8	4
Permitted Phases		5			
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0
Total Split (s)	26.0	26.0	22.0	59.0	37.0
Total Split (%)	30.6%	30.6%	25.9%	69.4%	43.5%
Maximum Green (s)	22.0	22.0	18.0	55.0	33.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	None	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	22.0	22.0	18.0	55.0	33.0
90th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
70th %ile Green (s)	22.0	22.0	18.0	55.0	33.0
70th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
50th %ile Green (s)	22.0	22.0	18.0	55.0	33.0
50th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
30th %ile Green (s)	22.0	22.0	18.0	55.0	33.0
30th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
10th %ile Green (s)	22.0	22.0	18.0	55.0	33.0
10th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR

Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 85
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 85
70th %ile Actuated Cycle: 85
50th %ile Actuated Cycle: 85
30th %ile Actuated Cycle: 85
10th %ile Actuated Cycle: 85

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	16	5	403	605
Future Volume (vph)	16	5	403	605
Turn Type	Prot	Perm	NA	NA
Protected Phases	5		8	4
Permitted Phases		8		
Detector Phase	5	8	8	4
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	22.0	38.0	38.0	38.0
Total Split (%)	36.7%	63.3%	63.3%	63.3%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Max	Max	Max
Act Effct Green (s)	6.8	52.8	52.8	52.8
Actuated g/C Ratio	0.12	0.95	0.95	0.95
v/c Ratio	0.17	0.01	0.23	0.37
Control Delay	25.3	1.4	1.3	1.9
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	25.3	1.4	1.3	1.9
LOS	C	A	A	A
Approach Delay	25.3		1.3	1.9
Approach LOS	C		A	A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 55.7	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.37	
Intersection Signal Delay: 2.1	Intersection LOS: A
Intersection Capacity Utilization 42.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Front Street & Metro Station Access North



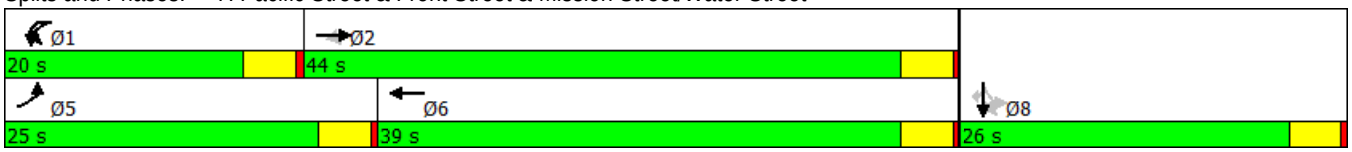
Lane Group	EBL	NBL	NBT	SBT
Protected Phases	5		8	4
Permitted Phases		8		
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	22.0	38.0	38.0	38.0
Total Split (%)	36.7%	63.3%	63.3%	63.3%
Maximum Green (s)	18.0	34.0	34.0	34.0
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0
90th %ile Green (s)	9.6	49.0	49.0	49.0
90th %ile Term Code	Gap	Dwell	Dwell	Dwell
70th %ile Green (s)	0.0	49.0	49.0	49.0
70th %ile Term Code	Skip	Dwell	Dwell	Dwell
50th %ile Green (s)	0.0	49.0	49.0	49.0
50th %ile Term Code	Skip	Dwell	Dwell	Dwell
30th %ile Green (s)	0.0	49.0	49.0	49.0
30th %ile Term Code	Skip	Dwell	Dwell	Dwell
10th %ile Green (s)	0.0	49.0	49.0	49.0
10th %ile Term Code	Skip	Dwell	Dwell	Dwell

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 55.7
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 66.6
70th %ile Actuated Cycle: 53
50th %ile Actuated Cycle: 53
30th %ile Actuated Cycle: 53
10th %ile Actuated Cycle: 53

Lane Group	EBL	EBT	EBR	WBL2	WBL	WBT	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	152	629	110	108	49	630	33	174
Future Volume (vph)	152	629	110	108	49	630	33	174
Turn Type	Prot	NA	Perm	Prot	Prot	NA	NA	Perm
Protected Phases	5	2		1	1	6	8	
Permitted Phases			2					8
Detector Phase	5	2	2	1	1	6	8	8
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	8.0	20.0	20.0	20.0
Total Split (s)	25.0	44.0	44.0	20.0	20.0	39.0	26.0	26.0
Total Split (%)	27.8%	48.9%	48.9%	22.2%	22.2%	43.3%	28.9%	28.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Max	Max	Max
Act Effct Green (s)	12.6	39.4	39.4	10.6	10.6	35.1	22.0	22.0
Actuated g/C Ratio	0.15	0.48	0.48	0.13	0.13	0.43	0.27	0.27
v/c Ratio	0.59	0.39	0.17	0.50	0.23	0.44	0.36	0.33
Control Delay	41.1	15.5	8.9	41.0	34.2	18.1	27.7	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	15.5	8.9	41.0	34.2	18.1	27.7	6.9
LOS	D	B	A	D	C	B	C	A
Approach Delay		18.9				22.2	16.8	
Approach LOS		B				C	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 81.8	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 19.8	Intersection LOS: B
Intersection Capacity Utilization 44.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Pacific Street & Front Street & Mission Street/Water Street



Lane Group	EBL	EBT	EBR	WBL2	WBL	WBT	SBT	SBR
Protected Phases	5	2		1	1	6	8	
Permitted Phases			2					8
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	8.0	20.0	20.0	20.0
Total Split (s)	25.0	44.0	44.0	20.0	20.0	39.0	26.0	26.0
Total Split (%)	27.8%	48.9%	48.9%	22.2%	22.2%	43.3%	28.9%	28.9%
Maximum Green (s)	21.0	40.0	40.0	16.0	16.0	35.0	22.0	22.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	Max
Walk Time (s)		5.0	5.0			5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0			0	0	0
90th %ile Green (s)	18.0	38.0	38.0	15.0	15.0	35.0	22.0	22.0
90th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
70th %ile Green (s)	14.7	37.4	37.4	12.3	12.3	35.0	22.0	22.0
70th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
50th %ile Green (s)	12.6	37.1	37.1	10.5	10.5	35.0	22.0	22.0
50th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
30th %ile Green (s)	10.6	36.7	36.7	8.9	8.9	35.0	22.0	22.0
30th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
10th %ile Green (s)	7.9	46.9	46.9	0.0	0.0	35.0	22.0	22.0
10th %ile Term Code	Gap	Hold	Hold	Skip	Skip	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 81.8
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 87
70th %ile Actuated Cycle: 83.7
50th %ile Actuated Cycle: 81.6
30th %ile Actuated Cycle: 79.6
10th %ile Actuated Cycle: 76.9

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	109	360	93	36	10	298	79	339
Future Volume (vph)	109	360	93	36	10	298	79	339
Turn Type	NA	Split	NA	Perm	Perm	NA	Perm	NA
Protected Phases	2	6	6			8		4
Permitted Phases				6	8		4	
Detector Phase	2	6	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	22.0	35.0	35.0	35.0	43.0	43.0	43.0	43.0
Total Split (%)	22.0%	35.0%	35.0%	35.0%	43.0%	43.0%	43.0%	43.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	Max	Max	None	None	None	None
Act Effct Green (s)	9.6	31.4	31.4	31.4		21.9	21.9	21.9
Actuated g/C Ratio	0.13	0.42	0.42	0.42		0.29	0.29	0.29
v/c Ratio	0.46	0.33	0.33	0.05		0.51	0.43	0.75
Control Delay	31.4	18.7	18.8	3.7		17.5	29.1	33.2
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	31.4	18.7	18.8	3.7		17.5	29.1	33.2
LOS	C	B	B	A		B	C	C
Approach Delay	31.4		17.6			17.5		32.5
Approach LOS	C		B			B		C

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 75.1	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 23.4	Intersection LOS: C
Intersection Capacity Utilization 65.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: Front Street & Soquel Avenue

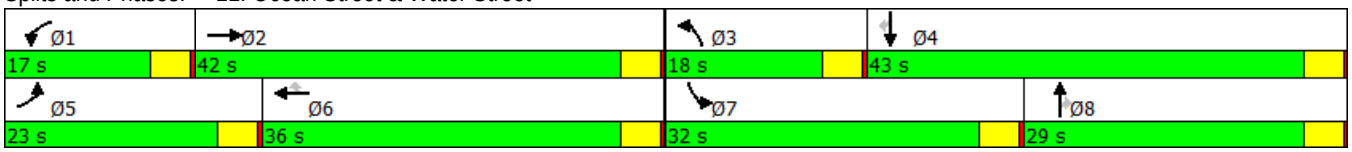
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Protected Phases	2	6	6			8		4
Permitted Phases				6	8		4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	22.0	35.0	35.0	35.0	43.0	43.0	43.0	43.0
Total Split (%)	22.0%	35.0%	35.0%	35.0%	43.0%	43.0%	43.0%	43.0%
Maximum Green (s)	18.0	31.0	31.0	31.0	39.0	39.0	39.0	39.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lag	Lead	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	Max	None	None	None	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0
90th %ile Green (s)	13.2	31.0	31.0	31.0	33.2	33.2	33.2	33.2
90th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
70th %ile Green (s)	10.8	31.0	31.0	31.0	25.8	25.8	25.8	25.8
70th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
50th %ile Green (s)	9.5	31.0	31.0	31.0	22.0	22.0	22.0	22.0
50th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
30th %ile Green (s)	8.2	31.0	31.0	31.0	17.6	17.6	17.6	17.6
30th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
10th %ile Green (s)	6.8	31.0	31.0	31.0	13.5	13.5	13.5	13.5
10th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 75.1
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 89.4
70th %ile Actuated Cycle: 79.6
50th %ile Actuated Cycle: 74.5
30th %ile Actuated Cycle: 68.8
10th %ile Actuated Cycle: 63.3

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	343	731	112	553	227	120	553	98	290	856	344
Future Volume (vph)	343	731	112	553	227	120	553	98	290	856	344
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	23.0	42.0	17.0	36.0	36.0	18.0	29.0	29.0	32.0	43.0	43.0
Total Split (%)	19.2%	35.0%	14.2%	30.0%	30.0%	15.0%	24.2%	24.2%	26.7%	35.8%	35.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	Min	None	Min	Min	None	Min	Min
Act Effct Green (s)	16.1	32.7	11.3	27.9	27.9	11.9	23.7	23.7	22.7	34.6	34.6
Actuated g/C Ratio	0.15	0.31	0.11	0.26	0.26	0.11	0.22	0.22	0.21	0.32	0.32
v/c Ratio	0.69	0.81	0.62	0.62	0.40	0.62	0.73	0.21	0.80	0.76	0.50
Control Delay	52.5	41.3	63.9	39.1	6.5	63.1	46.4	2.4	57.8	38.5	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	41.3	63.9	39.1	6.5	63.1	46.4	2.4	57.8	38.5	8.5
LOS	D	D	E	D	A	E	D	A	E	D	A
Approach Delay		44.5		33.9			43.4			35.3	
Approach LOS		D		C			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 106.9	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 39.0	Intersection LOS: D
Intersection Capacity Utilization 74.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 11: Ocean Street & Water Street



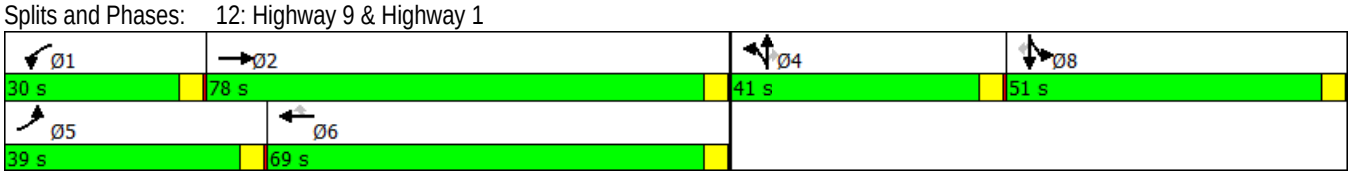
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	23.0	42.0	17.0	36.0	36.0	18.0	29.0	29.0	32.0	43.0	43.0
Total Split (%)	19.2%	35.0%	14.2%	30.0%	30.0%	15.0%	24.2%	24.2%	26.7%	35.8%	35.8%
Maximum Green (s)	19.0	38.0	13.0	32.0	32.0	14.0	25.0	25.0	28.0	39.0	39.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	Min	None	Min	Min	None	Min	Min
Walk Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0
90th %ile Green (s)	19.0	38.0	13.0	32.0	32.0	14.0	25.0	25.0	28.0	39.0	39.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	19.0	38.0	13.0	32.0	32.0	14.0	25.0	25.0	28.0	39.0	39.0
70th %ile Term Code	Max	Max	Max	Hold	Hold	Max	Max	Max	Max	Max	Max
50th %ile Green (s)	17.4	36.0	12.9	31.5	31.5	13.4	27.4	27.4	25.0	39.0	39.0
50th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Hold	Hold	Gap	Max	Max
30th %ile Green (s)	14.5	30.3	10.4	26.2	26.2	10.8	23.3	23.3	20.0	32.5	32.5
30th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Hold	Hold	Gap	Gap	Gap
10th %ile Green (s)	10.9	22.2	7.4	18.7	18.7	7.6	17.5	17.5	13.9	23.8	23.8
10th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Hold	Hold	Gap	Gap	Gap

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 106.9
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 120
70th %ile Actuated Cycle: 120
50th %ile Actuated Cycle: 117.3
30th %ile Actuated Cycle: 100
10th %ile Actuated Cycle: 77

