APPENDIX 1.1:

APPROVED TRAFFIC STUDY SCOPING AGREEMENT

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URBAN CROSSROADS
41 Corporate Park | Suite 300 | Irvine, CA 92606 | (949) 660-1994
www.urbanXroads.com

Date: April 14, 2015 (Revised May 28, 2015)

This letter acknowledges the City of Moreno Valley Transportation Engineering Division requirements for the traffic impact analysis of the following project:

Case No.	PA15-0014, PA15-0015, PA15-0016, PA15-0017, PA15-0018, P15-036, and P15-037
Project Name:	Moreno Valley Logistics Center
Project Address:	South of Krameria Avenue, between Heacock Avenue and Indian Street
Project Description:	1,737,518 High-Cube Warehouse/Distribution Center and General Light Industrial Use
Related Cases:	

	Consultant	Developer Representative
Name:	URBAN CROSSROADS, INC. Attn: Aric Evatt	Prologis Attn: Scott Mulkay
Address:	41 Corporate Park, Suite 300 Irvine, CA 92606	2817 E. Cedar St., Suite 200 Ontario, CA 91761
Telephone:	949-336-5978	909-673-8730

I. Background

The proposed Moreno Valley Logistics Center development (referred to as "Project") is located south of Krameria Avenue, between Heacock Avenue and Indian Street. The Project is proposed to consist of 1,737,518 square feet of High-Cube Warehouse / General Light Industrial use with four independent buildings consisting of the following square footage:

- Building 1 (1,351,770 square feet of High-Cube Warehouse/Distribution Center)
- Building 2 (122,516 square feet of General Light Industrial use)
- Building 3 (97,222 square feet of General Light Industrial use)
- Building 4 (166,010 square feet of General Light Industrial use)

The Project is anticipated to be built in a single phase and the opening year of 2020 will be evaluated for the purposes of this analysis (minimum five-year opening year per Moreno Valley traffic study guidelines). See preliminary site plan on **Exhibit 1**. **Exhibit 2** illustrates the study area and proposed existing and opening year intersection analysis locations.

The Project proposes to follow a new alignment for Krameria Avenue to provide a 90 degree

intersection with Heacock Street and Krameria Avenue (North) (See **Exhibit 2**).

II. Trip Geographic Distribution and Assignment

The project trip distribution patterns were developed based on an understanding of existing travel patterns in the area, the geographical location of the site, the site's proximity to the local arterial and regional state highway system, along with the proposed change in alignment of Krameria Avenue to facilitate site access to Heacock Street:

- **Exhibit 3:** Project (Without Indian Street Bridge) Passenger Car Trip Distribution (to be utilized for Scenarios C. and F. under Section VI. of this scoping agreement). This trip distribution pattern assumes the currently existing roadway network.
- **Exhibit 4:** Project (Without Indian Street Bridge) Trucks Trip Distribution (to be utilized for Scenarios C. and F. under Section VI. of this scoping agreement). This trip distribution pattern assumes the currently existing roadway network.
- **Exhibit 5:** Project (With Indian Street Bridge) Passenger Car Trip Distribution (to be utilized for Scenario D. in Section VI. of this scoping agreement). This trip distribution pattern assumes the Indian Street Bridge over the Perris Valley Storm Drain Channel.
- **Exhibit 6:** Project (With Indian Street Bridge) Trucks Trip Distribution (to be utilized for Scenario D. in Section VI. of this scoping agreement). This trip distribution pattern assumes the Indian Street Bridge over the Perris Valley Storm Drain Channel.
- **Exhibit 7:** General Plan Buildout Project (Passenger Car) Trip Distribution (to be utilized for Scenario H. in Section VI. of this scoping agreement). This distribution pattern assumes both the Indian Street Bridge over the Perris Valley Storm Drain Channel and the Heacock Street extension at Harley Knox Boulevard are both in place.
- **Exhibit 8:** General Plan Buildout Project (Trucks) Trip Distribution (to be utilized for Scenario H. in Section VI. of this scoping agreement). This distribution pattern assumes both the Indian Street Bridge over the Perris Valley Storm Drain Channel and the Heacock Street extension at Harley Knox Boulevard are both in place.

III. Site Trip Generation Forecast

A. Source for trip generation rates: Institute of Transportation Engineers (ITE) Trip Generation Manual 9th Edition (2012) for ITE Land Use Codes 110 (General Light Industrial) and 152 (High-Cube Warehousing).

B. Weekday AM Peak: 7:00-9:00 AM

C. Weekday PM Peak: 4:00-6:00 PM

D. Intersection and link acceptable Level of Service "D" for some intersections and links and Level of Service "C" for others based upon the current City policy. (Use Highway Capacity Manual 2010 operations procedures; parameters per County of Riverside Traffic Impact Analysis Guidelines)

Proposed Use Rates [(1)] (See attached **Table 1**)

Daily: 6.970 AM: 0.920 PM: 0.970

General Light Industrial (per TSF)			
High-Cube Warehouse (per TSF)	Daily: 1.680	AM: 0.110	PM: 0.120
Internal Trip Allowance:	Yes:	No: X	Percentage:
Pass-by Trip Allowance:	Yes:	No: X	Percentage:

(1) Institute of Transportation Engineers 9th Edition Trip Generation Manual (2012).

E. As noted on **Table 1**, refinements to raw trip generation estimates have been made to provide a more detailed breakdown of trips by vehicle type. Total vehicle mix percentages were obtained from the City of Fontana Truck Trip Generation Study for General Light Industrial (LU 110), August 2003, and the ITE Trip Generation manual in conjunction with the South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type for High Cube Warehouse/Distribution Center use. PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles). PCE factors are consistent with the recommended PCE factors in Appendix "C" of the San Bernardino County Congestion Management Program (CMP), 2005 Update.

F. As shown on **Table 2**, the proposed Project is anticipated to generate a net total of 6,975 PCE trip-ends per day with 660 PCE AM peak hour trips and 718 PCE PM peak hour trips.

IV. Specific Project Issues to be Analyzed

A. The traffic study will address the adequacy of site access and identify specific near-term circulation improvements required at study area intersections and roadways to maintain acceptable peak hour and daily levels of service (LOS).

B. The traffic study shall address the project traffic impacts at all study intersections listed in Section VI and provide appropriate mitigation measures if applicable. Peak-hour traffic signal warrants shall be evaluated for all intersections that are not currently signalized.

C. Qualitative assessment of existing and planned non-motorized facilities (e.g., pedestrians, bike routes, trails, etc.) within the study area.

D. The turn pocket lengths will be determined through peak hour traffic simulations developed using SimTraffic software in an effort to identify the required storage capacity for turn lanes at each Project driveway.

E. Study shall address need/timing of Indian Street bridge over Perris Valley Storm Drain Channel.

F. Study shall assess existing truck routes and make recommendations for any revisions.

V. Study Horizon Year

A. Existing (2015)
B. Existing (2015) Plus Project Construction Traffic (Trip Generation TBD)
C. Existing (2015) Plus Project (Without Indian Street Bridge)
D. Existing (2015) Plus Project (With Indian Street Bridge)
E. Opening Year Cumulative (2020) Without Project (existing to opening year-2020, assuming a growth rate of 2% per year and includes the traffic from other cumulative development projects in the vicinity)
F. Opening Year Cumulative (2020) With Project
G. General Plan Buildout (Post-2035) Without Project
H. General Plan Buildout (Post-2035) With Project

Although not required based on the City's traffic study guidelines, the General Plan Buildout (Post-2035) analysis scenario has been included to conduct a conservative analysis.

VI. Facilities to be Studied

A. Analysis Locations: (See **Exhibit 2**)
   1. Interstate 215 Southbound Ramps / Cactus Avenue
   2. Interstate 215 Southbound Ramps / Harley Knox Boulevard
   3. Interstate 215 Northbound Ramps / Cactus Avenue
   4. Interstate 215 Northbound Ramps / Harley Knox Boulevard
   5. Elsworth Street / Cactus Avenue
   6. Frederick Street / Cactus Avenue
   7. Western Way / Harley Knox Boulevard
   8. Graham Street / Cactus Avenue
   9. Patterson Avenue / Harley Knox Boulevard
   10. Heacock Street / Cactus Avenue
   11. Heacock Street / John F. Kennedy Drive
   12. Heacock Street / Gentian Avenue
   13. Heacock Street / Iris Avenue
   14. Heacock Street / Krameria Avenue (North)
   15. Heacock Street / Driveway 1 – Future Intersection
   16. Heacock Street / Driveway 2 – Future Intersection
   17. Heacock Street / Cardinal Avenue
   18. Heacock Street / San Michele Road
   19. Heacock Street / Nandina Avenue
   20. N. Webster Avenue / Harley Knox Boulevard
   21. New Public Street / Krameria Avenue (North) – Future Intersection
   22. New Public Street / Krameria Avenue – Future Intersection
   23. Driveway 3 / Krameria Avenue – Future Intersection
   24. Driveway 4 / Krameria Avenue – Future Intersection
   25. Driveway 5 / Krameria Avenue – Future Intersection
   26. Indian Street / Krameria Avenue
   27. Indian Street / Driveway 6 – Future Intersection
   28. Indian Street / San Michele Road
   29. Indian Street / Nandina Avenue

30. Indian Street / Harley Knox Boulevard
31. Perris Boulevard / Cactus Avenue
32. Perris Boulevard / Krameria Avenue

B. Roadway Segments:
All roadway segments adjacent to intersection analysis locations will be analyzed (e.g. all legs of intersections listed above).

VII. Open Items

A. **Cumulative Development Projects:** There is a list of cumulative projects provided on **Table 3** (also shown graphically on **Exhibit 9**) and is consistent with the cumulative lists on other recent projects. It is requested that the list of cumulative development projects be reviewed by the City and projects be removed/added, where applicable.

VIII. Deliverables

a. Draft traffic impact studies (2 copies each)
b. Final traffic impact studies (4 copies each)

All draft and final traffic impact studies shall be delivered with the appropriate review fee to the Permit Technician, Land Development Division - Moreno Valley City Hall, 14177 Frederick Street, Moreno Valley, CA 92552. Please contact the Land Development Division at 951-413-3110 prior to the delivery of the traffic study.

A review fee will be required upon submittal of the traffic study. **A signed copy of this *Scoping Agreement* must be included in the submitted draft and final traffic impact studies.**

If you have any questions regarding this *Scoping Agreement*, please contact Eric Lewis at 951-413-3140.