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	227	1320	293	1262	472	102	246	423	648	309	247
Future Volume (vph)	227	1320	293	1262	472	102	246	423	648	309	247
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2	1	6		4	4		8	8	
Permitted Phases					6			4			8
Detector Phase	5	2	1	6	6	4	4	4	8	8	8
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	39.0	78.0	30.0	69.0	69.0	41.0	41.0	41.0	51.0	51.0	51.0
Total Split (%)	19.5%	39.0%	15.0%	34.5%	34.5%	20.5%	20.5%	20.5%	25.5%	25.5%	25.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	None	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	30.4	74.1	22.6	66.3	66.3	37.0	37.0	37.0	47.0	47.0	47.0
Actuated g/C Ratio	0.15	0.38	0.11	0.34	0.34	0.19	0.19	0.19	0.24	0.24	0.24
v/c Ratio	0.87	0.79	0.80	0.78	0.74	0.32	0.76	0.66	0.84	0.75	0.50
Control Delay	110.7	58.2	100.4	63.2	36.2	72.8	90.7	47.2	81.9	81.5	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.7	58.2	100.4	63.2	36.2	72.8	90.7	47.2	81.9	81.5	19.8
LOS	F	E	F	E	D	E	F	D	F	F	B
Approach Delay		65.5		62.3			64.5			69.0	
Approach LOS		E		E			E			E	

Intersection Summary	
Cycle Length: 200	
Actuated Cycle Length: 196.7	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 65.0	Intersection LOS: E
Intersection Capacity Utilization 81.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 12: Highway 9 & Highway 1



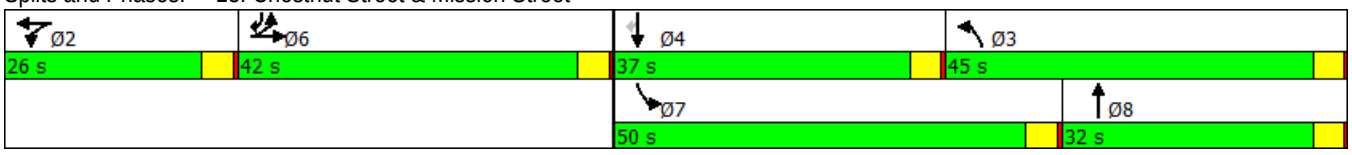
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		4	4		8	8	
Permitted Phases					6			4			8
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	39.0	78.0	30.0	69.0	69.0	41.0	41.0	41.0	51.0	51.0	51.0
Total Split (%)	19.5%	39.0%	15.0%	34.5%	34.5%	20.5%	20.5%	20.5%	25.5%	25.5%	25.5%
Maximum Green (s)	35.0	74.0	26.0	65.0	65.0	37.0	37.0	37.0	47.0	47.0	47.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	None	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	0	0
90th %ile Green (s)	35.0	74.0	26.0	65.0	65.0	37.0	37.0	37.0	47.0	47.0	47.0
90th %ile Term Code	Max	MaxR	Max	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	35.0	74.2	25.8	65.0	65.0	37.0	37.0	37.0	47.0	47.0	47.0
70th %ile Term Code	Max	Hold	Gap	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	32.0	74.0	23.3	65.3	65.3	37.0	37.0	37.0	47.0	47.0	47.0
50th %ile Term Code	Gap	MaxR	Gap	Hold	Hold	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	28.0	74.0	20.9	66.9	66.9	37.0	37.0	37.0	47.0	47.0	47.0
30th %ile Term Code	Gap	MaxR	Gap	Hold	Hold	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	22.4	74.0	17.4	69.0	69.0	37.0	37.0	37.0	47.0	47.0	47.0
10th %ile Term Code	Gap	MaxR	Gap	Hold	Hold	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 200
Actuated Cycle Length: 196.7
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 200
70th %ile Actuated Cycle: 200
50th %ile Actuated Cycle: 197.3
30th %ile Actuated Cycle: 194.9
10th %ile Actuated Cycle: 191.4

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	1312	486	412	74	276	42	258	1380
Future Volume (vph)	1312	486	412	74	276	42	258	1380
Turn Type	Split	NA	NA	Prot	NA	Prot	NA	pm+ov
Protected Phases	6	6	2	3	8	7	4	6
Permitted Phases								4
Detector Phase	6	6	2	3	8	7	4	4 6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	42.0	42.0	26.0	45.0	32.0	50.0	37.0	42.0
Total Split (%)	28.0%	28.0%	17.3%	30.0%	21.3%	33.3%	24.7%	28.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag				Lag	Lag	Lead	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	38.8	38.8	20.0	10.2	29.0	8.1	27.2	70.2
Actuated g/C Ratio	0.35	0.35	0.18	0.09	0.26	0.07	0.25	0.64
v/c Ratio	1.18	1.12dl	0.74	0.46	0.32	0.32	0.30	0.68
Control Delay	131.0	80.9	51.3	59.7	33.4	58.6	35.3	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	131.0	80.9	51.3	59.7	33.4	58.6	35.3	6.7
LOS	F	F	D	E	C	E	D	A
Approach Delay		98.5	51.3		38.7		12.4	
Approach LOS		F	D		D		B	

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 109.8	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 55.4	Intersection LOS: E
Intersection Capacity Utilization 75.0%	ICU Level of Service D
Analysis Period (min) 15	
dl Defacto Left Lane. Recode with 1 though lane as a left lane.	

Splits and Phases: 13: Chestnut Street & Mission Street



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	6	6	2	3	8	7	4	6
Permitted Phases								4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	42.0	42.0	26.0	45.0	32.0	50.0	37.0	42.0
Total Split (%)	28.0%	28.0%	17.3%	30.0%	21.3%	33.3%	24.7%	28.0%
Maximum Green (s)	38.0	38.0	22.0	41.0	28.0	46.0	33.0	38.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag				Lag	Lag	Lead	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None
Walk Time (s)	5.0	5.0			5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0			0		0	0
90th %ile Green (s)	38.0	38.0	22.0	14.3	36.2	11.1	33.0	38.0
90th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Max	Max
70th %ile Green (s)	38.0	38.0	22.0	11.9	35.5	9.4	33.0	38.0
70th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Max	Max
50th %ile Green (s)	38.0	38.0	22.0	10.4	31.7	8.2	29.5	38.0
50th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Gap	Max
30th %ile Green (s)	38.0	38.0	19.3	8.7	25.9	7.0	24.2	38.0
30th %ile Term Code	Max	Max	Gap	Gap	Hold	Gap	Gap	Max
10th %ile Green (s)	38.0	38.0	14.6	0.0	17.9	0.0	17.9	38.0
10th %ile Term Code	Max	Max	Gap	Skip	Hold	Skip	Gap	Max

Intersection Summary
Cycle Length: 150
Actuated Cycle Length: 109.8
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 123.3
70th %ile Actuated Cycle: 120.9
50th %ile Actuated Cycle: 115.9
30th %ile Actuated Cycle: 106.2
10th %ile Actuated Cycle: 82.5

Santa Cruz DRP Study
1: Front Street & Laurel Street

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	48	337	246	448	89	5	145	168	44	156	90
Future Volume (vph)	48	337	246	448	89	5	145	168	44	156	90
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	27.0	25.0	32.0	32.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (%)	25.0%	33.8%	31.3%	40.0%	40.0%	10.0%	25.0%	25.0%	10.0%	25.0%	25.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	16.1	28.7	15.7	28.2	28.2	4.0	11.5	11.5	4.0	14.6	14.6
Actuated g/C Ratio	0.22	0.40	0.22	0.39	0.39	0.06	0.16	0.16	0.06	0.20	0.20
v/c Ratio	0.14	0.27	0.71	0.67	0.14	0.06	0.54	0.45	0.52	0.46	0.22
Control Delay	26.3	18.1	37.4	25.7	2.9	37.2	36.1	8.6	58.3	30.1	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	18.1	37.4	25.7	2.9	37.2	36.1	8.6	58.3	30.1	1.5
LOS	C	B	D	C	A	D	D	A	E	C	A
Approach Delay		19.1		26.8			21.6			25.5	
Approach LOS		B		C			C			C	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 72.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 23.9	Intersection LOS: C
Intersection Capacity Utilization 51.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Front Street & Laurel Street

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	27.0	25.0	32.0	32.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (%)	25.0%	33.8%	31.3%	40.0%	40.0%	10.0%	25.0%	25.0%	10.0%	25.0%	25.0%
Maximum Green (s)	16.0	23.0	21.0	28.0	28.0	4.0	16.0	16.0	4.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0
90th %ile Green (s)	16.0	23.0	21.0	28.0	28.0	4.0	16.0	16.0	4.0	16.0	16.0
90th %ile Term Code	MaxR	MaxR	Max	MaxR	MaxR	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	16.0	24.7	19.3	28.0	28.0	0.0	13.7	13.7	4.0	21.7	21.7
70th %ile Term Code	MaxR	Hold	Gap	MaxR	MaxR	Skip	Gap	Gap	Max	Hold	Hold
50th %ile Green (s)	16.0	27.5	16.5	28.0	28.0	0.0	11.7	11.7	4.0	19.7	19.7
50th %ile Term Code	MaxR	Hold	Gap	MaxR	MaxR	Skip	Gap	Gap	Max	Hold	Hold
30th %ile Green (s)	16.0	31.1	12.9	28.0	28.0	0.0	9.7	9.7	0.0	9.7	9.7
30th %ile Term Code	MaxR	Hold	Gap	MaxR	MaxR	Skip	Hold	Hold	Skip	Gap	Gap
10th %ile Green (s)	16.0	34.2	9.8	28.0	28.0	0.0	7.4	7.4	0.0	7.4	7.4
10th %ile Term Code	MaxR	Hold	Gap	MaxR	MaxR	Skip	Hold	Hold	Skip	Gap	Gap

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 72.5
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 80
70th %ile Actuated Cycle: 77.7
50th %ile Actuated Cycle: 75.7
30th %ile Actuated Cycle: 65.7
10th %ile Actuated Cycle: 63.4

Santa Cruz DRP Study
2: Pacific Avenue & Laurel Street

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	22	345	34	476	33	31	20	17
Future Volume (vph)	22	345	34	476	33	31	20	17
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	40.0	20.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	25.0%	50.0%	25.0%	50.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	Max	Max	Max	Max
Act Effct Green (s)	6.9	36.3	7.1	38.5	16.1	16.1		16.1
Actuated g/C Ratio	0.10	0.54	0.11	0.57	0.24	0.24		0.24
v/c Ratio	0.18	0.41	0.22	0.55	0.11	0.19		0.21
Control Delay	32.1	11.9	31.9	12.8	23.2	15.6		17.0
Queue Delay	0.0	0.0	0.0	18.5	0.0	0.0		0.0
Total Delay	32.1	11.9	31.9	31.3	23.2	15.6		17.0
LOS	C	B	C	C	C	B		B
Approach Delay		13.1		31.3		18.3		17.0
Approach LOS		B		C		B		B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 67.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 22.9	Intersection LOS: C
Intersection Capacity Utilization 45.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Pacific Avenue & Laurel Street

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	40.0	20.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	25.0%	50.0%	25.0%	50.0%	25.0%	25.0%	25.0%	25.0%
Maximum Green (s)	16.0	36.0	16.0	36.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	None	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0
90th %ile Green (s)	8.9	36.0	9.2	36.3	16.0	16.0	16.0	16.0
90th %ile Term Code	Gap	MaxR	Gap	Hold	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	7.6	36.0	7.9	36.3	16.0	16.0	16.0	16.0
70th %ile Term Code	Gap	MaxR	Gap	Hold	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	0.0	36.0	7.0	47.0	16.0	16.0	16.0	16.0
50th %ile Term Code	Skip	MaxR	Gap	Hold	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	0.0	36.0	0.0	36.0	16.0	16.0	16.0	16.0
30th %ile Term Code	Skip	MaxR	Skip	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	0.0	36.0	0.0	36.0	16.0	16.0	16.0	16.0
10th %ile Term Code	Skip	MaxR	Skip	MaxR	MaxR	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 67.2
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 73.2
70th %ile Actuated Cycle: 71.9
50th %ile Actuated Cycle: 71
30th %ile Actuated Cycle: 60
10th %ile Actuated Cycle: 60

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	48	21	22	316	308
Future Volume (vph)	48	21	22	316	308
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	5		3	8	4
Permitted Phases		5			
Detector Phase	5	5	3	8	4
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0
Total Split (s)	27.0	27.0	23.0	58.0	35.0
Total Split (%)	31.8%	31.8%	27.1%	68.2%	41.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	Max	Max	Max	None	Max
Act Effct Green (s)	23.0	23.0	19.0	54.0	31.0
Actuated g/C Ratio	0.27	0.27	0.22	0.64	0.36
v/c Ratio	0.13	0.06	0.07	0.33	0.37
Control Delay	24.6	10.0	26.8	8.1	19.1
Queue Delay	0.0	0.0	0.0	2.1	0.0
Total Delay	24.6	10.0	26.8	10.2	19.1
LOS	C	B	C	B	B
Approach Delay	20.2			11.3	19.1
Approach LOS	C			B	B

Intersection Summary	
Cycle Length: 85	
Actuated Cycle Length: 85	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.37	
Intersection Signal Delay: 15.9	Intersection LOS: B
Intersection Capacity Utilization 27.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Front Street & Cathcart Street