Recommended By:

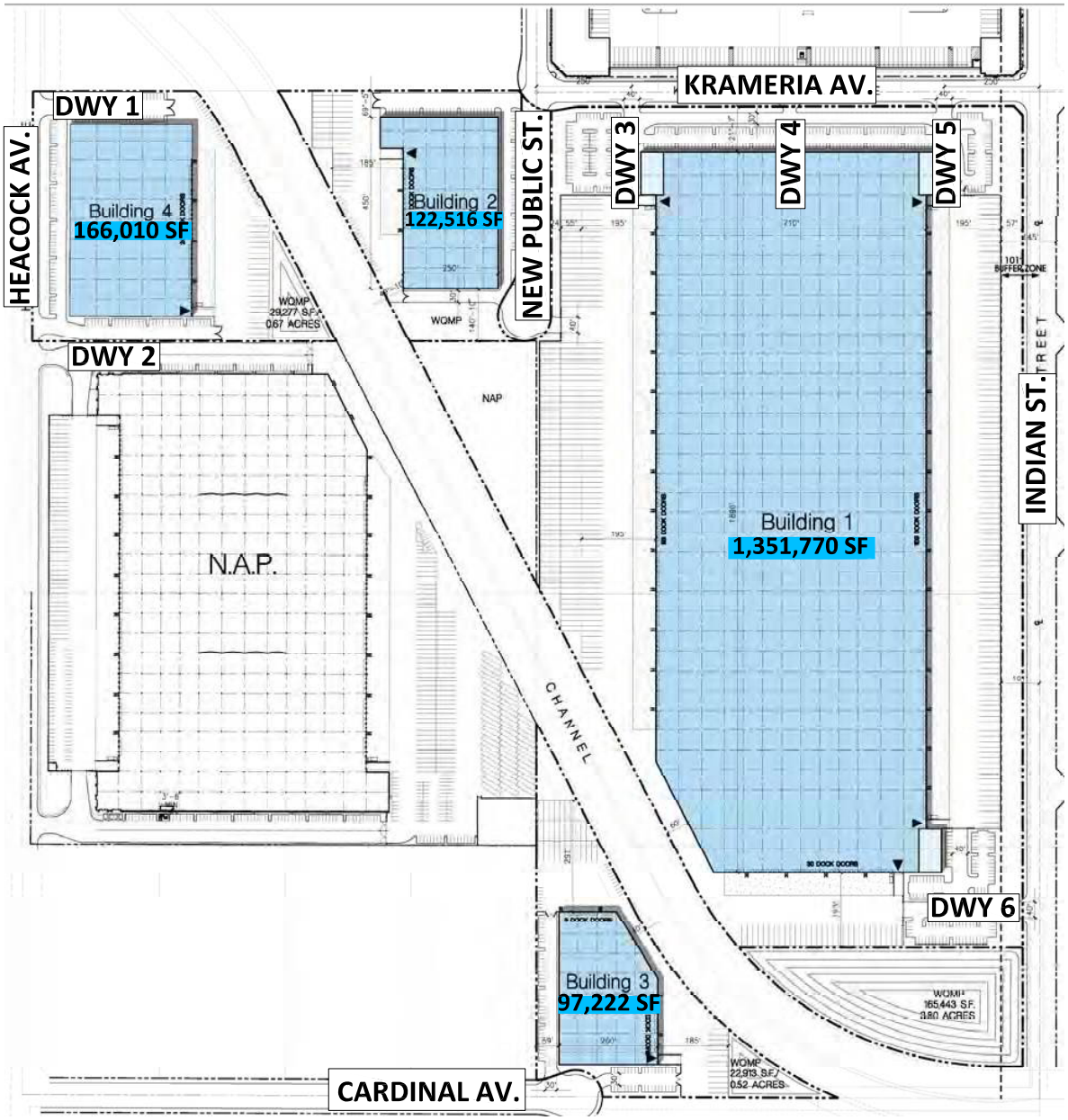
Aric Evatt, PTP
President
Urban Crossroads, Inc.

Approved By:

Eric Lewis, City of Moreno Valley
MICHAEL LLOYD FOR

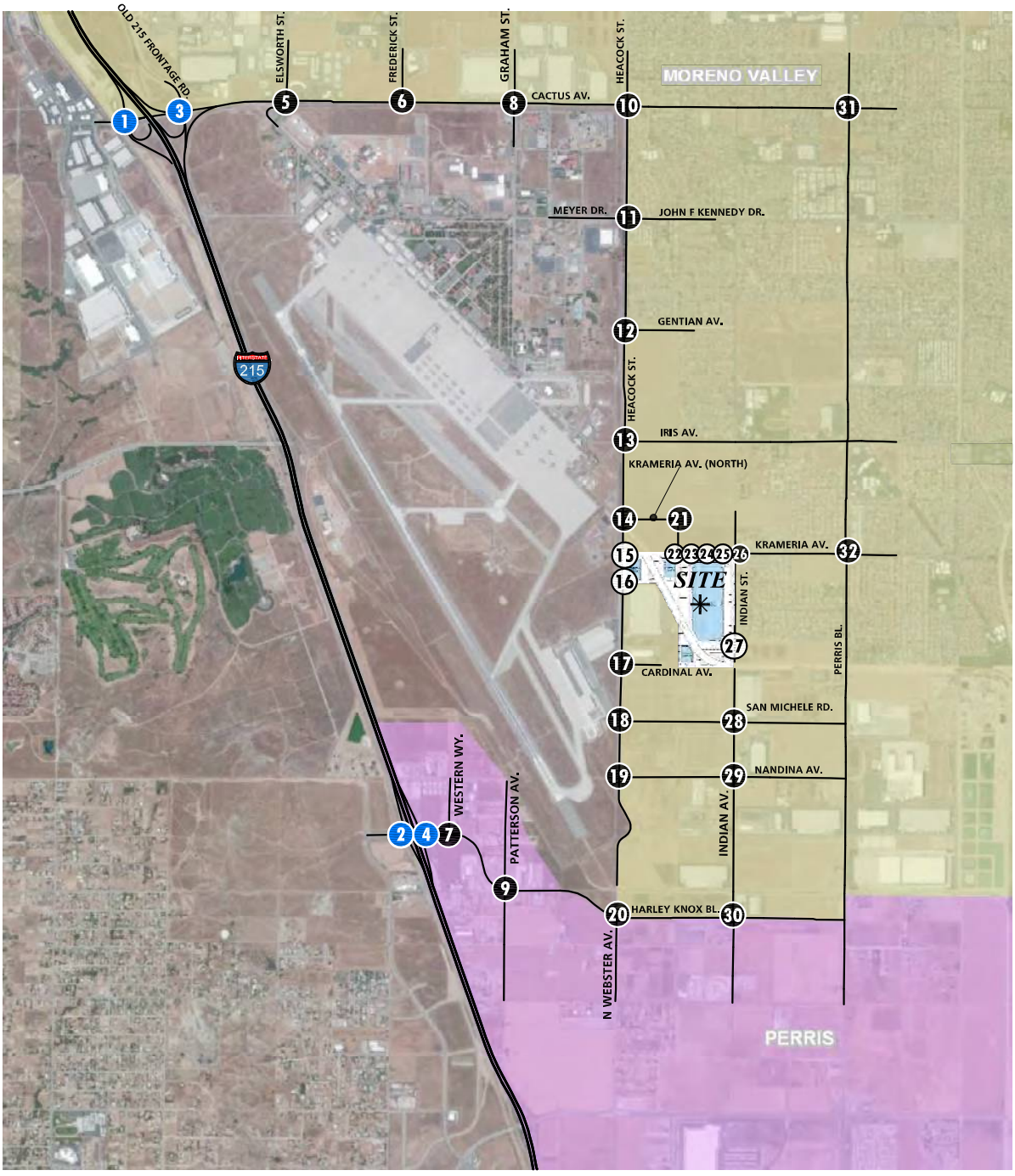
Attachments

EXHIBIT 1: PRELIMINARY SITE PLAN



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EXHIBIT 2: LOCATION MAP



LEGEND:

- ■ EXISTING INTERSECTION ANALYSIS LOCATION
- ■ FUTURE INTERSECTION ANALYSIS LOCATION
- ■ RIVERSIDE COUNTY CMP INTERSECTION ANALYSIS LOCATION

N

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URBAN CROSSROADS

EXHIBIT 3 (1 OF 2): PROJECT PASSENGER CAR TRIP DISTRIBUTION (WITHOUT INDIAN STREET BRIDGE)



NOTE: TO BE UTILIZED FOR E+P
(WITHOUT INDIAN STREET BRIDGE)
AND OPENING YEAR CUMULATIVE CONDITIONS

LEGEND:

10 ▪ PERCENT TO/FROM PROJECT

N

EXHIBIT 3 (2 OF 2): PROJECT PASSENGER CAR TRIP DISTRIBUTION (WITHOUT INDIAN STREET BRIDGE)

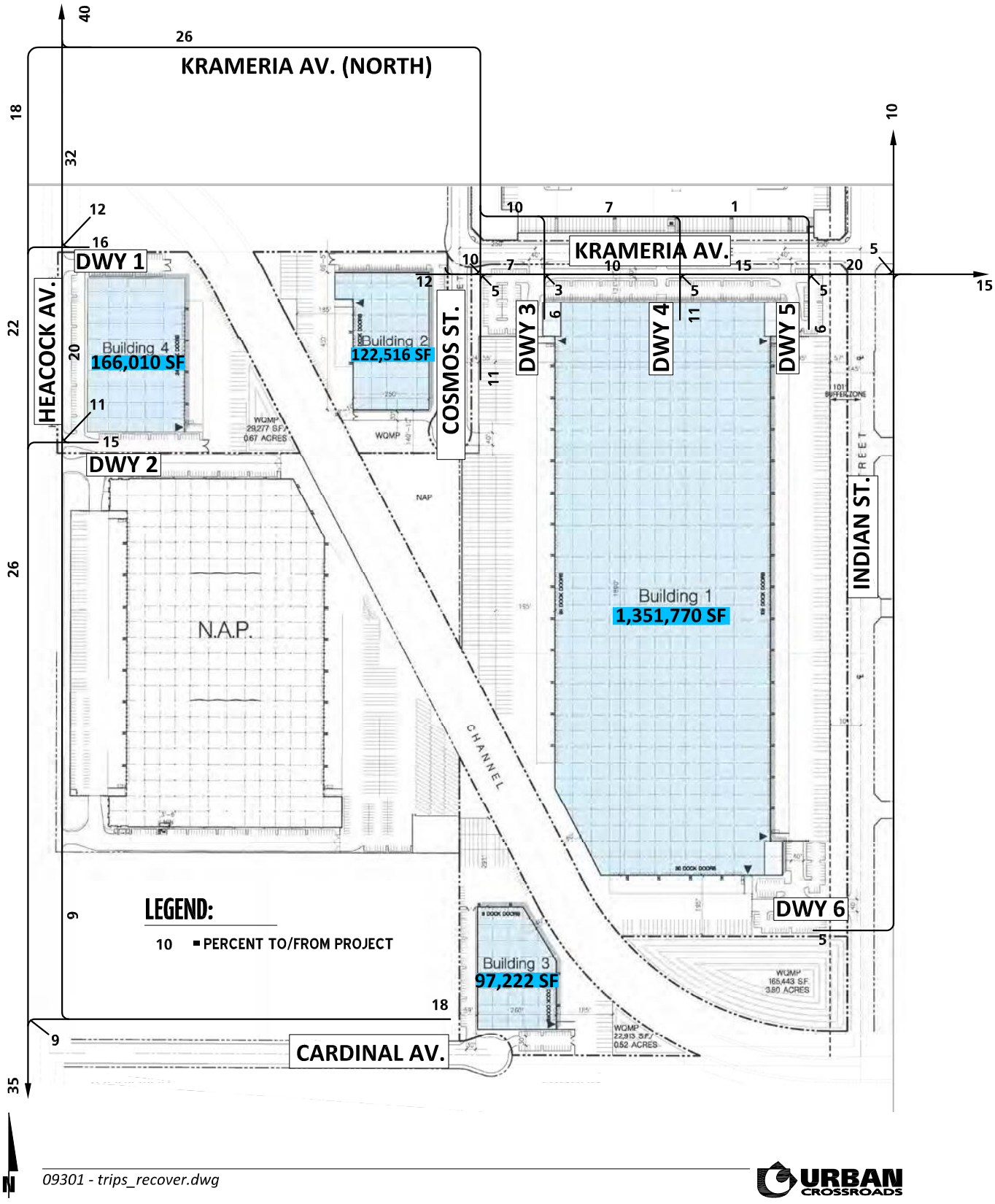
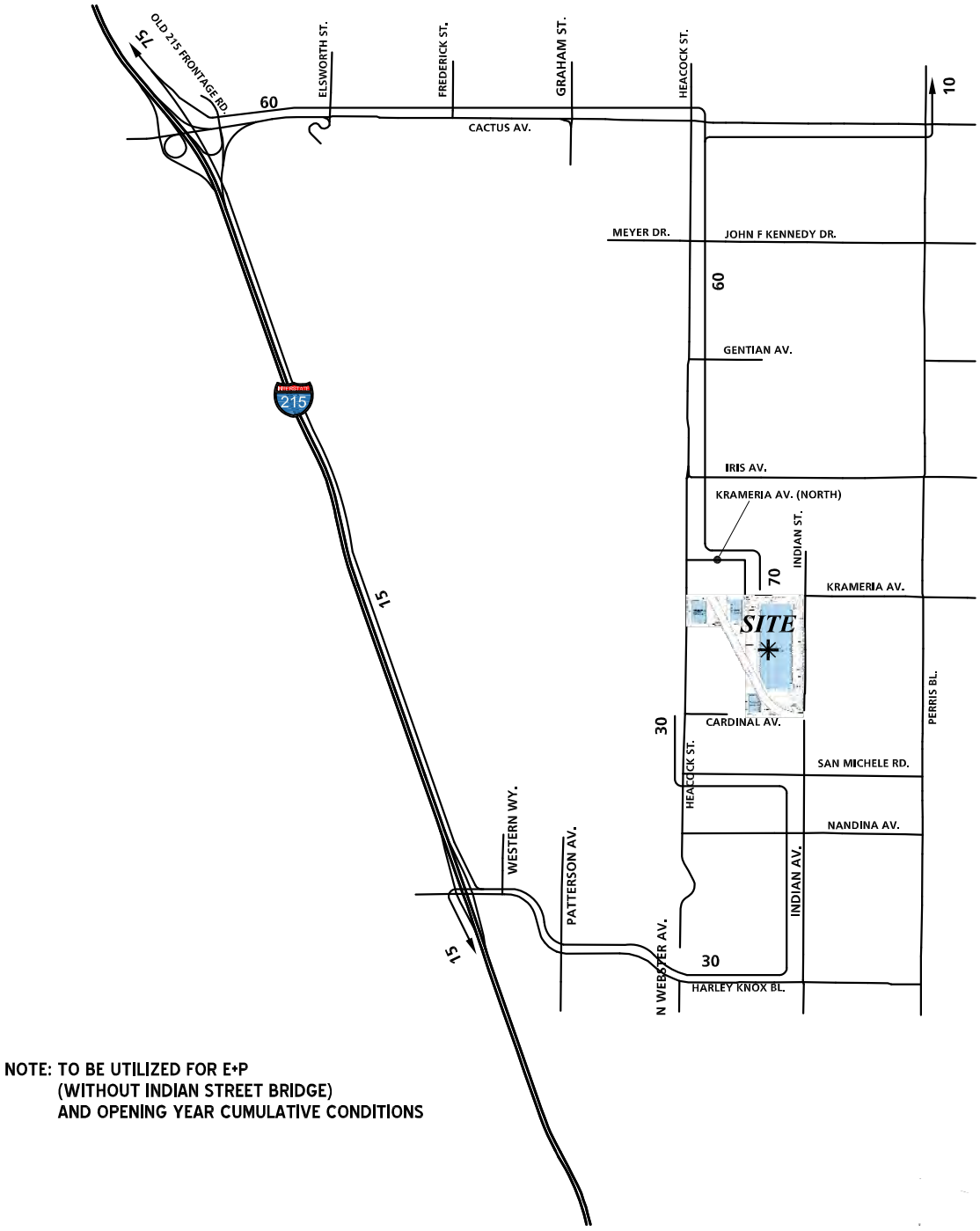


EXHIBIT 4 (1 OF 2): PROJECT TRUCK TRIP DISTRIBUTION (WITHOUT INDIAN STREET BRIDGE)



NOTE: TO BE UTILIZED FOR E+P
(WITHOUT INDIAN STREET BRIDGE)
AND OPENING YEAR CUMULATIVE CONDITIONS

LEGEND:

10 ▪ PERCENT TO/FROM PROJECT

◄ ▪ OUTBOUND

N

EXHIBIT 4 (2 OF 2): PROJECT TRUCK TRIP DISTRIBUTION (WITHOUT INDIAN STREET BRIDGE)

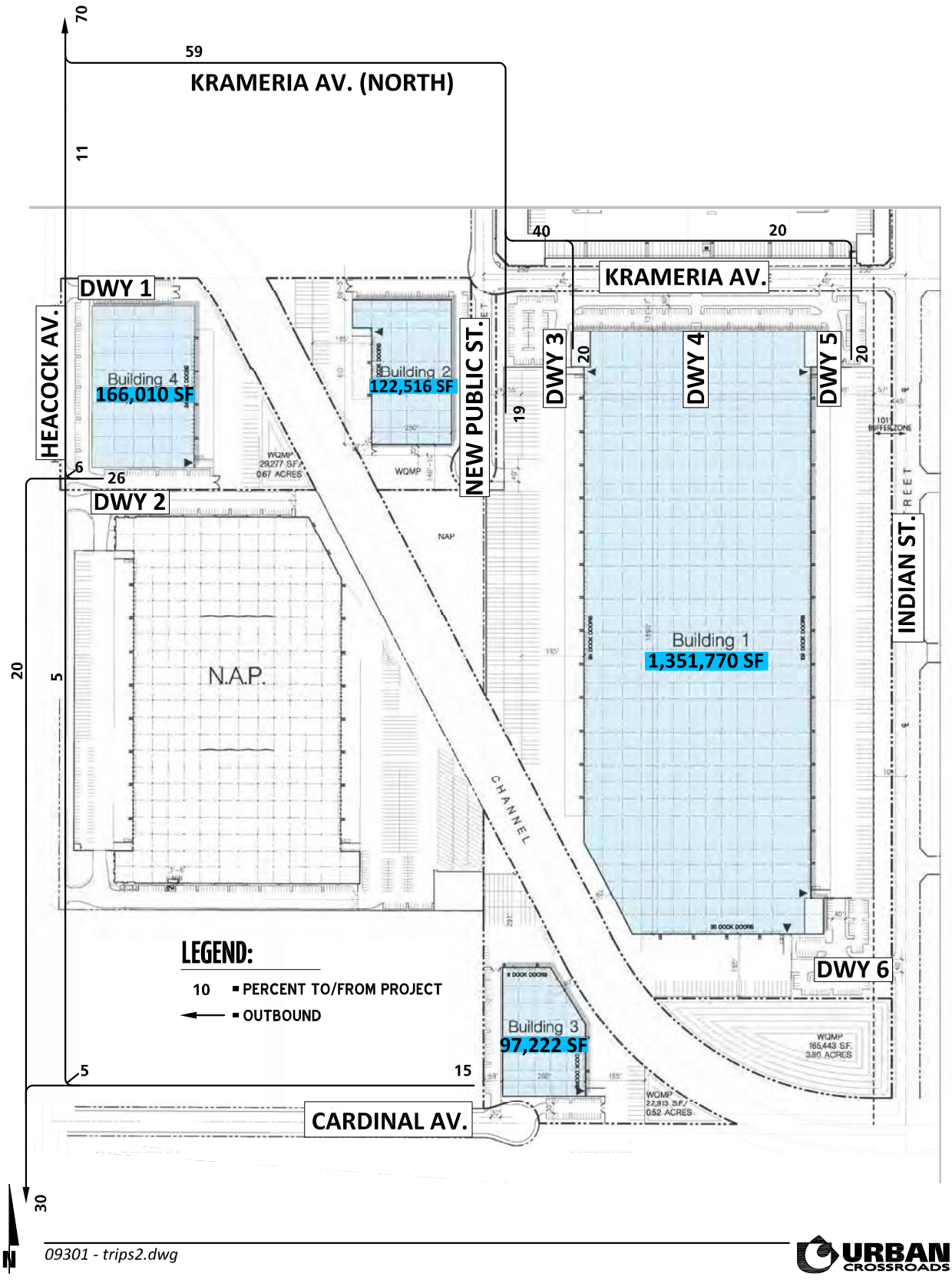


EXHIBIT 5 (1 OF 2): PROJECT PASSENGER CAR TRIP DISTRIBUTION (WITH INDIAN STREET BRIDGE)



NOTE: TO BE UTILIZED FOR E+P (WITH INDIAN STREET BRIDGE) CONDITIONS

LEGEND:

10 = PERCENT TO/FROM PROJECT

N

EXHIBIT 5 (2 OF 2): PROJECT PASSENGER CAR TRIP DISTRIBUTION (WITH INDIAN STREET BRIDGE)

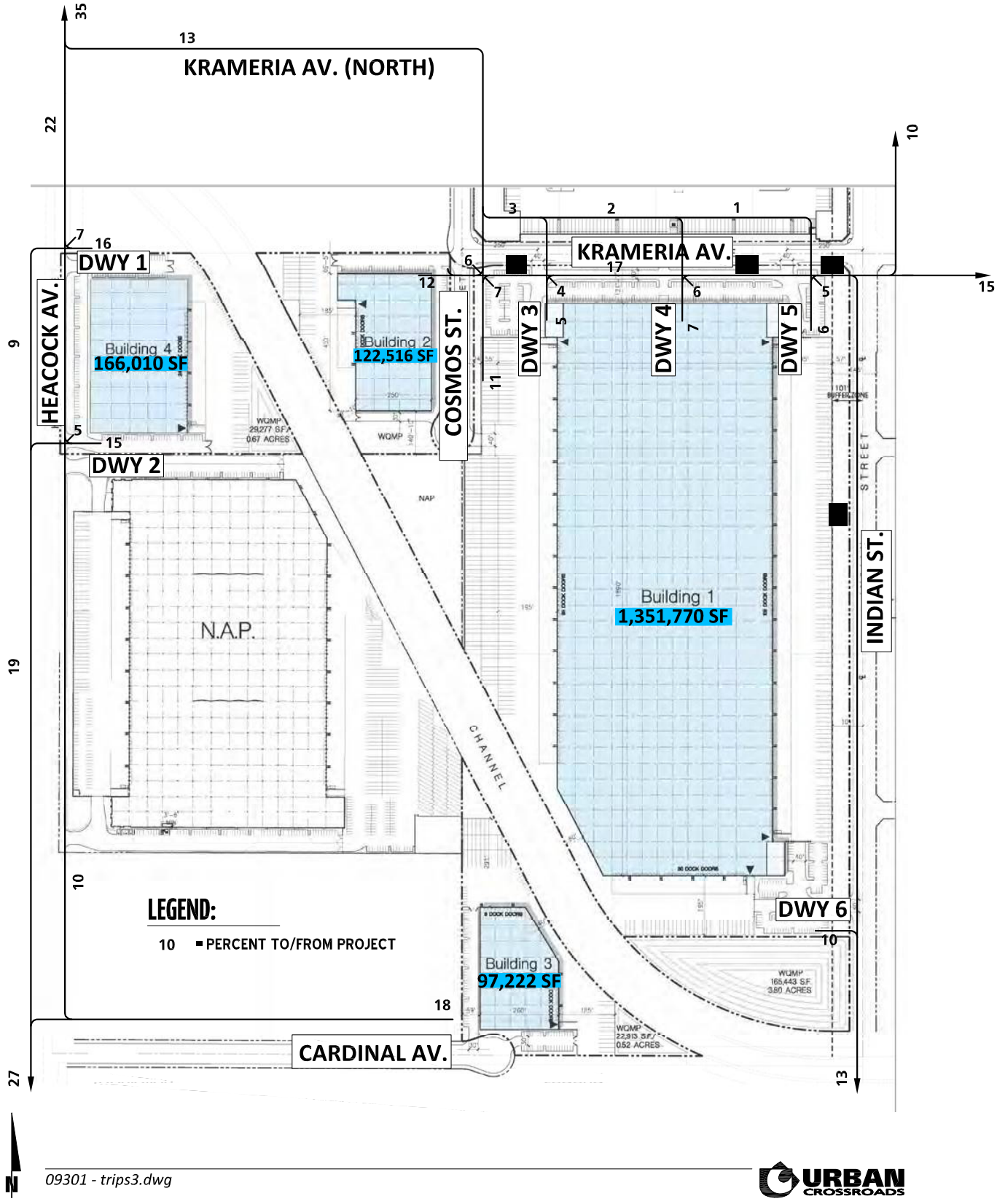
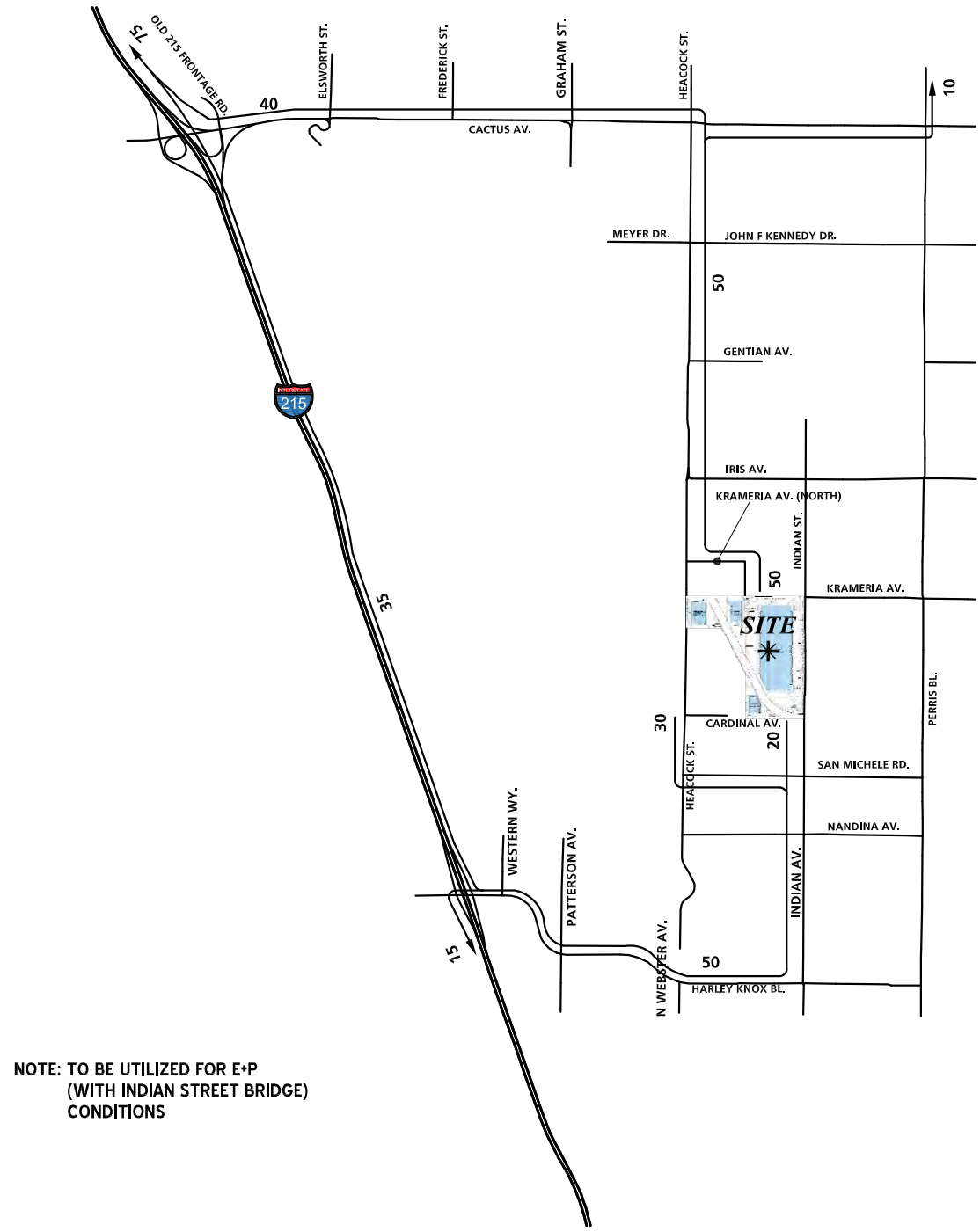