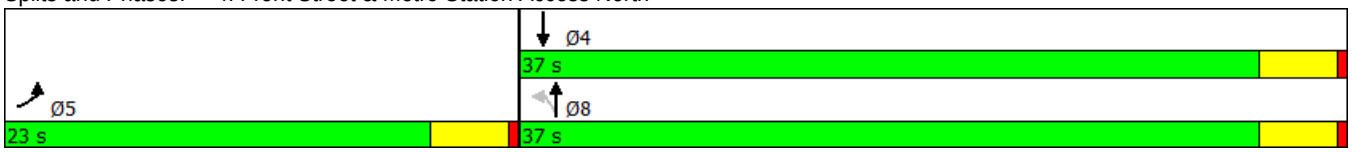
Lane Group	EBL	EBR	NBL	NBT	SBT
Protected Phases	5		3	8	4
Permitted Phases		5			
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0
Total Split (s)	27.0	27.0	23.0	58.0	35.0
Total Split (%)	31.8%	31.8%	27.1%	68.2%	41.2%
Maximum Green (s)	23.0	23.0	19.0	54.0	31.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	None	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	23.0	23.0	19.0	54.0	31.0
90th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
70th %ile Green (s)	23.0	23.0	19.0	54.0	31.0
70th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
50th %ile Green (s)	23.0	23.0	19.0	54.0	31.0
50th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
30th %ile Green (s)	23.0	23.0	19.0	54.0	31.0
30th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
10th %ile Green (s)	23.0	23.0	19.0	54.0	31.0
10th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR

Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 85
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 85
70th %ile Actuated Cycle: 85
50th %ile Actuated Cycle: 85
30th %ile Actuated Cycle: 85
10th %ile Actuated Cycle: 85

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	12	2	300	291
Future Volume (vph)	12	2	300	291
Turn Type	Prot	Perm	NA	NA
Protected Phases	5		8	4
Permitted Phases		8		
Detector Phase	5	8	8	4
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	23.0	37.0	37.0	37.0
Total Split (%)	38.3%	61.7%	61.7%	61.7%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Max	Max	Max
Act Effct Green (s)	6.7	51.8	51.8	51.8
Actuated g/C Ratio	0.12	0.95	0.95	0.95
v/c Ratio	0.16	0.00	0.21	0.25
Control Delay	23.7	1.5	1.3	1.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.7	1.5	1.3	1.4
LOS	C	A	A	A
Approach Delay	23.7		1.3	1.4
Approach LOS	C		A	A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 54.7	
Natural Cycle: 40	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.25	
Intersection Signal Delay: 1.9	Intersection LOS: A
Intersection Capacity Utilization 27.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Front Street & Metro Station Access North



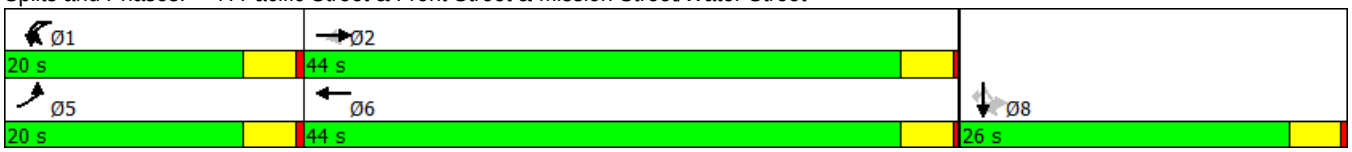
Lane Group	EBL	NBL	NBT	SBT
Protected Phases	5		8	4
Permitted Phases		8		
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	23.0	37.0	37.0	37.0
Total Split (%)	38.3%	61.7%	61.7%	61.7%
Maximum Green (s)	19.0	33.0	33.0	33.0
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0
90th %ile Green (s)	9.4	48.0	48.0	48.0
90th %ile Term Code	Gap	Dwell	Dwell	Dwell
70th %ile Green (s)	0.0	48.0	48.0	48.0
70th %ile Term Code	Skip	Dwell	Dwell	Dwell
50th %ile Green (s)	0.0	48.0	48.0	48.0
50th %ile Term Code	Skip	Dwell	Dwell	Dwell
30th %ile Green (s)	0.0	48.0	48.0	48.0
30th %ile Term Code	Skip	Dwell	Dwell	Dwell
10th %ile Green (s)	0.0	48.0	48.0	48.0
10th %ile Term Code	Skip	Dwell	Dwell	Dwell

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 54.7
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 65.4
70th %ile Actuated Cycle: 52
50th %ile Actuated Cycle: 52
30th %ile Actuated Cycle: 52
10th %ile Actuated Cycle: 52

Lane Group	EBL	EBT	EBR	WBL2	WBL	WBT	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	81	380	75	61	48	637	18	107
Future Volume (vph)	81	380	75	61	48	637	18	107
Turn Type	Prot	NA	Perm	Prot	Prot	NA	NA	Perm
Protected Phases	5	2		1	1	6	8	
Permitted Phases			2					8
Detector Phase	5	2	2	1	1	6	8	8
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	8.0	20.0	20.0	20.0
Total Split (s)	20.0	44.0	44.0	20.0	20.0	44.0	26.0	26.0
Total Split (%)	22.2%	48.9%	48.9%	22.2%	22.2%	48.9%	28.9%	28.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Max	Max	Max
Act Effct Green (s)	9.6	40.8	40.8	8.9	8.9	40.2	22.1	22.1
Actuated g/C Ratio	0.12	0.50	0.50	0.11	0.11	0.49	0.27	0.27
v/c Ratio	0.45	0.25	0.13	0.40	0.28	0.41	0.21	0.23
Control Delay	41.5	13.0	6.8	41.6	37.9	15.0	26.7	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	13.0	6.8	41.6	37.9	15.0	26.7	6.6
LOS	D	B	A	D	D	B	C	A
Approach Delay		16.1				18.7	15.3	
Approach LOS		B				B	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 81.7	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.45	
Intersection Signal Delay: 17.3	Intersection LOS: B
Intersection Capacity Utilization 36.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Pacific Street & Front Street & Mission Street/Water Street



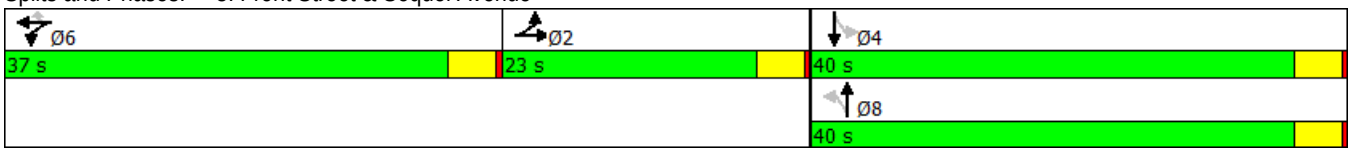
Lane Group	EBL	EBT	EBR	WBL2	WBL	WBT	SBT	SBR
Protected Phases	5	2		1	1	6	8	
Permitted Phases			2					8
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	8.0	20.0	20.0	20.0
Total Split (s)	20.0	44.0	44.0	20.0	20.0	44.0	26.0	26.0
Total Split (%)	22.2%	48.9%	48.9%	22.2%	22.2%	48.9%	28.9%	28.9%
Maximum Green (s)	16.0	40.0	40.0	16.0	16.0	40.0	22.0	22.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	Max
Walk Time (s)		5.0	5.0			5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0			0	0	0
90th %ile Green (s)	13.6	40.9	40.9	12.7	12.7	40.0	22.0	22.0
90th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
70th %ile Green (s)	11.3	40.8	40.8	10.5	10.5	40.0	22.0	22.0
70th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
50th %ile Green (s)	9.7	40.8	40.8	8.9	8.9	40.0	22.0	22.0
50th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
30th %ile Green (s)	8.1	40.6	40.6	7.5	7.5	40.0	22.0	22.0
30th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
10th %ile Green (s)	0.0	40.0	40.0	0.0	0.0	40.0	22.0	22.0
10th %ile Term Code	Skip	Hold	Hold	Skip	Skip	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 81.7
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 87.6
70th %ile Actuated Cycle: 85.3
50th %ile Actuated Cycle: 83.7
30th %ile Actuated Cycle: 82.1
10th %ile Actuated Cycle: 70

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	52	223	104	42	10	229	24	172
Future Volume (vph)	52	223	104	42	10	229	24	172
Turn Type	NA	Split	NA	Perm	Perm	NA	Perm	NA
Protected Phases	2	6	6			8		4
Permitted Phases				6	8		4	
Detector Phase	2	6	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	23.0	37.0	37.0	37.0	40.0	40.0	40.0	40.0
Total Split (%)	23.0%	37.0%	37.0%	37.0%	40.0%	40.0%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	Max	Max	None	None	None	None
Act Effct Green (s)	7.4	33.7	33.7	33.7		14.3	14.3	14.3
Actuated g/C Ratio	0.11	0.52	0.52	0.52		0.22	0.22	0.22
v/c Ratio	0.27	0.22	0.22	0.06		0.60	0.22	0.64
Control Delay	27.8	11.9	11.8	3.6		18.9	25.8	32.0
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	27.8	11.9	11.8	3.6		18.9	25.8	32.0
LOS	C	B	B	A		B	C	C
Approach Delay	27.8		10.9			18.9		31.3
Approach LOS	C		B			B		C

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 65	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 19.4	Intersection LOS: B
Intersection Capacity Utilization 42.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Front Street & Soquel Avenue



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Protected Phases	2	6	6			8		4
Permitted Phases				6	8		4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	23.0	37.0	37.0	37.0	40.0	40.0	40.0	40.0
Total Split (%)	23.0%	37.0%	37.0%	37.0%	40.0%	40.0%	40.0%	40.0%
Maximum Green (s)	19.0	33.0	33.0	33.0	36.0	36.0	36.0	36.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lag	Lead	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	Max	None	None	None	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0
90th %ile Green (s)	9.3	33.0	33.0	33.0	21.0	21.0	21.0	21.0
90th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
70th %ile Green (s)	8.0	33.0	33.0	33.0	16.9	16.9	16.9	16.9
70th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
50th %ile Green (s)	7.3	33.0	33.0	33.0	14.4	14.4	14.4	14.4
50th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
30th %ile Green (s)	6.6	33.0	33.0	33.0	12.1	12.1	12.1	12.1
30th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
10th %ile Green (s)	0.0	33.0	33.0	33.0	8.5	8.5	8.5	8.5
10th %ile Term Code	Skip	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap

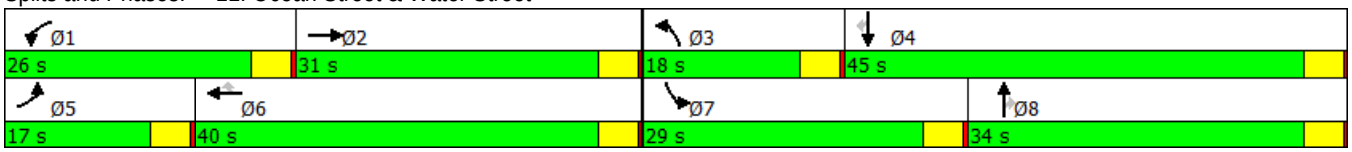
Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 65
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 75.3
70th %ile Actuated Cycle: 69.9
50th %ile Actuated Cycle: 66.7
30th %ile Actuated Cycle: 63.7
10th %ile Actuated Cycle: 49.5

Santa Cruz DRP Study
11: Ocean Street & Water Street

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	167	303	136	459	255	78	466	40	175	620	391
Future Volume (vph)	167	303	136	459	255	78	466	40	175	620	391
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	17.0	31.0	26.0	40.0	40.0	18.0	34.0	34.0	29.0	45.0	45.0
Total Split (%)	14.2%	25.8%	21.7%	33.3%	33.3%	15.0%	28.3%	28.3%	24.2%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	Min	None	Min	Min	None	Min	Min
Act Effct Green (s)	10.2	17.4	12.8	20.1	20.1	9.8	20.5	20.5	14.8	28.6	28.6
Actuated g/C Ratio	0.12	0.21	0.16	0.24	0.24	0.12	0.25	0.25	0.18	0.35	0.35
v/c Ratio	0.43	0.52	0.53	0.59	0.46	0.41	0.58	0.08	0.59	0.55	0.52
Control Delay	41.2	33.0	43.2	32.2	6.8	45.1	31.5	0.3	42.3	25.9	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	33.0	43.2	32.2	6.8	45.1	31.5	0.3	42.3	25.9	5.5
LOS	D	C	D	C	A	D	C	A	D	C	A
Approach Delay		35.7		26.3			31.2			21.6	
Approach LOS		D		C			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 82.5	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 27.0	Intersection LOS: C
Intersection Capacity Utilization 53.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 11: Ocean Street & Water Street



Santa Cruz DRP Study
11: Ocean Street & Water Street

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	17.0	31.0	26.0	40.0	40.0	18.0	34.0	34.0	29.0	45.0	45.0
Total Split (%)	14.2%	25.8%	21.7%	33.3%	33.3%	15.0%	28.3%	28.3%	24.2%	37.5%	37.5%
Maximum Green (s)	13.0	27.0	22.0	36.0	36.0	14.0	30.0	30.0	25.0	41.0	41.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	Min	None	Min	Min	None	Min	Min
Walk Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0
90th %ile Green (s)	13.0	23.6	19.8	30.4	30.4	14.0	30.5	30.5	23.2	39.7	39.7
90th %ile Term Code	Max	Hold	Gap	Gap	Gap	Max	Hold	Hold	Gap	Gap	Gap
70th %ile Green (s)	11.7	20.0	15.2	23.5	23.5	11.5	24.7	24.7	17.8	31.0	31.0
70th %ile Term Code	Gap	Hold	Gap	Gap	Gap	Gap	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	10.0	16.8	12.4	19.2	19.2	9.6	20.4	20.4	14.4	25.2	25.2
50th %ile Term Code	Gap	Hold	Gap	Gap	Gap	Gap	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	8.7	15.0	10.2	16.5	16.5	8.0	17.4	17.4	11.8	21.2	21.2
30th %ile Term Code	Gap	Hold	Gap	Gap	Gap	Gap	Hold	Hold	Gap	Gap	Gap
10th %ile Green (s)	7.0	11.6	7.6	12.2	12.2	0.0	11.3	11.3	8.6	23.9	23.9
10th %ile Term Code	Gap	Hold	Gap	Gap	Gap	Skip	Gap	Gap	Gap	Hold	Hold