EXHIBIT 6 (1 OF 2): PROJECT TRUCK TRIP DISTRIBUTION (WITH INDIAN STREET BRIDGE)



NOTE: TO BE UTILIZED FOR E+P (WITH INDIAN STREET BRIDGE) CONDITIONS

LEGEND:

10 ▪ PERCENT TO/FROM PROJECT

◄— ▪ OUTBOUND

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EXHIBIT 6 (2 OF 2): PROJECT TRUCK TRIP DISTRIBUTION (WITH INDIAN STREET BRIDGE)

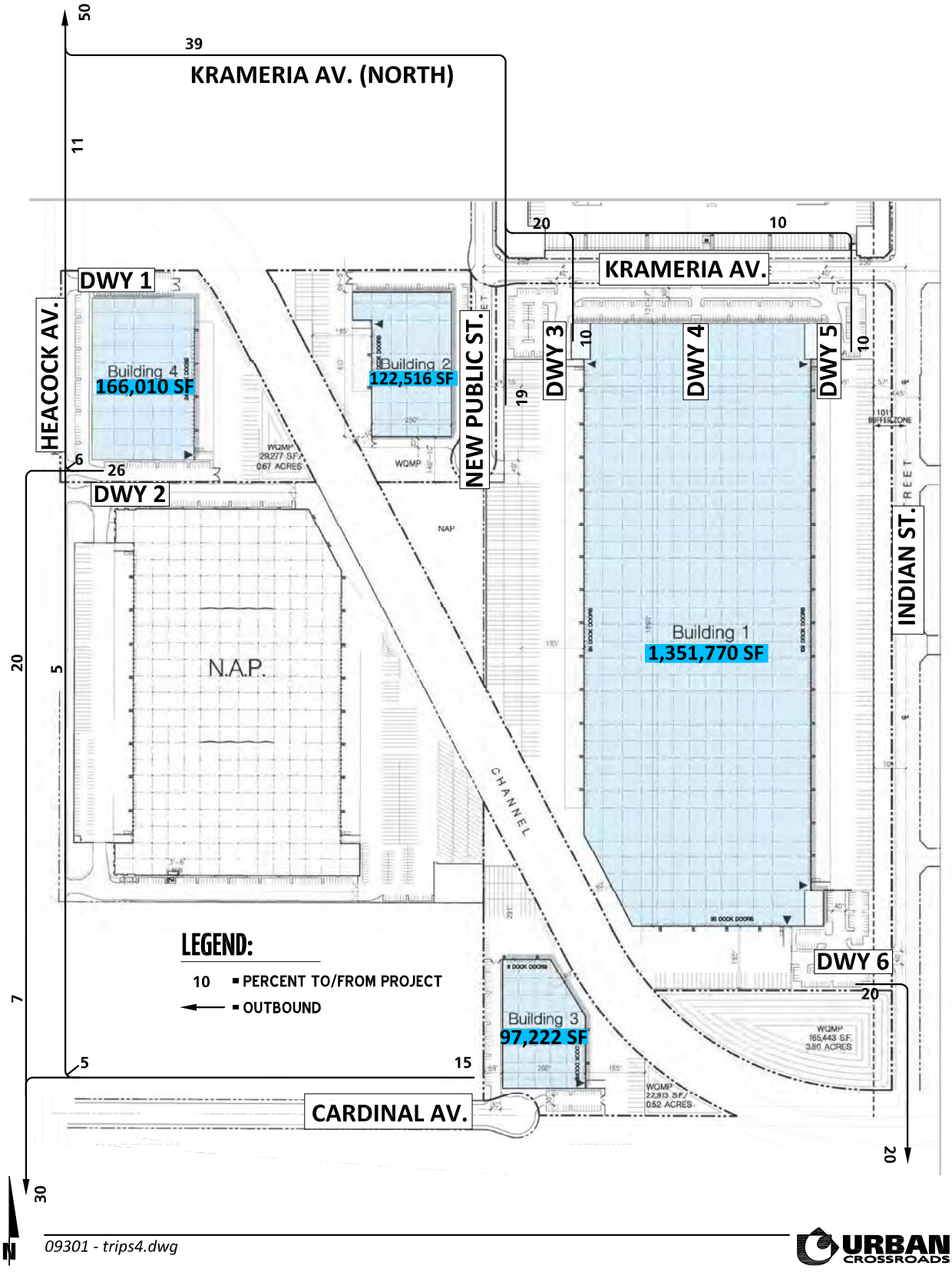


EXHIBIT 7 (1 OF 2): GENERAL PLAN BUILDOUT PROJECT PASSENGER CAR TRIP DISTRIBUTION



NOTE: ASSUMES BOTH HEACOCK STREET EXTENSION AT HARLEY KNOX BOULEVARD AND INDIAN STREET BRIDGE ARE BOTH IN PLACE

LEGEND:

10 ▪ PERCENT TO/FROM PROJECT

N

EXHIBIT 7 (2 OF 2): GENERAL PLAN BUILDOUT PROJECT PASSENGER CAR TRIP DISTRIBUTION

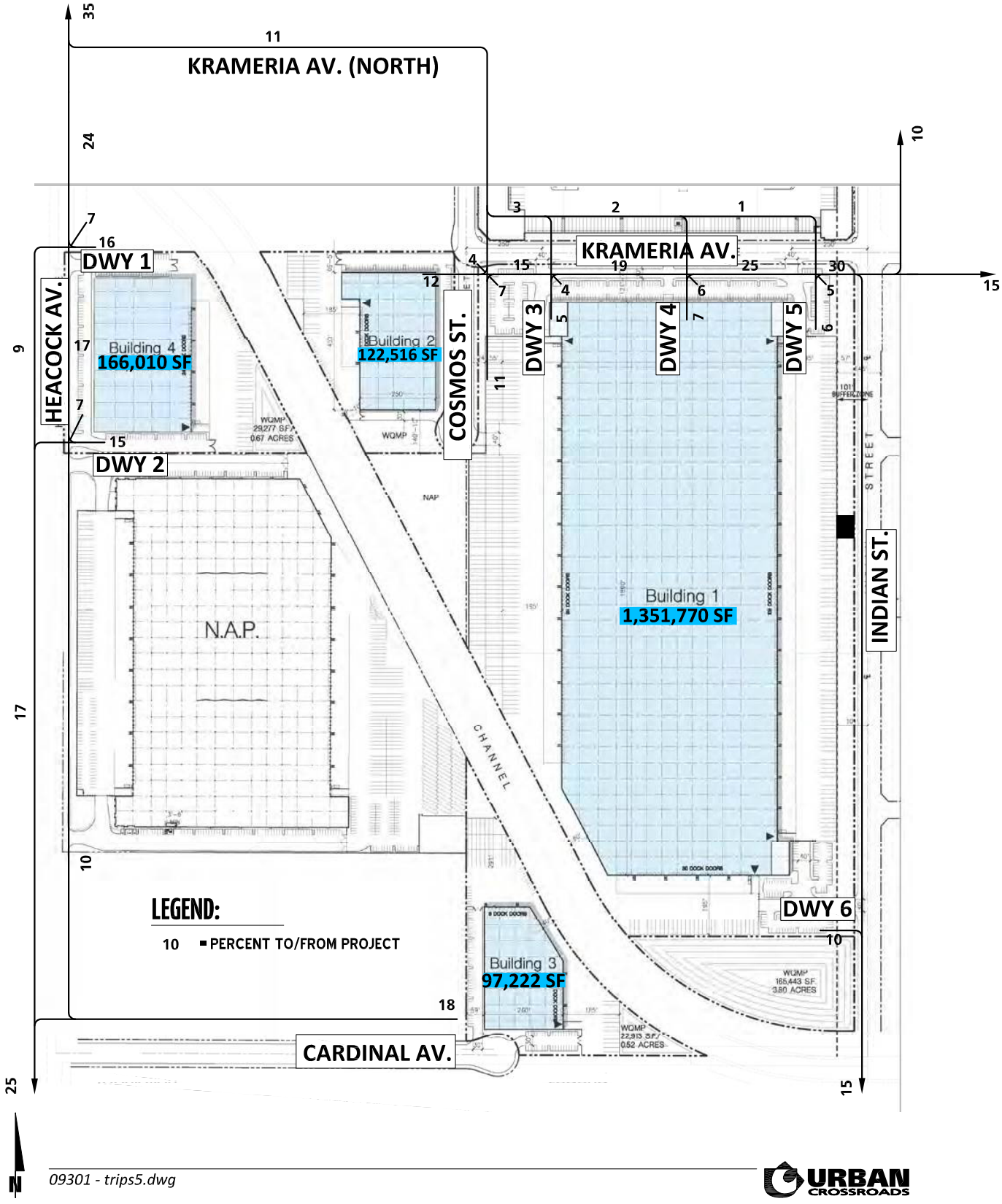
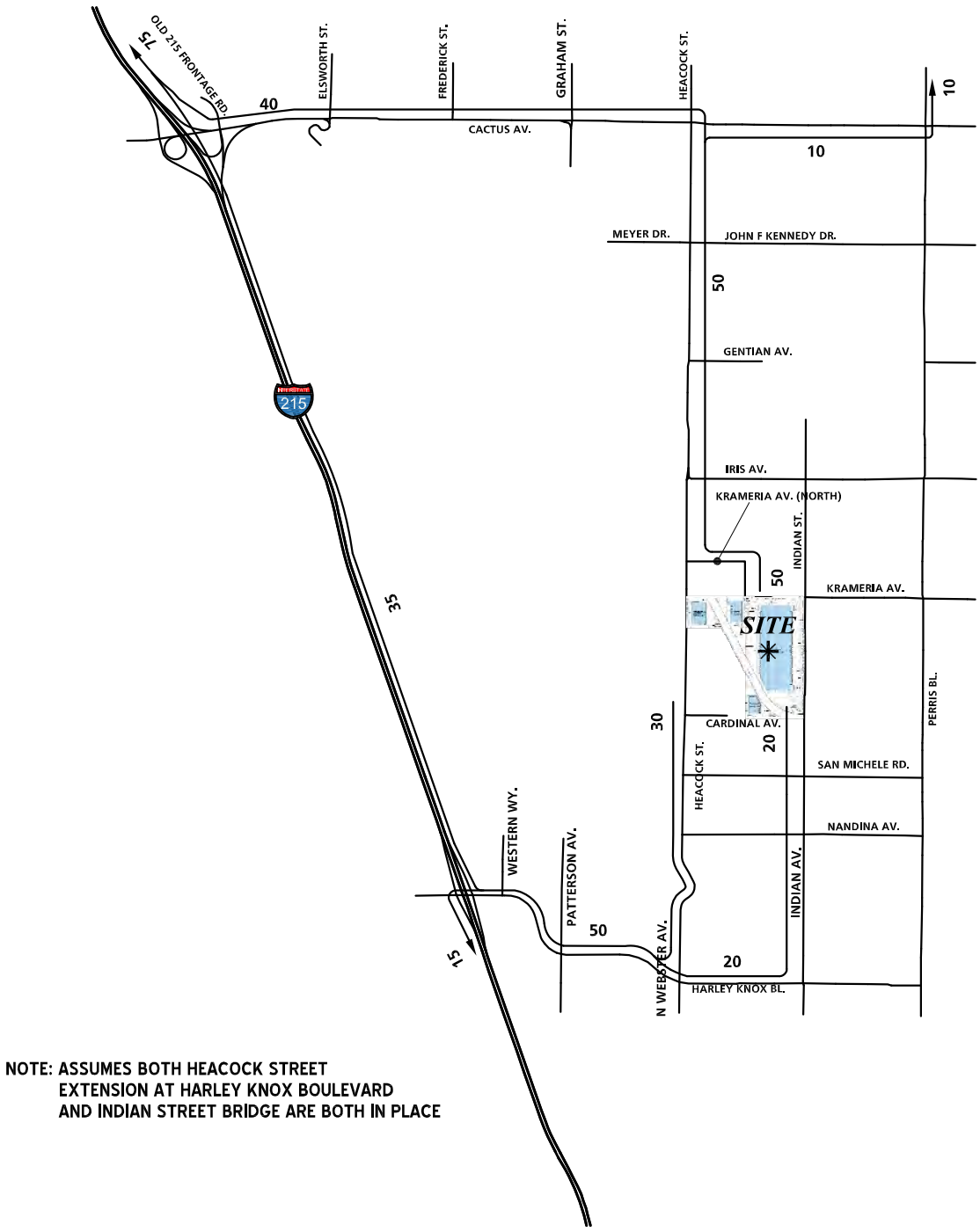


EXHIBIT 8 (1 OF 2): GENERAL PLAN BUILDOUT PROJECT TRUCK TRIP DISTRIBUTION



NOTE: ASSUMES BOTH HEACOCK STREET EXTENSION AT HARLEY KNOX BOULEVARD AND INDIAN STREET BRIDGE ARE BOTH IN PLACE

LEGEND:

10 ▪ PERCENT TO/FROM PROJECT

◄— ▪ OUTBOUND

N

EXHIBIT 8 (2 OF 2): GENERAL PLAN BUILDOUT PROJECT TRUCK TRIP DISTRIBUTION

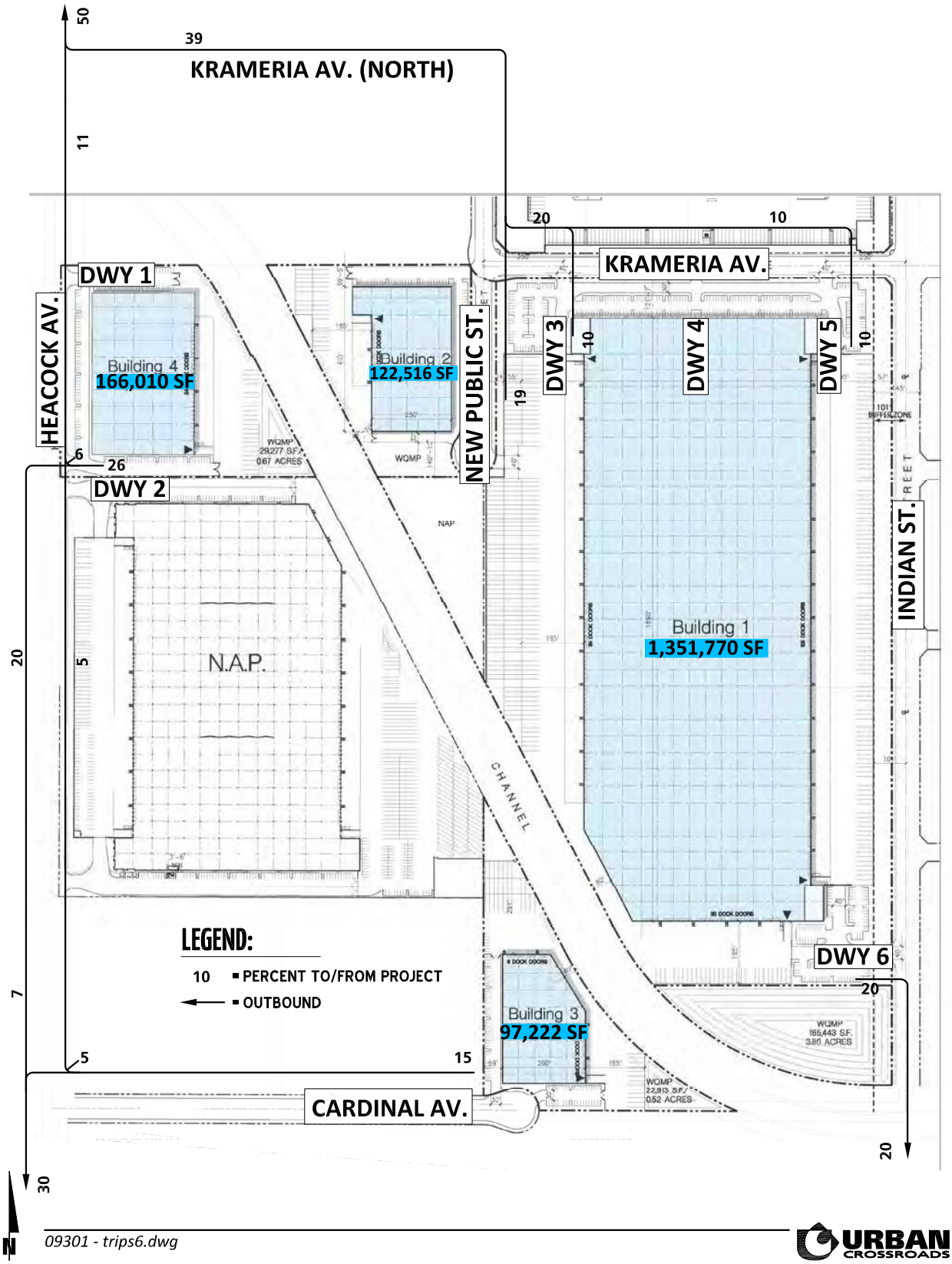
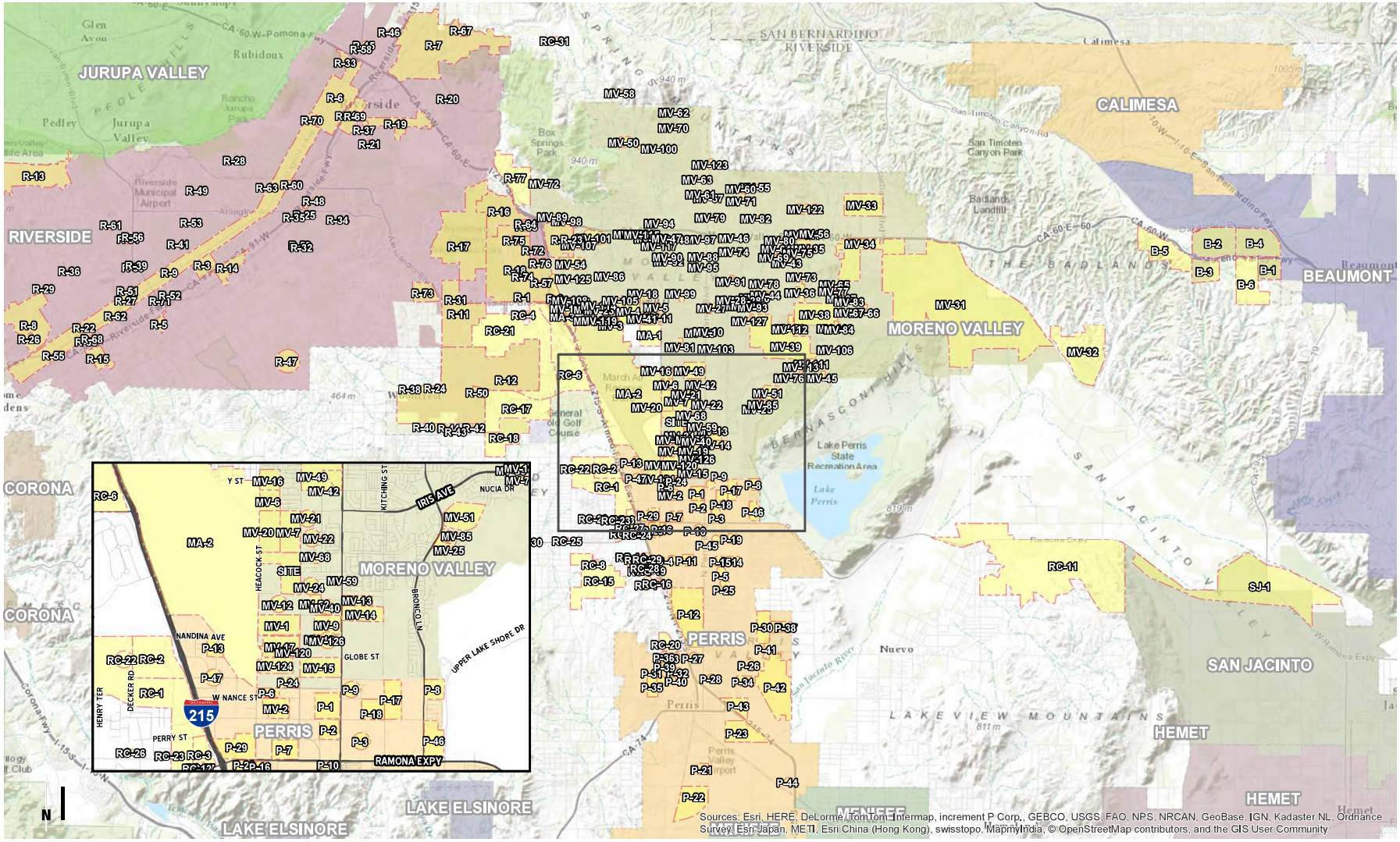


EXHIBIT 9: CUMULATIVE DEVELOPMENT PROJECTS LOCATION MAP



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Table 1

Project Trip Generation Rates (PCE)

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
General Light Industrial[3]	TSF	110	0.810	0.110	0.920	0.120	0.850	0.970	6.970
Passenger Cars			0.637	0.086	0.723	0.094	0.668	0.762	5.478
2-Axle Trucks (PCE = 1.5)			0.097	0.013	0.110	0.014	0.102	0.116	0.836
3-Axle Trucks (PCE = 2.0)			0.063	0.009	0.072	0.009	0.066	0.076	0.544
4-Axle+ Trucks (PCE = 3.0)			0.231	0.031	0.262	0.034	0.242	0.276	1.986
High-Cube Warehouse/Distribution Center[4]	TSF	152	0.076	0.034	0.110	0.037	0.083	0.120	1.680
Passenger Cars			0.055	0.025	0.080	0.025	0.055	0.080	1.040
2-Axle Trucks (PCE = 1.5)			0.007	0.003	0.010	0.004	0.009	0.013	0.211
3-Axle Trucks (PCE = 2.0)			0.007	0.003	0.011	0.004	0.010	0.014	0.226
4-Axle+ Trucks (PCE = 3.0)			0.037	0.017	0.054	0.022	0.050	0.072	1.158

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Ninth Edition (2012).