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 82.5
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 113.1
70th %ile Actuated Cycle: 93.7
50th %ile Actuated Cycle: 80
30th %ile Actuated Cycle: 70.4
10th %ile Actuated Cycle: 55.1

Santa Cruz DRP Study
12: Highway 9 & Highway 1

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	213	1529	278	1394	515	27	166	203	412	161	185
Future Volume (vph)	213	1529	278	1394	515	27	166	203	412	161	185
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2	1	6		4	4		8	8	
Permitted Phases					6			4			8
Detector Phase	5	2	1	6	6	4	4	4	8	8	8
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	41.0	94.0	29.0	82.0	82.0	34.0	34.0	34.0	43.0	43.0	43.0
Total Split (%)	20.5%	47.0%	14.5%	41.0%	41.0%	17.0%	17.0%	17.0%	21.5%	21.5%	21.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	None	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	29.4	90.0	21.4	82.1	82.1	30.0	30.0	30.0	39.0	39.0	39.0
Actuated g/C Ratio	0.15	0.46	0.11	0.42	0.42	0.15	0.15	0.15	0.20	0.20	0.20
v/c Ratio	0.84	0.71	0.78	0.69	0.67	0.11	0.62	0.40	0.72	0.49	0.43
Control Delay	107.6	45.0	100.5	49.6	26.9	74.4	89.2	30.9	82.0	75.9	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	107.6	45.0	100.5	49.6	26.9	74.4	89.2	30.9	82.0	75.9	10.5
LOS	F	D	F	D	C	E	F	C	F	E	B
Approach Delay		52.4		50.7			58.3			63.2	
Approach LOS		D		D			E			E	

Intersection Summary	
Cycle Length: 200	
Actuated Cycle Length: 196.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 53.7	Intersection LOS: D
Intersection Capacity Utilization 72.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 12: Highway 9 & Highway 1

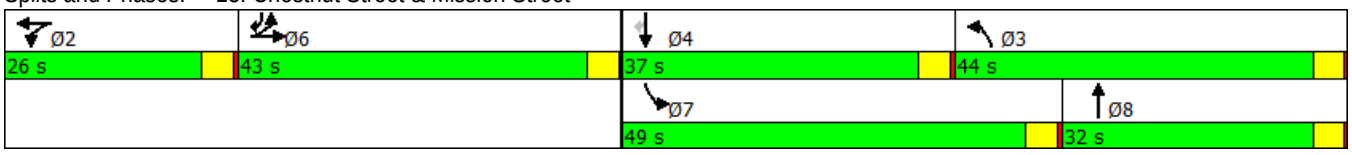
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		4	4		8	8	
Permitted Phases					6			4			8
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	41.0	94.0	29.0	82.0	82.0	34.0	34.0	34.0	43.0	43.0	43.0
Total Split (%)	20.5%	47.0%	14.5%	41.0%	41.0%	17.0%	17.0%	17.0%	21.5%	21.5%	21.5%
Maximum Green (s)	37.0	90.0	25.0	78.0	78.0	30.0	30.0	30.0	39.0	39.0	39.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	None	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	0	0
90th %ile Green (s)	37.0	90.0	25.0	78.0	78.0	30.0	30.0	30.0	39.0	39.0	39.0
90th %ile Term Code	Max	MaxR	Max	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	33.9	90.0	24.4	80.5	80.5	30.0	30.0	30.0	39.0	39.0	39.0
70th %ile Term Code	Gap	MaxR	Gap	Hold	Hold	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	29.9	90.0	22.0	82.1	82.1	30.0	30.0	30.0	39.0	39.0	39.0
50th %ile Term Code	Gap	MaxR	Gap	Hold	Hold	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	26.0	90.0	19.6	83.6	83.6	30.0	30.0	30.0	39.0	39.0	39.0
30th %ile Term Code	Gap	MaxR	Gap	Hold	Hold	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	20.5	90.0	16.4	85.9	85.9	30.0	30.0	30.0	39.0	39.0	39.0
10th %ile Term Code	Gap	MaxR	Gap	Hold	Hold	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 200
Actuated Cycle Length: 196.5
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 200
70th %ile Actuated Cycle: 199.4
50th %ile Actuated Cycle: 197
30th %ile Actuated Cycle: 194.6
10th %ile Actuated Cycle: 191.4

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	1428	392	367	95	294	58	209	1471
Future Volume (vph)	1428	392	367	95	294	58	209	1471
Turn Type	Split	NA	NA	Prot	NA	Prot	NA	pm+ov
Protected Phases	6	6	2	3	8	7	4	6
Permitted Phases								4
Detector Phase	6	6	2	3	8	7	4	4 6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	43.0	43.0	26.0	44.0	32.0	49.0	37.0	43.0
Total Split (%)	28.7%	28.7%	17.3%	29.3%	21.3%	32.7%	24.7%	28.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag				Lag	Lag	Lead	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	39.2	39.2	19.8	12.4	36.0	9.6	30.9	74.2
Actuated g/C Ratio	0.33	0.33	0.17	0.10	0.30	0.08	0.26	0.63
v/c Ratio	1.50	1.44dl	0.77	0.57	0.33	0.44	0.25	0.82
Control Delay	266.2	136.1	56.8	63.7	33.7	63.2	36.2	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	266.2	136.1	56.8	63.7	33.7	63.2	36.2	13.6
LOS	F	F	E	E	C	E	D	B
Approach Delay		185.7	56.8		40.6		17.9	
Approach LOS		F	E		D		B	

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 118.4	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.50	
Intersection Signal Delay: 94.6	Intersection LOS: F
Intersection Capacity Utilization 77.9%	ICU Level of Service D
Analysis Period (min) 15	
dl Defacto Left Lane. Recode with 1 though lane as a left lane.	

Splits and Phases: 13: Chestnut Street & Mission Street



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	6	6	2	3	8	7	4	6
Permitted Phases								4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	43.0	43.0	26.0	44.0	32.0	49.0	37.0	43.0
Total Split (%)	28.7%	28.7%	17.3%	29.3%	21.3%	32.7%	24.7%	28.7%
Maximum Green (s)	39.0	39.0	22.0	40.0	28.0	45.0	33.0	39.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag				Lag	Lag	Lead	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None
Walk Time (s)	5.0	5.0			5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0			0		0	0
90th %ile Green (s)	39.0	39.0	22.0	17.4	37.0	13.4	33.0	39.0
90th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Max	Max
70th %ile Green (s)	39.0	39.0	22.0	14.4	36.2	11.2	33.0	39.0
70th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Max	Max
50th %ile Green (s)	39.0	39.0	21.4	12.5	35.8	9.7	33.0	39.0
50th %ile Term Code	Max	Max	Gap	Gap	Hold	Gap	Max	Max
30th %ile Green (s)	39.0	39.0	19.0	10.7	34.1	8.3	31.7	39.0
30th %ile Term Code	Max	Max	Gap	Gap	Hold	Gap	Gap	Max
10th %ile Green (s)	39.0	39.0	14.9	7.8	36.1	0.0	24.3	39.0
10th %ile Term Code	Max	Max	Gap	Gap	Hold	Skip	Gap	Max

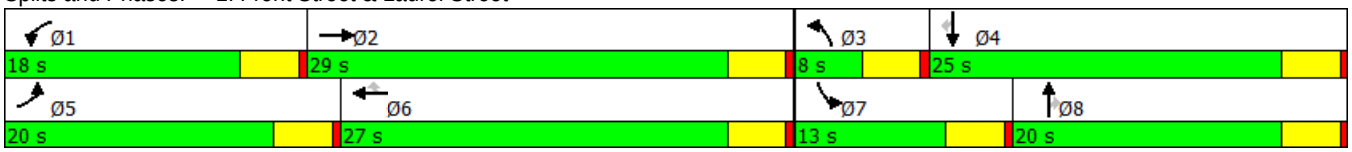
Intersection Summary
Cycle Length: 150
Actuated Cycle Length: 118.4
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 127.4
70th %ile Actuated Cycle: 124.4
50th %ile Actuated Cycle: 121.9
30th %ile Actuated Cycle: 116.4
10th %ile Actuated Cycle: 102

Santa Cruz DRP Study
1: Front Street & Laurel Street

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	108	638	228	379	119	8	170	229	126	327	174
Future Volume (vph)	108	638	228	379	119	8	170	229	126	327	174
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	29.0	18.0	27.0	27.0	8.0	20.0	20.0	13.0	25.0	25.0
Total Split (%)	25.0%	36.3%	22.5%	33.8%	33.8%	10.0%	25.0%	25.0%	16.3%	31.3%	31.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	16.0	26.0	13.1	23.0	23.0	4.0	12.4	12.4	8.6	23.5	23.5
Actuated g/C Ratio	0.21	0.34	0.17	0.30	0.30	0.05	0.16	0.16	0.11	0.31	0.31
v/c Ratio	0.31	0.58	0.78	0.71	0.21	0.09	0.59	0.52	0.68	0.59	0.30
Control Delay	29.2	23.7	49.8	32.7	2.3	38.2	37.9	8.5	52.6	27.8	5.1
Queue Delay	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	25.3	49.8	32.7	2.3	38.2	37.9	8.5	52.6	27.8	5.1
LOS	C	C	D	C	A	D	D	A	D	C	A
Approach Delay		25.8		33.1			21.4			26.5	
Approach LOS		C		C			C			C	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 76.1	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 27.4	Intersection LOS: C
Intersection Capacity Utilization 65.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Front Street & Laurel Street



Santa Cruz DRP Study
1: Front Street & Laurel Street

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	29.0	18.0	27.0	27.0	8.0	20.0	20.0	13.0	25.0	25.0
Total Split (%)	25.0%	36.3%	22.5%	33.8%	33.8%	10.0%	25.0%	25.0%	16.3%	31.3%	31.3%
Maximum Green (s)	16.0	25.0	14.0	23.0	23.0	4.0	16.0	16.0	9.0	21.0	21.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0
90th %ile Green (s)	16.0	25.0	14.0	23.0	23.0	4.0	16.0	16.0	9.0	21.0	21.0
90th %ile Term Code	MaxR	MaxR	Max	MaxR	MaxR	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	16.0	25.0	14.0	23.0	23.0	0.0	15.6	15.6	9.0	28.6	28.6
70th %ile Term Code	MaxR	MaxR	Max	MaxR	MaxR	Skip	Gap	Gap	Max	Hold	Hold
50th %ile Green (s)	16.0	25.0	14.0	23.0	23.0	0.0	12.5	12.5	9.0	25.5	25.5
50th %ile Term Code	MaxR	MaxR	Max	MaxR	MaxR	Skip	Gap	Gap	Max	Hold	Hold
30th %ile Green (s)	16.0	25.4	13.6	23.0	23.0	0.0	10.6	10.6	9.0	23.6	23.6
30th %ile Term Code	MaxR	Hold	Gap	MaxR	MaxR	Skip	Gap	Gap	Max	Hold	Hold
10th %ile Green (s)	16.0	28.8	10.2	23.0	23.0	0.0	7.8	7.8	7.2	19.0	19.0
10th %ile Term Code	MaxR	Hold	Gap	MaxR	MaxR	Skip	Gap	Gap	Gap	Hold	Hold

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 76.1
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 80
70th %ile Actuated Cycle: 79.6
50th %ile Actuated Cycle: 76.5
30th %ile Actuated Cycle: 74.6
10th %ile Actuated Cycle: 70

Santa Cruz DRP Study
2: Pacific Avenue & Laurel Street

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	55	660	41	470	41	79	57	59
Future Volume (vph)	55	660	41	470	41	79	57	59
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	40.0	20.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	25.0%	50.0%	25.0%	50.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	Max	Max	Max	Max
Act Effct Green (s)	7.9	37.0	7.2	36.4	16.2	16.2		16.2
Actuated g/C Ratio	0.12	0.54	0.11	0.54	0.24	0.24		0.24
v/c Ratio	0.31	0.71	0.23	0.60	0.16	0.32		0.46
Control Delay	33.3	17.9	32.5	15.2	24.9	19.9		26.0
Queue Delay	0.0	0.0	0.0	5.4	0.0	0.0		0.0
Total Delay	33.3	17.9	32.5	20.6	24.9	19.9		26.0
LOS	C	B	C	C	C	B		C
Approach Delay		19.0		21.4		21.1		26.0
Approach LOS		B		C		C		C

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 68	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 69.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Pacific Avenue & Laurel Street

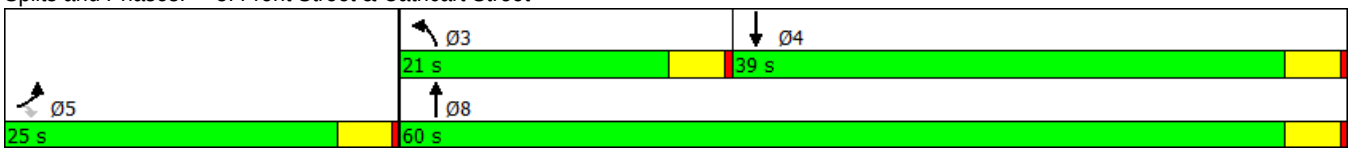
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	40.0	20.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	25.0%	50.0%	25.0%	50.0%	25.0%	25.0%	25.0%	25.0%
Maximum Green (s)	16.0	36.0	16.0	36.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	None	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0
90th %ile Green (s)	10.9	37.4	9.5	36.0	16.0	16.0	16.0	16.0
90th %ile Term Code	Gap	Hold	Gap	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	9.1	37.0	8.1	36.0	16.0	16.0	16.0	16.0
70th %ile Term Code	Gap	Hold	Gap	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	7.9	36.8	7.1	36.0	16.0	16.0	16.0	16.0
50th %ile Term Code	Gap	Hold	Gap	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	0.0	36.0	0.0	36.0	16.0	16.0	16.0	16.0
30th %ile Term Code	Skip	MaxR	Skip	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	0.0	36.0	0.0	36.0	16.0	16.0	16.0	16.0
10th %ile Term Code	Skip	MaxR	Skip	MaxR	MaxR	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 68
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 74.9
70th %ile Actuated Cycle: 73.1
50th %ile Actuated Cycle: 71.9
30th %ile Actuated Cycle: 60
10th %ile Actuated Cycle: 60

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	116	61	56	425	657
Future Volume (vph)	116	61	56	425	657
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	5		3	8	4
Permitted Phases		5			
Detector Phase	5	5	3	8	4
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0
Total Split (s)	25.0	25.0	21.0	60.0	39.0
Total Split (%)	29.4%	29.4%	24.7%	70.6%	45.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	Max	Max	Max	None	Max
Act Effct Green (s)	21.0	21.0	17.0	56.0	35.0
Actuated g/C Ratio	0.25	0.25	0.20	0.66	0.41
v/c Ratio	0.27	0.15	0.17	0.37	0.59
Control Delay	27.9	8.0	29.7	7.6	20.4
Queue Delay	0.0	0.0	0.0	2.8	0.0
Total Delay	27.9	8.0	29.7	10.4	20.4
LOS	C	A	C	B	C
Approach Delay	21.0			12.6	20.4
Approach LOS	C			B	C

Intersection Summary	
Cycle Length: 85	
Actuated Cycle Length: 85	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 18.0	Intersection LOS: B
Intersection Capacity Utilization 42.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Front Street & Cathcart Street



Lane Group	EBL	EBR	NBL	NBT	SBT
Protected Phases	5		3	8	4
Permitted Phases		5			
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0
Total Split (s)	25.0	25.0	21.0	60.0	39.0
Total Split (%)	29.4%	29.4%	24.7%	70.6%	45.9%
Maximum Green (s)	21.0	21.0	17.0	56.0	35.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	None	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	21.0	21.0	17.0	56.0	35.0
90th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
70th %ile Green (s)	21.0	21.0	17.0	56.0	35.0
70th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
50th %ile Green (s)	21.0	21.0	17.0	56.0	35.0
50th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
30th %ile Green (s)	21.0	21.0	17.0	56.0	35.0
30th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
10th %ile Green (s)	21.0	21.0	17.0	56.0	35.0
10th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR

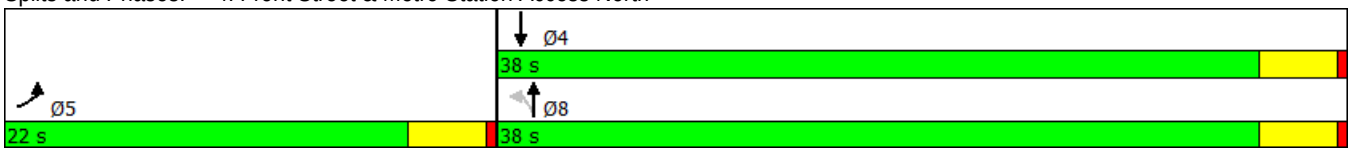
Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 85
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 85
70th %ile Actuated Cycle: 85
50th %ile Actuated Cycle: 85
30th %ile Actuated Cycle: 85
10th %ile Actuated Cycle: 85

Santa Cruz DRP Study
4: Front Street & Metro Station Access North

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	17	5	442	664
Future Volume (vph)	17	5	442	664
Turn Type	Prot	Perm	NA	NA
Protected Phases	5		8	4
Permitted Phases		8		
Detector Phase	5	8	8	4
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	22.0	38.0	38.0	38.0
Total Split (%)	36.7%	63.3%	63.3%	63.3%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Max	Max	Max
Act Effct Green (s)	6.9	52.8	52.8	52.8
Actuated g/C Ratio	0.12	0.95	0.95	0.95
v/c Ratio	0.18	0.01	0.26	0.41
Control Delay	24.9	1.4	1.4	2.1
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	24.9	1.4	1.4	2.1
LOS	C	A	A	A
Approach Delay	24.9		1.4	2.1
Approach LOS	C		A	A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 55.8	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.41	
Intersection Signal Delay: 2.3	Intersection LOS: A
Intersection Capacity Utilization 46.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Front Street & Metro Station Access North



Lane Group	EBL	NBL	NBT	SBT
Protected Phases	5		8	4
Permitted Phases		8		
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	22.0	38.0	38.0	38.0
Total Split (%)	36.7%	63.3%	63.3%	63.3%
Maximum Green (s)	18.0	34.0	34.0	34.0
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0
90th %ile Green (s)	9.9	49.0	49.0	49.0
90th %ile Term Code	Gap	Dwell	Dwell	Dwell
70th %ile Green (s)	0.0	49.0	49.0	49.0
70th %ile Term Code	Skip	Dwell	Dwell	Dwell
50th %ile Green (s)	0.0	49.0	49.0	49.0
50th %ile Term Code	Skip	Dwell	Dwell	Dwell
30th %ile Green (s)	0.0	49.0	49.0	49.0
30th %ile Term Code	Skip	Dwell	Dwell	Dwell
10th %ile Green (s)	0.0	49.0	49.0	49.0
10th %ile Term Code	Skip	Dwell	Dwell	Dwell

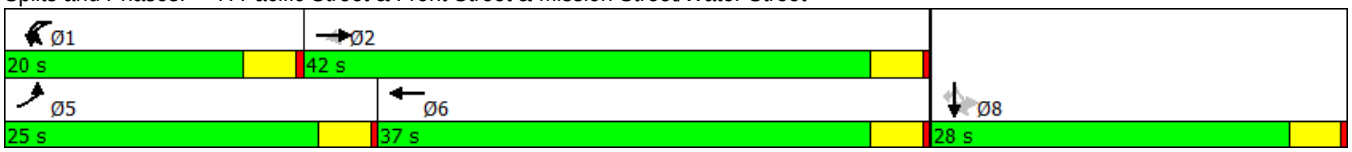
Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 55.8
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 66.9
70th %ile Actuated Cycle: 53
50th %ile Actuated Cycle: 53
30th %ile Actuated Cycle: 53
10th %ile Actuated Cycle: 53

Santa Cruz DRP Study
7: Pacific Street & Front Street & Mission Street/Water Street

Lane Group	EBL	EBT	EBR	WBL2	WBL	WBT	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	152	629	110	108	49	630	33	174
Future Volume (vph)	152	629	110	108	49	630	33	174
Turn Type	Prot	NA	Perm	Prot	Prot	NA	NA	Perm
Protected Phases	5	2		1	1	6	8	
Permitted Phases			2					8
Detector Phase	5	2	2	1	1	6	8	8
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	8.0	20.0	20.0	20.0
Total Split (s)	25.0	42.0	42.0	20.0	20.0	37.0	28.0	28.0
Total Split (%)	27.8%	46.7%	46.7%	22.2%	22.2%	41.1%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Max	Max	Max
Act Effct Green (s)	12.6	37.4	37.4	10.6	10.6	33.1	24.1	24.1
Actuated g/C Ratio	0.15	0.46	0.46	0.13	0.13	0.40	0.29	0.29
v/c Ratio	0.59	0.41	0.18	0.50	0.23	0.47	0.38	0.32
Control Delay	41.1	17.0	9.7	41.0	34.2	19.8	26.5	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	17.0	9.7	41.0	34.2	19.8	26.5	8.0
LOS	D	B	A	D	C	B	C	A
Approach Delay		20.0				23.6	17.5	
Approach LOS		B				C	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 81.8	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 20.9	Intersection LOS: C
Intersection Capacity Utilization 46.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Pacific Street & Front Street & Mission Street/Water Street



Lane Group	EBL	EBT	EBR	WBL2	WBL	WBT	SBT	SBR
Protected Phases	5	2		1	1	6	8	
Permitted Phases			2					8
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	8.0	20.0	20.0	20.0
Total Split (s)	25.0	42.0	42.0	20.0	20.0	37.0	28.0	28.0
Total Split (%)	27.8%	46.7%	46.7%	22.2%	22.2%	41.1%	31.1%	31.1%
Maximum Green (s)	21.0	38.0	38.0	16.0	16.0	33.0	24.0	24.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	Max
Walk Time (s)		5.0	5.0			5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0			0	0	0
90th %ile Green (s)	18.0	36.0	36.0	15.0	15.0	33.0	24.0	24.0
90th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
70th %ile Green (s)	14.7	35.4	35.4	12.3	12.3	33.0	24.0	24.0
70th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
50th %ile Green (s)	12.6	35.1	35.1	10.5	10.5	33.0	24.0	24.0
50th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
30th %ile Green (s)	10.6	34.7	34.7	8.9	8.9	33.0	24.0	24.0
30th %ile Term Code	Gap	Hold	Hold	Gap	Gap	MaxR	MaxR	MaxR
10th %ile Green (s)	7.9	44.9	44.9	0.0	0.0	33.0	24.0	24.0
10th %ile Term Code	Gap	Hold	Hold	Skip	Skip	MaxR	MaxR	MaxR

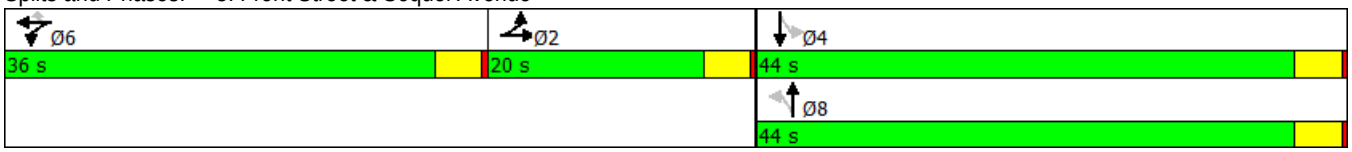
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 81.8
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 87
70th %ile Actuated Cycle: 83.7
50th %ile Actuated Cycle: 81.6
30th %ile Actuated Cycle: 79.6
10th %ile Actuated Cycle: 76.9

Santa Cruz DRP Study
8: Front Street & Soquel Avenue

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	111	427	94	36	10	318	79	406
Future Volume (vph)	111	427	94	36	10	318	79	406
Turn Type	NA	Split	NA	Perm	Perm	NA	Perm	NA
Protected Phases	2	6	6			8		4
Permitted Phases				6	8		4	
Detector Phase	2	6	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	36.0	36.0	36.0	44.0	44.0	44.0	44.0
Total Split (%)	20.0%	36.0%	36.0%	36.0%	44.0%	44.0%	44.0%	44.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	Max	Max	None	None	None	None
Act Effct Green (s)	10.0	32.6	32.6	32.6		26.4	26.4	26.4
Actuated g/C Ratio	0.12	0.40	0.40	0.40		0.33	0.33	0.33
v/c Ratio	0.49	0.39	0.40	0.06		0.51	0.43	0.79
Control Delay	34.3	22.2	22.3	4.1		15.5	28.8	35.0
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	34.3	22.2	22.3	4.1		15.5	28.8	35.0
LOS	C	C	C	A		B	C	C
Approach Delay	34.3		21.1			15.5		34.0
Approach LOS	C		C			B		C

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 81.2	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 24.5	Intersection LOS: C
Intersection Capacity Utilization 73.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Front Street & Soquel Avenue



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Protected Phases	2	6	6			8		4
Permitted Phases				6	8		4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	36.0	36.0	36.0	44.0	44.0	44.0	44.0
Total Split (%)	20.0%	36.0%	36.0%	36.0%	44.0%	44.0%	44.0%	44.0%
Maximum Green (s)	16.0	32.0	32.0	32.0	40.0	40.0	40.0	40.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lag	Lead	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	Max	None	None	None	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0
90th %ile Green (s)	13.9	32.0	32.0	32.0	40.0	40.0	40.0	40.0
90th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Max	Max
70th %ile Green (s)	11.4	32.0	32.0	32.0	31.9	31.9	31.9	31.9
70th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
50th %ile Green (s)	9.9	32.0	32.0	32.0	26.2	26.2	26.2	26.2
50th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
30th %ile Green (s)	8.5	32.0	32.0	32.0	21.1	21.1	21.1	21.1
30th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap
10th %ile Green (s)	6.9	32.0	32.0	32.0	16.0	16.0	16.0	16.0
10th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Gap	Gap

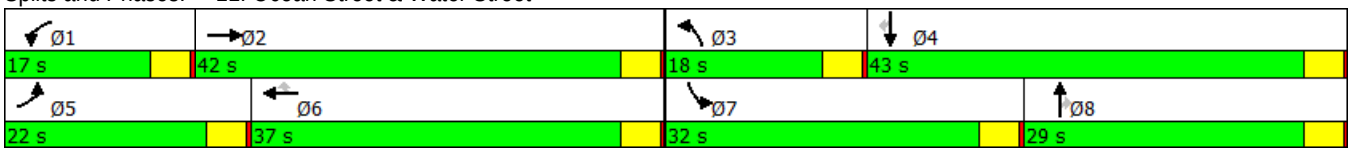
Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 81.2
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 97.9
70th %ile Actuated Cycle: 87.3
50th %ile Actuated Cycle: 80.1
30th %ile Actuated Cycle: 73.6
10th %ile Actuated Cycle: 66.9