[2] TSF = thousand square feet

[3] Light Industrial Vehicle Mix Source: City of Fontana Truck Trip Generation Study for LU 150, August 2003. PCE rates are per SANBAG.

[4] High Cube Warehouse Vehicle Mix Source: Total truck percentage source from ITE Trip Generation manual.
Truck mix (by axle type) source from SCAQMD. PCE rates are per SANBAG.
AM peak hour = 72.7% passenger cars, 6.01% 2-Axle trucks, 4.83% 3-Axle trucks, 16.46% 4-Axle trucks
PM peak hour = 66.7% passenger cars, 7.33% 2-Axle trucks, 5.89% 3-Axle trucks, 20.08% 4-Axle trucks
ADT = 61.9% passenger cars, 8.38% 2-Axle trucks, 6.74% 3-Axle trucks, 22.98% 4-Axle trucks

Table 2

Project Trip Generation Summary (PCE)

Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Building 1 (High-Cube Warehouse)	1,351.770	TSF							
Passenger Cars:			75	34	108	34	75	108	1,406
Truck Trips:									
2-axle:			9	4	13	6	12	18	285
3-axle:			10	4	14	6	13	19	306
4+-axle:			51	23	73	30	67	98	1,566
- Net Truck Trips (PCE) [2]			70	31	101	42	93	135	2,157
BUILDING 1 TOTAL NET TRIPS (PCE) [3]			**144**	**65**	**209**	**75**	**168**	**243**	**3,563**
Building 2 (Light Industrial)	122.516	TSF							
Passenger Cars:			78	11	89	12	82	93	671
Truck Trips:									
2-axle:			12	2	14	2	12	14	102
3-axle:			8	1	9	1	8	9	67
4+-axle:			28	4	32	4	30	34	243
- Net Truck Trips (PCE) [2]			48	7	54	7	50	57	412
BUILDING 2 TOTAL NET TRIPS (PCE) [3]			**126**	**17**	**143**	**19**	**132**	**151**	**1,084**
Building 3 (Light Industrial)	97.222	TSF							
Passenger Cars:			62	8	70	9	65	74	533
Truck Trips:									
2-axle:			9	1	11	1	10	11	81
3-axle:			6	1	7	1	6	7	53
4+-axle:			22	3	25	3	24	27	193
- Net Truck Trips (PCE) [2]			38	5	43	6	40	46	327
BUILDING 3 TOTAL NET TRIPS (PCE) [3]			**100**	**14**	**114**	**15**	**105**	**120**	**860**
Building 4 (Light Industrial)	166.010	TSF							
Passenger Cars:			106	14	120	16	111	127	909
Truck Trips:									
2-axle:			16	2	18	2	17	19	139
3-axle:			10	1	12	2	11	13	90
4+-axle:			38	5	44	6	40	46	330
- Net Truck Trips (PCE) [2]			65	9	74	10	68	78	559
BUILDING 4 TOTAL NET TRIPS (PCE) [3]			**171**	**23**	**194**	**25**	**179**	**204**	**1,468**
TOTAL (PCE)			**541**	**119**	**660**	**134**	**584**	**718**	**6,975**

[1] TSF = thousand square feet

[2] Light Industrial Vehicle Mix Source: City of Fontana Truck Trip Generation Study for LU 110, August 2003. PCE rates are per SANBAG.
High Cube Warehouse Vehicle Mix Source: Total truck percentage source from ITE Trip Generation manual.
Truck mix (by axle type) source from SCAQMD.

[3] TOTAL NET TRIPS (PCE) = Passenger Cars + Net Truck Trips (PCE).

Cumulative Development Land Use Summary

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
1	PA 06-0152 & PA 06-0153 (First Park Nandina I & II)	High-Cube Warehouse	1,182.918	TSF
2	Integra Pacific Industrial Facility	High-Cube Warehouse	880.000	TSF
3A	PA 08-0072 (Overton Moore Properties)	High-Cube Warehouse	520.000	TSF
3B	Harbor Freight Expansion	High-Cube Warehouse	1,279.910	TSF
4	PA 04-0063 (Centerpointe Buildings 8 and 9)	General Light Industrial	361.384	TSF
5	PA 07-0035; PA 07-0039 (Moreno Valley Industrial Park)	General Light Industrial	204.657	TSF
		High-Cube Warehouse	409.920	TSF
6	PA 07-0079 (Indian Business Park)	High-Cube Warehouse	1,560.046	TSF
7	PA 08-0047-0052 (Komar Cactus Plaza)[3]	Hotel	110	RMS
		Fast Food w/Drive Thru	8.000	TSF
		Commercial	42.400	TSF
8	First Inland Logistics Center	High-Cube Warehouse	400.130	TSF
9	TM 33607	Condo/Townhomes	52	DU
10	PA 08-0093 (Centerpointe Business Park II)	General Light Industrial	99.988	TSF
11	PA 06-0021; PA 06-0022; PA 06-0048; PA 06-0049 (Komar Investments)	Warehousing	2,057.400	TSF
12A	PA 06-0017 (Ivan Devries)	Industrial Park	569.200	TSF
12B	Modular Logistics (Dorado Property)	High-Cube Warehouse	1,109.378	TSF
13	PA 09-0004 (Vogel)	High-Cube Warehouse	1,616.133	TSF
14	TM 34748	SFDR	135	DU
15	First Nandina Logistics Center	High-Cube Warehouse	1,450.000	TSF
16	PA 09-0031	Gas Station	12	VFP
17	First Park Nandina III	High-Cube Warehouse	691.960	TSF
	Moreno Valley Commerce Park	High-Cube Warehouse	354.321	TSF
18	March Business Center	General Light Industrial	16.732	TSF
		Warehousing	87.429	TSF
		High-Cube Warehouse	1,380.246	TSF
19A	TM 33810	SFDR	16	DU
19B	TM 34151	SFDR	37	DU
20	373K Industrial Facility	High-Cube Warehouse	373.030	TSF
21	TM 32716	SFDR	57	DU
22	TM 32917	Condo/Townhomes	227	DU
23	TM 33417	Condo/Townhomes	60	DU
24	TM 34988	Condo/Townhomes	271	DU
25A	TM 34216	Condo/Townhomes	39	DU
25B	TM 34681	Condo/Townhomes	49	DU
25C	PA 08-0079-0081 (Winco Foods)	Discount Supermarket	95.440	TSF
		Specialty Retail	14.800	TSF
26	Moreno Beach Marketplace (Lowe's)	Commercial Retail	175.000	TSF
	Auto Mall Specific Plan (Planning Area C)	Commercial Retail	304.500	TSF
	Westridge	High-Cube Warehouse	937.260	TSF
	ProLogis	High-Cube Warehouse	1,916.190	TSF
		Warehousing	328.448	TSF
	World Logistics Center	High-Cube Warehouse	41,400.000	TSF
		Warehousing	200.000	TSF
		Gas Station w/ Market	12	VFP
		Existing SFDR	7	DU

Cumulative Development Land Use Summary

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
27	March Lifecare Campus Specific Plan[4]	Medical Offices	190.000	TSF
		Commercial Retail	210.000	TSF
		Research & Education	200.000	TSF
		Hospital	50	Beds
		Institutional Residential	660	Beds
28	Alessandro Metrolink Station	Light Rail Transit Station	300	SP
29	Airport Master Plan	Airport Use	559.000	TSF
30	Meridian Business Park North	Industrial Park	5,985.000	TSF
31	SP 341; PP 21552 (Majestic Freeway Business Center)	High-Cube Warehouse	6,200.000	TSF
32	PP 20699 (Oleander Business Park)	Warehousing	1,206.710	TSF
33	Ramona Metrolink Station	Light Rail Transit Station	300	SP
34	PP 22925 (Amstar/Kaliber Development)	Office (258.102 TSF)	258.102	TSF
		Warehousing	409.312	TSF
		General Light Industrial	42.222	TSF
		Retail	10.000	TSF
35	P07-1028 (Alessandro Business Park)	General Light Industrial	662.018	TSF
	Alessandro and Gorgonio	Fast Food w/Drive Thru	4.050	TSF
	2100 Alessandro Boulevard	Vocational School	11.505	TSF
36	P 05-0113 (IDI)	High-Cube Warehouse	1,750.000	TSF
37	P 05-0192 (Oakmont I)	High-Cube Warehouse	697.600	TSF
38	P 05-0477	High-Cube Warehouse	462.692	TSF
39	Rados Distribution Center	High-Cube Warehouse	1,200.000	TSF
40	Investment Development Services (IDS) II	High-Cube Warehouse	350.000	TSF
41	P 07-09-0018	Warehousing	170.000	TSF
42	P 07-07-0029 (Oakmont II)	High-Cube Warehouse	1,600.000	TSF
43	TR 32707	SFDR	137	DU
44	TR 34716	SFDR	318	DU
45	P 05-0493 (Ridge I)	High-Cube Warehouse	700.000	TSF
46	Ridge II	High-Cube Warehouse	2,000.000	TSF
47	Harvest Landing Specific Plan	SFDR	717	DU
		Condo/Townhomes	1,139	DU
		Sports Park	16.700	AC
		Business Park	1,233.401	TSF
		Shopping Center	73.181	TSF
	Perris Marketplace	Shopping Center	450.000	TSF
48	P 06-0411 (Concrete Batch Plant)	Manufacturing	2.000	TSF
49	Jordan Distribution	High-Cube Warehouse	378.000	TSF
50	Aiere	High-Cube Warehouse	642.000	TSF
51	P 08-11-0005; P 08-11-0006 (Starcrest)	High-Cube Warehouse	454.088	TSF
52A	Stratford Ranch Specific Plan	High-Cube Warehouse	1,725.411	TSF
52B	Stratford Ranch Specific Plan	High-Cube Warehouse	480.000	TSF
		General Light Industrial	120.000	TSF
53	PP 18908	General Light Industrial	133.000	TSF
54	Tract 33869	SFDR	39.000	DU
55	PP 16976	General Light Industrial	85.000	TSF
56	PP 21144	Industrial Park	190.802	TSF