Santa Cruz DRP Study
11: Ocean Street & Water Street

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	346	734	112	586	227	120	553	98	290	856	387
Future Volume (vph)	346	734	112	586	227	120	553	98	290	856	387
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	22.0	42.0	17.0	37.0	37.0	18.0	29.0	29.0	32.0	43.0	43.0
Total Split (%)	18.3%	35.0%	14.2%	30.8%	30.8%	15.0%	24.2%	24.2%	26.7%	35.8%	35.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	Min	None	Min	Min	None	Min	Min
Act Effct Green (s)	15.8	32.8	11.3	28.3	28.3	11.8	23.7	23.7	22.7	34.6	34.6
Actuated g/C Ratio	0.15	0.31	0.11	0.26	0.26	0.11	0.22	0.22	0.21	0.32	0.32
v/c Ratio	0.71	0.81	0.62	0.65	0.39	0.63	0.73	0.21	0.80	0.76	0.54
Control Delay	53.9	41.4	63.9	39.4	6.4	63.2	46.5	2.4	57.8	38.5	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	41.4	63.9	39.4	6.4	63.2	46.5	2.4	57.8	38.5	8.8
LOS	D	D	E	D	A	E	D	A	E	D	A
Approach Delay		45.0		34.3			43.5			34.7	
Approach LOS		D		C			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 107	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 38.9	Intersection LOS: D
Intersection Capacity Utilization 74.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 11: Ocean Street & Water Street



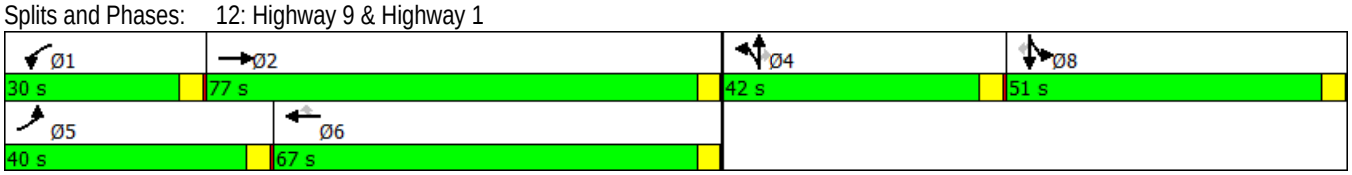
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	22.0	42.0	17.0	37.0	37.0	18.0	29.0	29.0	32.0	43.0	43.0
Total Split (%)	18.3%	35.0%	14.2%	30.8%	30.8%	15.0%	24.2%	24.2%	26.7%	35.8%	35.8%
Maximum Green (s)	18.0	38.0	13.0	33.0	33.0	14.0	25.0	25.0	28.0	39.0	39.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	Min	None	Min	Min	None	Min	Min
Walk Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0
90th %ile Green (s)	18.0	38.0	13.0	33.0	33.0	14.0	25.0	25.0	28.0	39.0	39.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	18.0	38.0	13.0	33.0	33.0	14.0	25.0	25.0	28.0	39.0	39.0
70th %ile Term Code	Max	Max	Max	Hold	Hold	Max	Max	Max	Max	Max	Max
50th %ile Green (s)	17.5	36.2	12.9	31.6	31.6	13.4	27.3	27.3	25.1	39.0	39.0
50th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Hold	Hold	Gap	Max	Max
30th %ile Green (s)	14.6	30.4	10.4	26.2	26.2	10.8	23.4	23.4	20.0	32.6	32.6
30th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Hold	Hold	Gap	Gap	Gap
10th %ile Green (s)	11.0	22.3	7.4	18.7	18.7	7.6	17.5	17.5	14.0	23.9	23.9
10th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Gap	Hold	Hold	Gap	Gap	Gap

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 107
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 120
70th %ile Actuated Cycle: 120
50th %ile Actuated Cycle: 117.5
30th %ile Actuated Cycle: 100.2
10th %ile Actuated Cycle: 77.2

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	228	1327	328	1277	472	102	253	447	648	316	249
Future Volume (vph)	228	1327	328	1277	472	102	253	447	648	316	249
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2	1	6		4	4		8	8	
Permitted Phases					6			4			8
Detector Phase	5	2	1	6	6	4	4	4	8	8	8
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	40.0	77.0	30.0	67.0	67.0	42.0	42.0	42.0	51.0	51.0	51.0
Total Split (%)	20.0%	38.5%	15.0%	33.5%	33.5%	21.0%	21.0%	21.0%	25.5%	25.5%	25.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	None	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	31.0	73.0	24.0	66.0	66.0	38.0	38.0	38.0	47.0	47.0	47.0
Actuated g/C Ratio	0.16	0.37	0.12	0.33	0.33	0.19	0.19	0.19	0.24	0.24	0.24
v/c Ratio	0.87	0.81	0.85	0.80	0.75	0.32	0.76	0.68	0.85	0.77	0.50
Control Delay	110.1	60.5	104.1	65.0	38.2	72.3	90.9	48.4	83.0	83.7	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.1	60.5	104.1	65.0	38.2	72.3	90.9	48.4	83.0	83.7	20.8
LOS	F	E	F	E	D	E	F	D	F	F	C
Approach Delay		67.4		65.1			64.9			70.4	
Approach LOS		E		E			E			E	

Intersection Summary	
Cycle Length: 200	
Actuated Cycle Length: 198.1	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 66.9	Intersection LOS: E
Intersection Capacity Utilization 82.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 12: Highway 9 & Highway 1



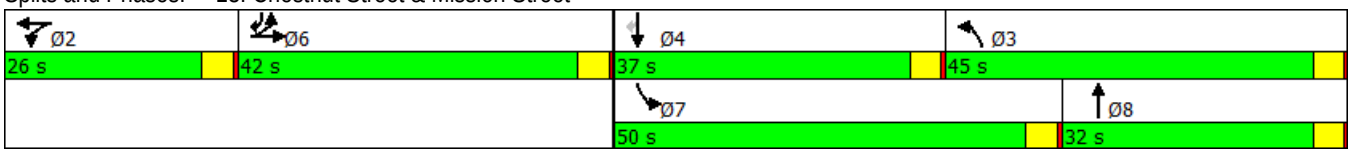
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		4	4		8	8	
Permitted Phases					6			4			8
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	40.0	77.0	30.0	67.0	67.0	42.0	42.0	42.0	51.0	51.0	51.0
Total Split (%)	20.0%	38.5%	15.0%	33.5%	33.5%	21.0%	21.0%	21.0%	25.5%	25.5%	25.5%
Maximum Green (s)	36.0	73.0	26.0	63.0	63.0	38.0	38.0	38.0	47.0	47.0	47.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	None	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	0	0
90th %ile Green (s)	36.0	73.0	26.0	63.0	63.0	38.0	38.0	38.0	47.0	47.0	47.0
90th %ile Term Code	Max	MaxR	Max	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	36.0	73.0	26.0	63.0	63.0	38.0	38.0	38.0	47.0	47.0	47.0
70th %ile Term Code	Max	MaxR	Max	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	32.5	73.0	25.8	66.3	66.3	38.0	38.0	38.0	47.0	47.0	47.0
50th %ile Term Code	Gap	MaxR	Gap	Hold	Hold	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	28.3	73.0	23.1	67.8	67.8	38.0	38.0	38.0	47.0	47.0	47.0
30th %ile Term Code	Gap	MaxR	Gap	Hold	Hold	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	22.6	73.0	19.4	69.8	69.8	38.0	38.0	38.0	47.0	47.0	47.0
10th %ile Term Code	Gap	MaxR	Gap	Hold	Hold	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 200
Actuated Cycle Length: 198.1
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 200
70th %ile Actuated Cycle: 200
50th %ile Actuated Cycle: 199.8
30th %ile Actuated Cycle: 197.1
10th %ile Actuated Cycle: 193.4

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	1312	486	412	74	284	42	275	1380
Future Volume (vph)	1312	486	412	74	284	42	275	1380
Turn Type	Split	NA	NA	Prot	NA	Prot	NA	pm+ov
Protected Phases	6	6	2	3	8	7	4	6
Permitted Phases								4
Detector Phase	6	6	2	3	8	7	4	4 6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	42.0	42.0	26.0	45.0	32.0	50.0	37.0	42.0
Total Split (%)	28.0%	28.0%	17.3%	30.0%	21.3%	33.3%	24.7%	28.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag				Lag	Lag	Lead	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	38.8	38.8	20.0	10.2	29.3	8.1	27.5	70.4
Actuated g/C Ratio	0.35	0.35	0.18	0.09	0.27	0.07	0.25	0.64
v/c Ratio	1.18	1.13dl	0.74	0.46	0.33	0.32	0.31	0.68
Control Delay	132.4	81.9	51.4	59.8	33.5	58.7	35.4	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	132.4	81.9	51.4	59.8	33.5	58.7	35.4	6.7
LOS	F	F	D	E	C	E	D	A
Approach Delay		99.7	51.4		38.6		12.7	
Approach LOS		F	D		D		B	

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 110	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.18	
Intersection Signal Delay: 55.8	Intersection LOS: E
Intersection Capacity Utilization 75.0%	ICU Level of Service D
Analysis Period (min) 15	
dl Defacto Left Lane. Recode with 1 though lane as a left lane.	

Splits and Phases: 13: Chestnut Street & Mission Street



Santa Cruz DRP Study
13: Chestnut Street & Mission Street

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	6	6	2	3	8	7	4	6
Permitted Phases								4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	42.0	42.0	26.0	45.0	32.0	50.0	37.0	42.0
Total Split (%)	28.0%	28.0%	17.3%	30.0%	21.3%	33.3%	24.7%	28.0%
Maximum Green (s)	38.0	38.0	22.0	41.0	28.0	46.0	33.0	38.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag				Lag	Lag	Lead	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None
Walk Time (s)	5.0	5.0			5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0			0		0	0
90th %ile Green (s)	38.0	38.0	22.0	14.3	36.2	11.1	33.0	38.0
90th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Max	Max
70th %ile Green (s)	38.0	38.0	22.0	11.9	35.5	9.4	33.0	38.0
70th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Max	Max
50th %ile Green (s)	38.0	38.0	22.0	10.4	32.2	8.2	30.0	38.0
50th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Gap	Max
30th %ile Green (s)	38.0	38.0	19.4	8.7	26.4	7.0	24.7	38.0
30th %ile Term Code	Max	Max	Gap	Gap	Hold	Gap	Gap	Max
10th %ile Green (s)	38.0	38.0	14.6	0.0	18.2	0.0	18.2	38.0
10th %ile Term Code	Max	Max	Gap	Skip	Hold	Skip	Gap	Max

Intersection Summary
Cycle Length: 150
Actuated Cycle Length: 110
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 123.3
70th %ile Actuated Cycle: 120.9
50th %ile Actuated Cycle: 116.4
30th %ile Actuated Cycle: 106.8
10th %ile Actuated Cycle: 82.8

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	165	996	227	830	195	4	228	254	202	366	262
Future Volume (vph)	165	996	227	830	195	4	228	254	202	366	262
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	33.0	17.0	30.0	30.0	8.0	20.0	20.0	10.0	22.0	22.0
Total Split (%)	25.0%	41.3%	21.3%	37.5%	37.5%	10.0%	25.0%	25.0%	12.5%	27.5%	27.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	16.0	29.4	12.7	26.0	26.0	4.0	14.1	14.1	6.0	22.6	22.6
Actuated g/C Ratio	0.20	0.38	0.16	0.33	0.33	0.05	0.18	0.18	0.08	0.29	0.29
v/c Ratio	0.49	0.82	0.85	1.44	0.33	0.04	0.73	0.56	1.65	0.73	0.44
Control Delay	33.5	29.1	59.3	232.9	6.9	37.2	43.7	10.2	352.4	35.7	6.6
Queue Delay	0.0	48.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	77.7	59.3	232.9	6.9	37.2	43.7	10.2	352.4	35.7	6.6
LOS	C	E	E	F	A	D	D	B	F	D	A
Approach Delay		71.6		166.2			26.1			103.7	
Approach LOS		E		F			C			F	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 78.2	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.65	
Intersection Signal Delay: 104.3	Intersection LOS: F
Intersection Capacity Utilization 89.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Front Street & Laurel Street

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	33.0	17.0	30.0	30.0	8.0	20.0	20.0	10.0	22.0	22.0
Total Split (%)	25.0%	41.3%	21.3%	37.5%	37.5%	10.0%	25.0%	25.0%	12.5%	27.5%	27.5%
Maximum Green (s)	16.0	29.0	13.0	26.0	26.0	4.0	16.0	16.0	6.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0
90th %ile Green (s)	16.0	29.0	13.0	26.0	26.0	4.0	16.0	16.0	6.0	18.0	18.0
90th %ile Term Code	MaxR	MaxR	Max	MaxR	MaxR	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	16.0	29.0	13.0	26.0	26.0	0.0	16.0	16.0	6.0	26.0	26.0
70th %ile Term Code	MaxR	MaxR	Max	MaxR	MaxR	Skip	Max	Max	Max	Hold	Hold
50th %ile Green (s)	16.0	29.0	13.0	26.0	26.0	0.0	16.0	16.0	6.0	26.0	26.0
50th %ile Term Code	MaxR	MaxR	Max	MaxR	MaxR	Skip	Max	Max	Max	Hold	Hold
30th %ile Green (s)	16.0	29.0	13.0	26.0	26.0	0.0	13.1	13.1	6.0	23.1	23.1
30th %ile Term Code	MaxR	MaxR	Max	MaxR	MaxR	Skip	Gap	Gap	Max	Hold	Hold
10th %ile Green (s)	16.0	30.7	11.3	26.0	26.0	0.0	9.8	9.8	6.0	19.8	19.8
10th %ile Term Code	MaxR	Hold	Gap	MaxR	MaxR	Skip	Gap	Gap	Max	Hold	Hold