Cumulative Development Land Use Summary

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
57	Quail Ranch Specific Plan	Private School (K-12)	300	STU
		Golf Course	18	Holes
		Hotel	500	ROOMS
		Specialty Retail	66.667	TSF
		General office	66.667	TSF
		Assisted Living	500	Beds
		Senior Living (Detached)	200	DU
		SFDR	600	DU
58	a TR 32460 (Sussex Capital)	SFDR	57	DU
	b TR 32459 (Sussex Capital)	SFDR	11	DU
	c TR 30411 (Pacific Communities)	SFDR	24	DU
	d TR 33962 (Pacific Scene Homes)	SFDR	31	DU
	e TR 30998 (Pacific Communities)	SFDR	47	DU
59	a Westridge Commerce Center	High-Cube Warehouse	937.260	TSF
	b P06-158 (Gascon)	Commercial Retail	116.360	TSF
	c Auto Mall Specific Plan (PAC)	Commercial Retail	304.500	TSF
	d ProLogis	Warehousing	367.000	TSF
		High-Cube Warehouse	1,901.000	TSF
	e TR 35823 (Stowe Passco)	SFDR	261	DU
		Apartments	216	DU
60	TR 36340	SFDR	275	DU
61	a TR 31771 (Sanchez)	SFDR	25	DU
	b TR 34397 (Winchester Associates)	SFDR	52	DU
	c TR 32645 (Winchester Associates)	SFDR	53	DU
62	Lowe's (Moreno Beach Marketplace)	Home Improvement Store	175.000	TSF
63	a Convenience Store/ Fueling Station	Gas Station w/ Market	30.750	TSF
	b Senior Assisted Living	Assisted Living Units	139	DU
	c TR 31590 (Winchester Associates)	SFDR	96	DU
	d TR 32548 (Gabel, Cook & Associates)	SFDR	107	DU
	e 26th Corp. & Granite Capitol	SFDR	32	DU
	f TR 32218 (Whitney)	SFDR	63	DU
	g Moreno Marketplace	Commercial Retail	93.788	TSF
	h Medical Plaza	Medical Offices	311.633	TSF
64	a Moreno Medical Campus	Medical Offices	80.000	TSF
	b Aqua Bella Specific Plan	SFDR	2,922	DU
	c TR 34329 (Granite Capitol)	SFDR	90	DU
	d Cresta Bella	General Office	30.000	TSF

Cumulative Development Land Use Summary

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
65	a Villages of Lakeview	SFDR	860	DU
		Condo/Townhomes	1,920	DU
		Elementary School	1,200	STU
		Commercial Retail	100.000	TSF
		Soccer Complex	12	Fields
		City Park	8.900	AC
		County Park	8.100	AC
		Regional Park	107.100	AC
	b Motte Lakeview Ranch	SFDR	847	DU
		Condo/Townhomes	686	DU
		Apartments	467	DU
		Elementary School	650	STU
		Middle School	300	STU
		Commercial Retail	120.000	TSF
		Regional Park	177.000	AC
66	Gateway Area Specific Plan	Commercial Retail	255.000	AC
		General Office	510.000	AC
		Business Park	595.000	AC
		Residential	340.000	AC
67	Moreno Valley Industrial Center (Industrial Area SP)	General Light Industrial	354.810	TSF
68	Centerpointe Business Park	General Light Industrial	356.000	TSF
69	ProLogis/Rolling Hills Ranch Industrial	Heavy Industrial	2,565.684	TSF
70	P05-0493	Logistics	597.370	TSF
71	P07-0102; and P09-0416, -0418, -0419	General Light Industrial	652.018	TSF
	Alessandro Bl. (APN 263-091-008; 263-100-019; 263-100-005; P14-0841 to	Commercial and Industrial Complex	101.580	TSF
72	Moreno Valley Shopping Center	Free Standing Discount Store	189.520	TSF
		Gas Station w/ Market / Car Wash	16	VFP
73	TR 31305 / Richmond American	Residential	87	DU
74	TR 32505 / DR Horton	Residential	72	DU
75	TR 34329 / Granite Capitol	Residential	90	DU
76	TR 31814 / Moreno Valley Investors	Residential	60	DU
77	TR 33771 / Creative Design Associates	Residential	12	DU
78	TR 35663 / Kha	Residential	12	DU
79	TR 22180 / Young Homes	Residential	140	DU
80	TR 32515	Residential	161	DU
81	TR 32142	Residential	81	DU
82	Heartland	Residential	922	DU
83	San Michele Industrial Center (Industrial Area SP)	General Light Industrial	865.960	TSF
84	Hidden Canyon	General Light Industrial	2,890.000	TSF
85	Starcrest, P011-0005; 08-11-0006	General Light Industrial	454.088	TSF
86	Commercial Medical Plaza	Medical Offices	311.633	TSF
87	Mountain Bridge Regional Commercial Community	Commercial	1,853.251	TSF
88	Jack Rabbit Trail	Residential	2,000	DU
89	The Preserve / Legacy Highlands SP	Commercial	595.901	TSF
		Residential	3,412	DU
90	South Perris Industrial Phase 1	Logistics	787.700	TSF
91	South Perris Industrial Phase 2	Logistics	3,448.734	TSF
92	South Perris Industrial Phase 3	Logistics	3,166.857	TSF

Cumulative Development Land Use Summary

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
93	P 04-0343	Warehousing	41.650	TSF
94	P 06-0228	General Light Industrial	149.738	TSF
95	P 06-0378	Senior Housing	429	DU
96	P 11-09-0011	Retail	80.000	TSF
97	P 12-05-0013	Apartments	75	DU
98	P 12-10-0005	High-Cube Warehouse	1,463.887	TSF
99	TR 30850	Residential	496	DU
100	TR 30973	Residential	35	DU
101	TR 31225	Residential	57	DU
102	TR 31226	Residential	82	DU
103	TR 31240	Residential	114	DU
104	TR 31407	Residential	243	DU
105	TR 31650	SFDR	61	DU
106	TR 31659	SFDR	161	DU
107	TR 32041	Residential	122	DU
108	TR 32406	SFDR	15	DU
109	TR 33193	Townhomes	94	DU
110	TR 33338	Residential	75	DU
111	California Baptist University Specific Plan	University	157	AC
112	Canyon Springs Specific Plan	Hospital	280	BEDS
		Medical-Dental Office	370	TSF
		Senior Adult Housing-Attached	234	DU
		Assisted Living	267	BEDS
113	Citrus Business Park Specific Plan	Industrial Business Park	49	AC
114	Downtown Specific Plan	Residential	5,000	DU
115	Hunter Business Park	Industrial	1,300	AC
116	La Sierra University Specific Plan	Mixed-Use		
117	Magnolia Avenue Specific Plan	Mixed-Use/Very High Residential	1,473	AC
118	Marketplace Specific Plan	Commercial Retail/Office	200	AC
119	Mission Grove Specific Plan	Business/Office Park	56.79	AC
		Commercial Retail	68.12	AC
		High Density Residential	53.77	AC
		Low Density Residential	78.38	AC
		Medium Density Residential	155.31	AC
120	Orangecrest Specific Plan	Rural Residential	2.13	AC
		Business/Office Park	2.70	AC
		Commercial Retail	138.96	AC
		High Density Residential	13.70	AC
		Low Density Residential	540.76	AC
		Medium Density Residential	1,217.80	AC
		Public Facilities/Institutions	121.59	AC
		Public Park	59.51	AC
121	Rancho La Sierra Specific Plan	SFDR	598	DU
122	Riverside Auto Center Specific Plan	Auto Center		
123	Riverwalk Vista Specific Plan	Residential	402	DU

Cumulative Development Land Use Summary

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
124	Sycamore Canyon Specific Plan	Hillside Residential	41.83	AC
		Low Density Residential	97.28	AC
		Medium Density Residential	14.84	AC
		Very Low Density Residential	884.22	AC
		Public Park	27.85	AC
125	Sycamore Canyon Business Park Specific Plan	Business/Office Park	847.15	AC
		Commercial Retail	10.32	AC
126	Sycamore-Highlands Specific Plan	Commercial Retail	14.63	AC
		High Density Residential	52.18	AC
		Medium Density Residential	99.11	AC
		Public Facilities	1.56	AC
		Public Park	144.17	AC
		Very Low Density Residential	49.09	AC
127	University Avenue Specific Plan	Mixed-Use	Varies	
128	807 Blaine Street (P09-0717; P09-0718)	Apartments	55	DU
129	2340 Fourteenth Street (P09-0808; P08-0809)	Senior Housing	134	BEDS
130	10938 Magnolia Avenue (P10-0083)	Pharmacy	14.064	TSF
131	6287 Day Street (P10-0090; P10-0091)	Gas Station	2	VFP
	2570 Canyon Springs Parkway (P08-0274; P08-0275)	Bank w/ Drive Thru	2.746	TSF
	6211 Valley Springs Parkway (Steak 'N Shake Restaurant; P14-0536)	Fast Food w/Drive Thru	3.750	TSF
132	N. of Van Buren Boulevard; W. of Wood Street (P10-0808; P10-0708)	Fast Food w/Drive Thru	2.361	TSF
133	3439 Arlington Avenue (P12-0234)	Fitness Club	9.600	TSF
134	NWC of Riverwalk Parkway and Flat Rock Drive (P12-0019; P12-0156; P12-0158)	Convenience Store	2.400	TSF
		Coffee Shop	3.946	TSF
135	3875 Dawes Street (P10-0438; Magnolia Garden Condominiums)	Condo/Townhomes	62	DU
136	5938-5944 Grand Avenue (P12-0266; P12-0267; P12-0268)	Senior Housing	37	DU
137	4901 La Sierra Avenue (P11-0627; P11-0628; P11-0777; P11-0778)	Gas Station	4.100	TSF
138	4250 Van Buren Boulevard (P12-0605; P12-0606)	Gas Station	1.776	TSF
139	360 Alessandro Boulevard (P12-0419; P12-0557; P12-0558; P12-0559)	Bank	3.858	TSF
140	2831 Mary Street (P12-0761; P12-0442 P12-0443; P12-0444)	Pharmacy	56.101	TSF
141	2450 Market Street (P13-0087; P13-0262)	Apartments	77	DU
142	6091 Victoria Avenue (P13-0432)	Day Care	1.831	TSF
143	6692 Indiana Avenue (P13-0159; P13-0160)	Gas Station	2.958	TSF
144	4824 Jones Avenue (P13-0181; P13-0182)	Church	23.124	TSF
145	2586 University avenue (P13-0650; P13-0651)	Bed and Breakfast	3.618	TSF
146	18580 Van Buren Boulevard (P08-0402; P13-0822)	Auto Repair Shop	8.142	TSF
147	4247 Van Buren Boulevard (P13-0785; P13-0787)	Church Expansion	12.166	TSF
148	SWC of Lurin Avenue and Wood Road (P06-0900; P08-0269; P08-0270; TTM	SFDR	20	DU
149	8616 California Avenue (P08-0084; PM 35852)	Condo/Townhomes	21	DU
150	19811 Lurin Avenue (P06-1355; TM 33480)	SFDR	32	DU
151	APN:266140029, 030 (P06-1396; Mariposa Avenue; TM 33481)	SFDR	25	DU
152	APN:266140002, 021, 022 (P06-1404; Lurin Avenue; TM 33482)	SFDR	29	DU
153	3719 Strong Street (P05-0269; P08-0416; TM 33550)	SFDR	9	DU
154	1006 & 1008 Clark Street (P06-0782; TM 34908)	SFDR	15	DU
155	E. of Gratton St., W. of Corsica Av., N. of Van Buren Bl. (P05-1528; P09-0087;	SFDR	50	DU
156	NWC of Dominion Avenue and Division Street (P08-0396; P08-0397; P08-0398;	Condo/Townhomes	36	DU
157	6639 Hillside Avenue (P08-0727; PM 35901)	Industrial	5	LOTS
158	19985 Van Buren Boulevard (P10-0118; Gless Ranch)	Commercial Retail	425.447	TSF