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 78.2
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 80
70th %ile Actuated Cycle: 80
50th %ile Actuated Cycle: 80
30th %ile Actuated Cycle: 77.1
10th %ile Actuated Cycle: 73.8

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	162	1075	64	982	59	96	97	59
Future Volume (vph)	162	1075	64	982	59	96	97	59
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Detector Phase	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	40.0	20.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	25.0%	50.0%	25.0%	50.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	Max	Max	Max	Max
Act Effct Green (s)	12.8	42.5	8.4	36.1	16.0	16.0		16.0
Actuated g/C Ratio	0.17	0.55	0.11	0.47	0.21	0.21		0.21
v/c Ratio	0.64	1.16	0.36	1.32	0.31	0.39		0.87
Control Delay	41.3	105.6	37.1	176.2	31.6	25.9		59.8
Queue Delay	0.0	0.0	0.0	1.2	0.0	0.0		0.0
Total Delay	41.3	105.6	37.1	177.3	31.6	25.9		59.8
LOS	D	F	D	F	C	C		E
Approach Delay		97.5		169.4		27.6		59.8
Approach LOS		F		F		C		E

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 76.9	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.32	
Intersection Signal Delay: 118.5	Intersection LOS: F
Intersection Capacity Utilization 99.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 2: Pacific Avenue & Laurel Street

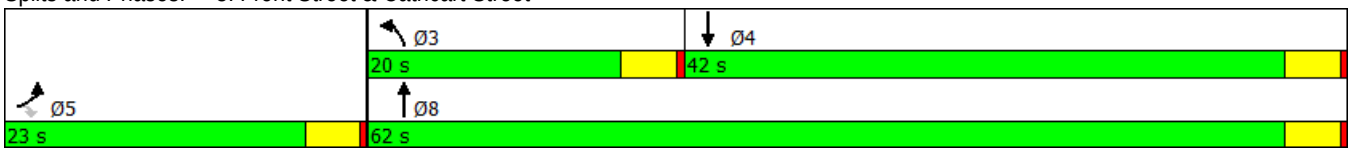
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	5	2	1	6		8		4
Permitted Phases					8		4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	40.0	20.0	40.0	20.0	20.0	20.0	20.0
Total Split (%)	25.0%	50.0%	25.0%	50.0%	25.0%	25.0%	25.0%	25.0%
Maximum Green (s)	16.0	36.0	16.0	36.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	None	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0
90th %ile Green (s)	16.0	40.5	11.5	36.0	16.0	16.0	16.0	16.0
90th %ile Term Code	Max	Hold	Gap	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	15.9	42.2	9.7	36.0	16.0	16.0	16.0	16.0
70th %ile Term Code	Gap	Hold	Gap	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	13.4	41.1	8.3	36.0	16.0	16.0	16.0	16.0
50th %ile Term Code	Gap	Hold	Gap	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	11.1	40.0	7.1	36.0	16.0	16.0	16.0	16.0
30th %ile Term Code	Gap	Hold	Gap	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	8.1	48.1	0.0	36.0	16.0	16.0	16.0	16.0
10th %ile Term Code	Gap	Hold	Skip	MaxR	MaxR	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 76.9
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 80
70th %ile Actuated Cycle: 79.9
50th %ile Actuated Cycle: 77.4
30th %ile Actuated Cycle: 75.1
10th %ile Actuated Cycle: 72.1

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	193	111	116	569	805
Future Volume (vph)	193	111	116	569	805
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	5		3	8	4
Permitted Phases		5			
Detector Phase	5	5	3	8	4
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0
Total Split (s)	23.0	23.0	20.0	62.0	42.0
Total Split (%)	27.1%	27.1%	23.5%	72.9%	49.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	Max	Max	Max	None	Max
Act Effct Green (s)	19.0	19.0	16.0	58.0	38.0
Actuated g/C Ratio	0.22	0.22	0.19	0.68	0.45
v/c Ratio	0.53	0.29	0.39	0.50	0.79
Control Delay	34.6	11.2	34.4	8.2	22.9
Queue Delay	0.0	0.0	0.0	6.4	0.2
Total Delay	34.6	11.2	34.4	14.5	23.1
LOS	C	B	C	B	C
Approach Delay	26.1			17.9	23.1
Approach LOS	C			B	C

Intersection Summary	
Cycle Length: 85	
Actuated Cycle Length: 85	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 21.8	Intersection LOS: C
Intersection Capacity Utilization 59.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Front Street & Cathcart Street



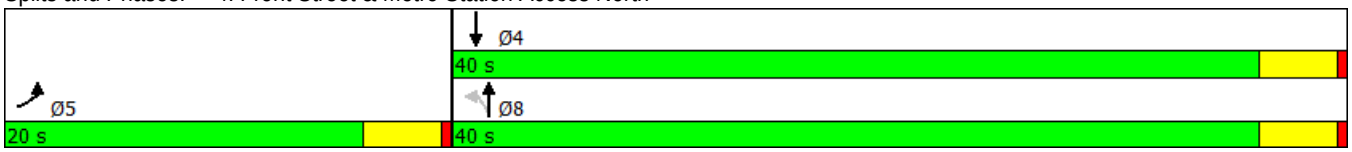
Lane Group	EBL	EBR	NBL	NBT	SBT
Protected Phases	5		3	8	4
Permitted Phases		5			
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0
Total Split (s)	23.0	23.0	20.0	62.0	42.0
Total Split (%)	27.1%	27.1%	23.5%	72.9%	49.4%
Maximum Green (s)	19.0	19.0	16.0	58.0	38.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	None	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	19.0	19.0	16.0	58.0	38.0
90th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
70th %ile Green (s)	19.0	19.0	16.0	58.0	38.0
70th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
50th %ile Green (s)	19.0	19.0	16.0	58.0	38.0
50th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
30th %ile Green (s)	19.0	19.0	16.0	58.0	38.0
30th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR
10th %ile Green (s)	19.0	19.0	16.0	58.0	38.0
10th %ile Term Code	MaxR	MaxR	MaxR	Hold	MaxR

Intersection Summary
Cycle Length: 85
Actuated Cycle Length: 85
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 85
70th %ile Actuated Cycle: 85
50th %ile Actuated Cycle: 85
30th %ile Actuated Cycle: 85
10th %ile Actuated Cycle: 85

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	14	14	661	783
Future Volume (vph)	14	14	661	783
Turn Type	Prot	Perm	NA	NA
Protected Phases	5		8	4
Permitted Phases		8		
Detector Phase	5	8	8	4
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	20.0	40.0	40.0	40.0
Total Split (%)	33.3%	66.7%	66.7%	66.7%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	Max	Max	Max
Act Effct Green (s)	7.0	54.2	54.2	54.2
Actuated g/C Ratio	0.12	0.90	0.90	0.90
v/c Ratio	0.27	0.05	0.42	0.52
Control Delay	21.2	2.6	2.9	3.8
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	21.2	2.6	2.9	3.9
LOS	C	A	A	A
Approach Delay	21.2		2.9	3.9
Approach LOS	C		A	A

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60.3	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.52	
Intersection Signal Delay: 3.8	Intersection LOS: A
Intersection Capacity Utilization 52.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Front Street & Metro Station Access North



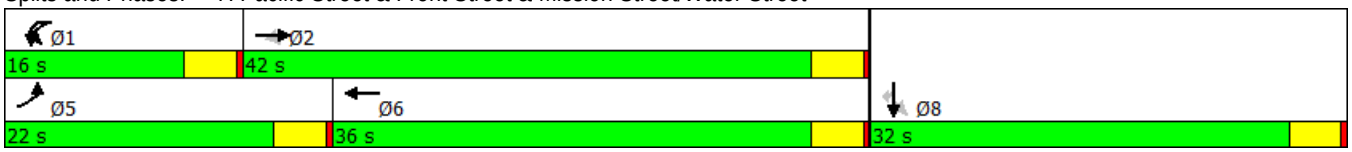
Lane Group	EBL	NBL	NBT	SBT
Protected Phases	5		8	4
Permitted Phases		8		
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	20.0	40.0	40.0	40.0
Total Split (%)	33.3%	66.7%	66.7%	66.7%
Maximum Green (s)	16.0	36.0	36.0	36.0
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0
90th %ile Green (s)	10.5	51.0	51.0	51.0
90th %ile Term Code	Gap	Dwell	Dwell	Dwell
70th %ile Green (s)	8.0	51.0	51.0	51.0
70th %ile Term Code	Gap	Dwell	Dwell	Dwell
50th %ile Green (s)	0.0	51.0	51.0	51.0
50th %ile Term Code	Skip	Dwell	Dwell	Dwell
30th %ile Green (s)	0.0	51.0	51.0	51.0
30th %ile Term Code	Skip	Dwell	Dwell	Dwell
10th %ile Green (s)	0.0	51.0	51.0	51.0
10th %ile Term Code	Skip	Dwell	Dwell	Dwell

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 60.3
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 69.5
70th %ile Actuated Cycle: 67
50th %ile Actuated Cycle: 55
30th %ile Actuated Cycle: 55
10th %ile Actuated Cycle: 55

Lane Group	EBL	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	263	1133	165	166	893	371	221
Future Volume (vph)	263	1133	165	166	893	371	221
Turn Type	Prot	NA	Perm	Prot	NA	NA	Perm
Protected Phases	5	2		1	6	8	
Permitted Phases			2				8
Detector Phase	5	2	2	1	6	8	8
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0
Total Split (s)	22.0	42.0	42.0	16.0	36.0	32.0	32.0
Total Split (%)	24.4%	46.7%	46.7%	17.8%	40.0%	35.6%	35.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	Max	Max	Max
Act Effct Green (s)	16.9	37.5	37.5	11.5	32.1	28.0	28.0
Actuated g/C Ratio	0.19	0.42	0.42	0.13	0.36	0.31	0.31
v/c Ratio	0.84	0.82	0.27	0.79	0.79	0.82	0.42
Control Delay	57.9	28.3	18.2	62.8	30.9	42.4	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.9	28.3	18.2	62.8	30.9	42.4	15.5
LOS	E	C	B	E	C	D	B
Approach Delay		32.2			35.7	33.4	
Approach LOS		C			D	C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 89	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 33.6	Intersection LOS: C
Intersection Capacity Utilization 73.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 7: Pacific Street & Front Street & Mission Street/Water Street



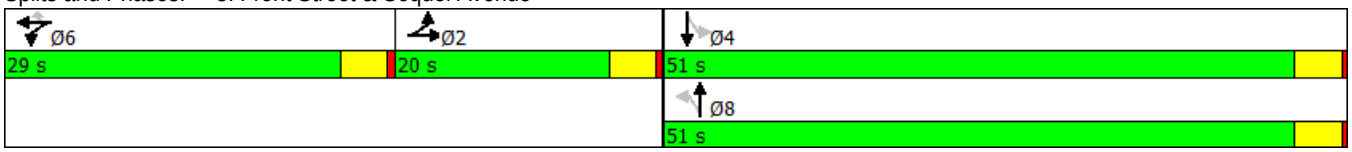
Lane Group	EBL	EBT	EBR	WBL	WBT	SBT	SBR
Protected Phases	5	2		1	6	8	
Permitted Phases			2				8
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0
Total Split (s)	22.0	42.0	42.0	16.0	36.0	32.0	32.0
Total Split (%)	24.4%	46.7%	46.7%	17.8%	40.0%	35.6%	35.6%
Maximum Green (s)	18.0	38.0	38.0	12.0	32.0	28.0	28.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Max	Max	Max
Walk Time (s)		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0
90th %ile Green (s)	18.0	38.0	38.0	12.0	32.0	28.0	28.0
90th %ile Term Code	Max	Max	Max	Max	MaxR	MaxR	MaxR
70th %ile Green (s)	18.0	38.0	38.0	12.0	32.0	28.0	28.0
70th %ile Term Code	Max	Max	Max	Max	MaxR	MaxR	MaxR
50th %ile Green (s)	18.0	38.0	38.0	12.0	32.0	28.0	28.0
50th %ile Term Code	Max	Max	Max	Max	MaxR	MaxR	MaxR
30th %ile Green (s)	17.5	38.0	38.0	12.0	32.5	28.0	28.0
30th %ile Term Code	Gap	Max	Max	Max	Hold	MaxR	MaxR
10th %ile Green (s)	13.2	35.7	35.7	9.5	32.0	28.0	28.0
10th %ile Term Code	Gap	Hold	Hold	Gap	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 89
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 90
70th %ile Actuated Cycle: 90
50th %ile Actuated Cycle: 90
30th %ile Actuated Cycle: 90
10th %ile Actuated Cycle: 85.2

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	262	498	314	79	46	523	193	649
Future Volume (vph)	262	498	314	79	46	523	193	649
Turn Type	NA	Split	NA	Perm	Perm	NA	Perm	NA
Protected Phases	2	6	6			8		4
Permitted Phases				6	8		4	
Detector Phase	2	6	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	29.0	29.0	29.0	51.0	51.0	51.0	51.0
Total Split (%)	20.0%	29.0%	29.0%	29.0%	51.0%	51.0%	51.0%	51.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	Max	Max	None	None	None	None
Act Effct Green (s)	15.0	25.0	25.0	25.0		47.0	47.0	47.0
Actuated g/C Ratio	0.15	0.25	0.25	0.25		0.47	0.47	0.47
v/c Ratio	0.78	1.00	1.02	0.19		0.81	1.04	0.92
Control Delay	50.2	82.3	86.3	12.3		27.5	105.3	42.4
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	50.2	82.3	86.3	12.3		27.5	105.3	42.4
LOS	D	F	F	B		C	F	D
Approach Delay	50.2		77.9			27.5		55.7
Approach LOS	D		E			C		E

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 99	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 54.0	Intersection LOS: D
Intersection Capacity Utilization 108.3%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 8: Front Street & Soquel Avenue



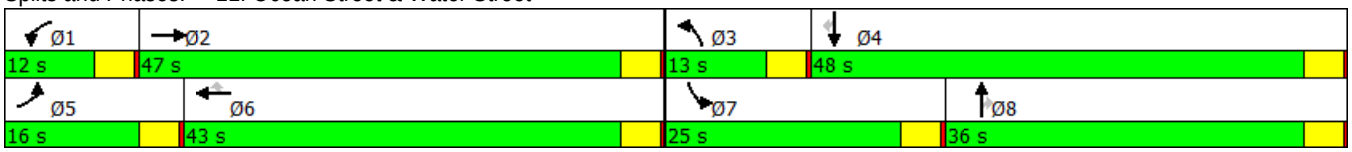
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Protected Phases	2	6	6			8		4
Permitted Phases				6	8		4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	29.0	29.0	29.0	51.0	51.0	51.0	51.0
Total Split (%)	20.0%	29.0%	29.0%	29.0%	51.0%	51.0%	51.0%	51.0%
Maximum Green (s)	16.0	25.0	25.0	25.0	47.0	47.0	47.0	47.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lag	Lead	Lead	Lead				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	Max	None	None	None	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0
90th %ile Green (s)	16.0	25.0	25.0	25.0	47.0	47.0	47.0	47.0
90th %ile Term Code	Max	MaxR	MaxR	MaxR	Max	Max	Max	Max
70th %ile Green (s)	16.0	25.0	25.0	25.0	47.0	47.0	47.0	47.0
70th %ile Term Code	Max	MaxR	MaxR	MaxR	Max	Max	Max	Max
50th %ile Green (s)	16.0	25.0	25.0	25.0	47.0	47.0	47.0	47.0
50th %ile Term Code	Max	MaxR	MaxR	MaxR	Hold	Hold	Max	Max
30th %ile Green (s)	14.9	25.0	25.0	25.0	47.0	47.0	47.0	47.0
30th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Max	Max
10th %ile Green (s)	12.1	25.0	25.0	25.0	47.0	47.0	47.0	47.0
10th %ile Term Code	Gap	MaxR	MaxR	MaxR	Hold	Hold	Max	Max

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 99
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 100
70th %ile Actuated Cycle: 100
50th %ile Actuated Cycle: 100
30th %ile Actuated Cycle: 98.9
10th %ile Actuated Cycle: 96.1

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	495	1578	168	1008	339	203	1359	96	522	1448	399
Future Volume (vph)	495	1578	168	1008	339	203	1359	96	522	1448	399
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	16.0	47.0	12.0	43.0	43.0	13.0	36.0	36.0	25.0	48.0	48.0
Total Split (%)	13.3%	39.2%	10.0%	35.8%	35.8%	10.8%	30.0%	30.0%	20.8%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	Min	None	Min	Min	None	Min	Min
Act Effct Green (s)	12.0	43.0	8.0	39.0	39.0	9.0	32.0	32.0	21.0	44.0	44.0
Actuated g/C Ratio	0.10	0.36	0.07	0.32	0.32	0.08	0.27	0.27	0.18	0.37	0.37
v/c Ratio	1.57	1.49	1.52	0.94	0.53	1.64	1.55	0.20	1.82	1.19	0.63
Control Delay	305.4	255.2	311.5	55.8	12.9	352.6	284.7	5.6	410.0	128.1	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	305.4	255.2	311.5	55.8	12.9	352.6	284.7	5.6	410.0	128.1	23.5
LOS	F	F	F	E	B	F	F	A	F	F	C
Approach Delay		266.3		74.6			276.9			172.5	
Approach LOS		F		E			F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.82	
Intersection Signal Delay: 202.7	Intersection LOS: F
Intersection Capacity Utilization 137.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 11: Ocean Street & Water Street



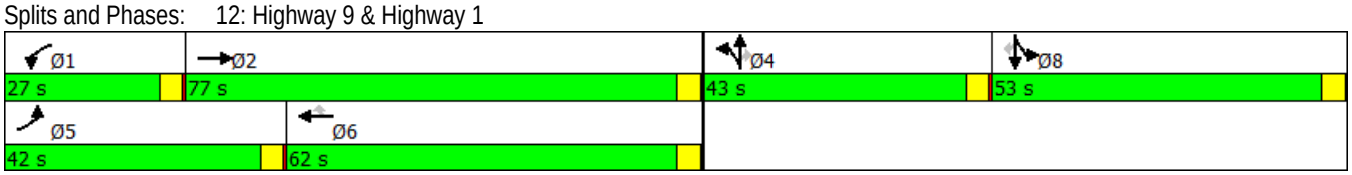
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		3	8		7	4	
Permitted Phases					6			8			4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	16.0	47.0	12.0	43.0	43.0	13.0	36.0	36.0	25.0	48.0	48.0
Total Split (%)	13.3%	39.2%	10.0%	35.8%	35.8%	10.8%	30.0%	30.0%	20.8%	40.0%	40.0%
Maximum Green (s)	12.0	43.0	8.0	39.0	39.0	9.0	32.0	32.0	21.0	44.0	44.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	Min	None	Min	Min	None	Min	Min
Walk Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0
90th %ile Green (s)	12.0	43.0	8.0	39.0	39.0	9.0	32.0	32.0	21.0	44.0	44.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	12.0	43.0	8.0	39.0	39.0	9.0	32.0	32.0	21.0	44.0	44.0
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
50th %ile Green (s)	12.0	43.0	8.0	39.0	39.0	9.0	32.0	32.0	21.0	44.0	44.0
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
30th %ile Green (s)	12.0	43.0	8.0	39.0	39.0	9.0	32.0	32.0	21.0	44.0	44.0
30th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
10th %ile Green (s)	12.0	43.0	8.0	39.0	39.0	9.0	32.0	32.0	21.0	44.0	44.0
10th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 120
70th %ile Actuated Cycle: 120
50th %ile Actuated Cycle: 120
30th %ile Actuated Cycle: 120
10th %ile Actuated Cycle: 120

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	490	2350	561	1862	693	99	454	726	1109	545	571
Future Volume (vph)	490	2350	561	1862	693	99	454	726	1109	545	571
Turn Type	Prot	NA	Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2	1	6		4	4		8	8	
Permitted Phases					6			4			8
Detector Phase	5	2	1	6	6	4	4	4	8	8	8
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	42.0	77.0	27.0	62.0	62.0	43.0	43.0	43.0	53.0	53.0	53.0
Total Split (%)	21.0%	38.5%	13.5%	31.0%	31.0%	21.5%	21.5%	21.5%	26.5%	26.5%	26.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	None	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	38.0	73.0	23.0	58.0	58.0	39.0	39.0	39.0	49.0	49.0	49.0
Actuated g/C Ratio	0.19	0.36	0.12	0.29	0.29	0.20	0.20	0.20	0.24	0.24	0.24
v/c Ratio	1.57	1.44	1.56	1.37	1.23	0.31	1.37	1.14	1.43	1.31	1.06
Control Delay	318.0	246.5	314.4	221.8	157.3	71.9	239.3	131.7	251.0	209.4	92.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	318.0	246.5	314.4	221.8	157.3	71.9	239.3	131.7	251.0	209.4	92.3
LOS	F	F	F	F	F	E	F	F	F	F	F
Approach Delay		258.5		224.1			165.2			200.1	
Approach LOS		F		F			F			F	

Intersection Summary	
Cycle Length: 200	
Actuated Cycle Length: 200	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.57	
Intersection Signal Delay: 221.1	Intersection LOS: F
Intersection Capacity Utilization 132.2%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 12: Highway 9 & Highway 1



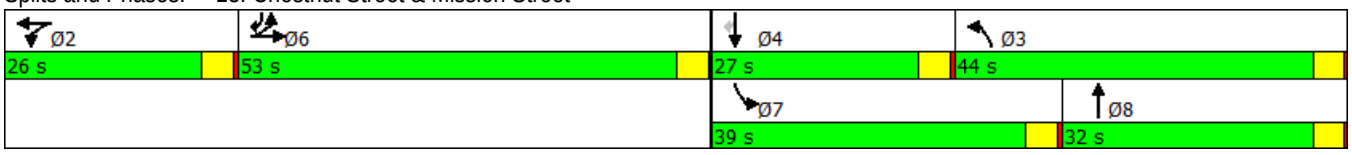
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6		4	4		8	8	
Permitted Phases					6			4			8
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	42.0	77.0	27.0	62.0	62.0	43.0	43.0	43.0	53.0	53.0	53.0
Total Split (%)	21.0%	38.5%	13.5%	31.0%	31.0%	21.5%	21.5%	21.5%	26.5%	26.5%	26.5%
Maximum Green (s)	38.0	73.0	23.0	58.0	58.0	39.0	39.0	39.0	49.0	49.0	49.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	None	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	0	0
90th %ile Green (s)	38.0	73.0	23.0	58.0	58.0	39.0	39.0	39.0	49.0	49.0	49.0
90th %ile Term Code	Max	MaxR	Max	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	38.0	73.0	23.0	58.0	58.0	39.0	39.0	39.0	49.0	49.0	49.0
70th %ile Term Code	Max	MaxR	Max	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	38.0	73.0	23.0	58.0	58.0	39.0	39.0	39.0	49.0	49.0	49.0
50th %ile Term Code	Max	MaxR	Max	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	38.0	73.0	23.0	58.0	58.0	39.0	39.0	39.0	49.0	49.0	49.0
30th %ile Term Code	Max	MaxR	Max	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	38.0	73.0	23.0	58.0	58.0	39.0	39.0	39.0	49.0	49.0	49.0
10th %ile Term Code	Max	MaxR	Max	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 200
Actuated Cycle Length: 200
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 200
70th %ile Actuated Cycle: 200
50th %ile Actuated Cycle: 200
30th %ile Actuated Cycle: 200
10th %ile Actuated Cycle: 200

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	2436	1060	849	138	332	71	497	1822
Future Volume (vph)	2436	1060	849	138	332	71	497	1822
Turn Type	Split	NA	NA	Prot	NA	Prot	NA	pm+ov
Protected Phases	6	6	2	3	8	7	4	6
Permitted Phases								4
Detector Phase	6	6	2	3	8	7	4	4 6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	53.0	53.0	26.0	44.0	32.0	39.0	27.0	53.0
Total Split (%)	35.3%	35.3%	17.3%	29.3%	21.3%	26.0%	18.0%	35.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag				Lag	Lag	Lead	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	49.1	49.1	22.0	15.8	28.1	10.7	23.0	76.1
Actuated g/C Ratio	0.39	0.39	0.17	0.13	0.22	0.08	0.18	0.60
v/c Ratio	2.09	2.00dl	1.74	0.67	0.52	0.50	0.82	1.04
Control Delay	520.3	453.9	370.4	67.5	44.9	66.6	61.0	48.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	520.3	453.9	370.4	67.5	44.9	66.6	61.0	48.9
LOS	F	F	F	E	D	E	E	D
Approach Delay		476.8	370.4		50.9		51.9	
Approach LOS		F	F		D		D	

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 125.9	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.09	
Intersection Signal Delay: 296.3	Intersection LOS: F
Intersection Capacity Utilization 129.8%	ICU Level of Service H
Analysis Period (min) 15	
dl Defacto Left Lane. Recode with 1 though lane as a left lane.	

Splits and Phases: 13: Chestnut Street & Mission Street



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	6	6	2	3	8	7	4	6
Permitted Phases								4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	53.0	53.0	26.0	44.0	32.0	39.0	27.0	53.0
Total Split (%)	35.3%	35.3%	17.3%	29.3%	21.3%	26.0%	18.0%	35.3%
Maximum Green (s)	49.0	49.0	22.0	40.0	28.0	35.0	23.0	49.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag				Lag	Lag	Lead	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None
Walk Time (s)	5.0	5.0			5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0			0		0	0
90th %ile Green (s)	49.0	49.0	22.0	21.8	29.9	14.9	23.0	49.0
90th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Max	Max
70th %ile Green (s)	49.0	49.0	22.0	18.1	28.7	12.4	23.0	49.0
70th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Max	Max
50th %ile Green (s)	49.0	49.0	22.0	15.8	28.1	10.7	23.0	49.0
50th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Max	Max
30th %ile Green (s)	49.0	49.0	22.0	13.5	27.4	9.1	23.0	49.0
30th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Max	Max
10th %ile Green (s)	49.0	49.0	22.0	10.2	26.3	6.9	23.0	49.0
10th %ile Term Code	Max	Max	Max	Gap	Hold	Gap	Max	Max

Intersection Summary
Cycle Length: 150
Actuated Cycle Length: 125.9
Control Type: Actuated-Uncoordinated
90th %ile Actuated Cycle: 131.8
70th %ile Actuated Cycle: 128.1
50th %ile Actuated Cycle: 125.8
30th %ile Actuated Cycle: 123.5
10th %ile Actuated Cycle: 120.2