Cumulative Development Land Use Summary

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
159	3990 Reynolds Road (P12-0021; P12-0022; P12-0074; PM 36442)	Condo/Townhomes	102	DU
160	NEC of Martha Way & Everest Avenue (P13-0389; TM 36579)	SFDR	5	DU
161	4325, 4335, 4345, 4355, 4375 Adams Street (P13-0723; P13-0724; P13-0725;	SFDR	62	DU
162	5200 Van Buren Boulevard (P09-0600; P09-0601; Walmart Expansion)	Free Standing Discount Store	22.272	TSF
163	11500 Magnolia Avenue (P10-0406; P10-0407; P10-0408)	Apartments	168	DU
164	9241 & 9265 Audrey Avenue (P12-0184; P12-0185; P12-0187; Azar Plaza)	Commercial Retail	6.150	TSF
165	2325 Cottonwood Avenue (P12-0507; P12-0508; P12-0509; P12-0510)	High-Cube Warehouse	235.741	TSF
166	1710 Main Street (P12-0717)	Family Dollar Store	8.039	TSF
167	2861 Mary Street (P12-0442; P12-0443; P12-0444)	Shopping Center	56.101	TSF
168	3545 Central Avenue (P12-0741; P12-0743)	Riverside Plaza Renovations	35	AC
169	5731, 5741, 5761 & 5797 Pickler Street (P13-0198; P13-0199; P13-0200; P13-	Apartments	30	DU
170	3705 Tyler Street (P13-0501; P13-0502)	Restaurant	6.000	TSF
171	6570 Magnolia Avenue; 3739 & 3747 Central Avenue (P13-0196; P13-0197)	Fast Food w/Drive Thru	3.795	TSF
172	5940-5980 Sycamore Canyon Boulevard (P13-0553; P13-0554; P13-0583; P14-	Apartments	275	DU
173	SEC Sycamore Canyon Boulevard & Box Springs Road (P13-0607; P13-0608;	General Light Industrial	171.616	TSF
174	3742 Park Sierra Avenue (P13-0912; P13-0913)	Fitness Club	45.000	TSF
175	474 Palmyrita Avenue (P13-0956; P13-0959; P13-0960; P13-0963; P13-0964;	High-Cube Warehouse	1,461.449	TSF
176	Park Sierra Avenue (P14-0026; P14-0027)	Fast Food w/Drive Thru	3.500	TSF
177	E. of Commerce St., between Mission Inn Av. and Ninth St. (P14-0045; P14-	Apartments	208	DU
178	4445 Magnolia Avenue (P13-0207; P13-0208; P13-0209; P13-0210; P13-0211)	Hospital Expansion	Varies	
179	SR-91/Van Buren Commercial	Commercial Retail	23.565	TSF
180	6465 Sycamore Canyon Boulevard	Health Club	4.000	TSF
181	Edgemont Street, South of Eucalyptus Av.	Apartments	112	DU
182	14601 Dauchy Av. - TM 36370 (P12-0601; P12-0697; P12-0698)	SFDR	10	DU
	TM 32180 (P07-1073)	SFDR	9	DU
	18875 Moss Road	SFDR	8	DU
	South of Clarke St., west of Crystal View Terrace (PM 34583' {09-0141; P09-	SFDR	3	DU
183	Freeway Business Center (March JPA)	High-Cube Warehouse	710	TSF
184	28860 Professor's Fun IV, LLC/Winchester Associates, Inc.	SFDR	9	DU
185	20636 Pacific Communities	SFDR	67	DU
186	31297 Randy McFarland	SFDR	7	DU
187	31394 Pigeon Pass, Ltd.	SFDR	78	DU
188	31442 SKG Pacific Enterprises Inc.	SFDR	63	DU
189	31517 Professors Prop Six/Winchester Assoc.	SFDR	83	DU
190	31621 Peter Sanchez	SFDR	25	DU
191	32005 Red Hill Village, LLC	SFDR	214	DU
192	32126 Salvador Torres	SFDR	35	DU
193	32194 Arman Pezeshkifar	SFDR	32	DU
194	32408 Sanstone Inc.	SFDR	80	DU
195	32844 Winchester Associates	SFDR	17	DU
196	32978 Focus Estates	SFDR	19	DU
197	33024 Adam Wislar	SFDR	8	DU
198	33275 Jose Guzman	SFDR	4	DU
199	33388 SCH Development, LLC	SFDR	16	DU
200	33436 Winchester Associates	SFDR	105	DU
201	33626 Kincaid Development, Inc.	SFDR	23	DU
202	33963 Rance Garrett	SFDR	31	DU
203	34043 RM3 Building and Development	SFDR	12	DU

Cumulative Development Land Use Summary

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
204	31621 Beazer Homes	SFDR	274	DU
205	30268 Pacific Communities	SFDR	83	DU
206	31414 GRF - Majestic Hills	SFDR	31	DU
207	31494 Winchester Associates	SFDR	12	DU
208	32715 GFR - Trinity	SFDR	30	DU
209	33256 Granite Homes	SFDR	79	DU
210	32711 Isaac Genah	SFDR	9	DU
211	35530 Moreno Gilman 650, LLC-Quail Ranch	SFDR	1,105	DU
212	35534 Leedco Engineers	SFDR	12	DU
213	36436 CV Communities	SFDR	159	DU
214	36401 Continental East Fund III, LLC	SFDR	92	DU
215	32215 Winchester Associates "Scottish Village"	MFDR	194	DU
216	32756 Jimmy Lee	MFDR	24	DU
217	35369 Tason Myers Property	MFDR	12	DU
218	35414 Lincoln Property Co. Southwest	MFDR	240	DU
219	35769 Michael Chen	MFDR	16	DU
220	PA08-0013 Palm Desert Development "Rancho Dorado North"	MFDR	80	DU
221	PA09-0006 Jim Nydam	MFDR	15	DU
222	35861 Frederick Homes	MFDR	24	DU
223	36038 Alessandro Village Plaza, LLC	MFDR	96	DU
224	35304 Jimmy Lee	MFDR	12	DU
225	Alessandro & Lasselle	Shopping Center	140	TSF
226	Burger King - Fast-Food - 24800 Sunnymead	Fast Food w/Drive Thru	--	TSF
227	Nightclub	Retail	11	TSF
	Aerosports Trampoline Park	Recreation Community Center	34.5	TSF
228	Food 4 Less - Fueling Station	Gas Station with Convenience Market	16	VFP
229	Lakeshore Village Marketplace	Shopping Center	140	TSF
230	El Paso (food court)	Fast Food no Drive Thru	--	TSF
231	Potato Corner	Fast Food no Drive Thru	--	TSF
232	O'Reilly Automotive	Automobile Parts Sale	7.5	TSF
233	O'Reilly Automotive	Automobile Parts Sale	7.5	TSF
234	Restaurant	Restaurant	9	TSF
235	Rancho Belago Plaza - Retail	Retail	14	TSF
236	24-Hour Fitness	Fitness Club	--	TSF
	Rivals Sports Bar & Grill	Restaurant	--	TSF
237	Walmart	Free Standing Discount Store	193	TSF
238	Yum Yum Donut Shop	Coffee/Donut Shop w/o Drive-Thru	4.35	TSF
239	Hawthorn Inn & Suites	Hotel	79	RMS
240	Sleep Inn Suites	Hotel	66	RMS
241	Fresenius Medical Care Center	Medical Offices	12	TSF
242	Integrated Care Communities	Nursing Home	44	TSF
243	Kaiser Permanente - Emergency Room Expansion	Medical Offices	--	TSF
244	Moreno Valley Professional Center	General Office	84	TSF
245	Olivewood Plaza - Office Building	General Office	23	TSF
246	Renaissance Village of Moreno Valley	Senior Adult Housing-Attached	140	DU
247	Riverside County Office Building	General Office	52	TSF
248	Gateway Business Park	Residential Condo/Townhouse	34	DU
249	Shaw Development	High-Cube Warehouse	367	TSF

Cumulative Development Land Use Summary

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
250	IDS/Real Estate Group - Nandina Distribution Center	High-Cube Warehouse	697	TSF
251	Stoneridge Town Centre - Vacant Restaurant	Restaurant	5,700	TSF
252	Ironwood Residential	SFDR	144	DU
253	The Gateway Center	SFDR	1,342	DU
		Condo/Townhomes	402	DU
		Apartments	307	Du
		Shopping Center	5.7	AC
		Mixed-Use/Metrolink Station	15.2	AC
		Parks	15.9	AC
254	TTM 31592 (P 13-078) Covey Ranch	SFDR	115	DU

[1] SFDR = Single Family Detached Residential ; MFDR = Multi-Family Detached Residential

[2] DU = Dwelling Units; TSF = Thousand Square Feet; SP = Spaces; VFP = Vehicle Fueling Positions

[3] Source: Cactus Avenue and Commerce Center Drive Commercial Center TIA, Urban Crossroads, Inc., December 9, 2008 (Revised).

[4] Source: March Lifecare Campus Specific Plan Traffic Impact Analysis, Mountain Pacific, Inc., May 2009 (Revised).

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APPENDIX 1.2:

SITE ADJACENT QUEUING ANALYSIS WORKSHEETS

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Intersection: 14: Heacock Street & Krameria Avenue-North

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	136	105	800	815	245	182
Average Queue (ft)	67	47	779	757	142	96
95th Queue (ft)	116	83	792	845	217	167
Link Distance (ft)		1201	763	763		1797
Upstream Blk Time (%)			63	18		
Queuing Penalty (veh)			304	87		
Storage Bay Dist (ft)	200				250	
Storage Blk Time (%)					0	
Queuing Penalty (veh)					2	

Intersection: 15: Heacock Street & Driveway 1

Movement	WB	NB	NB	SB
Directions Served	LR	T	TR	L
Maximum Queue (ft)	58	573	594	46
Average Queue (ft)	20	544	547	14
95th Queue (ft)	52	598	640	40
Link Distance (ft)	331	533	533	
Upstream Blk Time (%)		63	50	
Queuing Penalty (veh)		319	255	
Storage Bay Dist (ft)				100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 16: Heacock Street & Driveway 2

Movement	WB	NB	NB	SB
Directions Served	LR	T	TR	L
Maximum Queue (ft)	129	2043	2046	37
Average Queue (ft)	48	1226	1223	7
95th Queue (ft)	157	2406	2411	28
Link Distance (ft)	465	2030	2030	
Upstream Blk Time (%)		10	10	
Queuing Penalty (veh)		52	51	
Storage Bay Dist (ft)				100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 17: Heacock Street & Cardinal Avenue

Movement	WB	WB	NB	NB	NB	SB
Directions Served	L	R	T	T	R	L
Maximum Queue (ft)	42	40	731	708	4	53
Average Queue (ft)	9	8	149	141	0	20
95th Queue (ft)	31	28	639	609	3	46
Link Distance (ft)	1313	1313	1287	1287	1287	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						140
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 21: Cosmos Street & Krameria Avenue-North/Driveway

Movement	EB	WB	NB
Directions Served	LTR	LTR	L
Maximum Queue (ft)	152	22	50
Average Queue (ft)	73	7	10
95th Queue (ft)	116	23	37
Link Distance (ft)	1201	190	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 22: Cosmos Street & Driveway/Krameria Avenue

Movement	EB	WB	WB	NB	SB	SB
Directions Served	LTR	L	TR	LTR	L	TR
Maximum Queue (ft)	29	56	128	23	89	42
Average Queue (ft)	4	13	62	2	26	7
95th Queue (ft)	19	40	110	14	70	29
Link Distance (ft)	182		146	546	754	754
Upstream Blk Time (%)			0			
Queuing Penalty (veh)			0			
Storage Bay Dist (ft)		100				
Storage Blk Time (%)			2			
Queuing Penalty (veh)			0			

Intersection: 23: Driveway 3 & Krameria Avenue

Movement	WB	WB	NB
Directions Served	L	T	LR
Maximum Queue (ft)	31	10	30
Average Queue (ft)	2	0	8
95th Queue (ft)	15	7	29
Link Distance (ft)		356	138
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 24: Driveway 4 & Krameria Avenue

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	31	35
Average Queue (ft)	3	4
95th Queue (ft)	18	20
Link Distance (ft)		45
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 25: Driveway 5 & Krameria Avenue

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	25	30
Average Queue (ft)	2	7
95th Queue (ft)	13	27
Link Distance (ft)		153
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 26: Indian Street & Krameria Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	60	78	89	166	243	216	280	1116	1070	65	149	295
Average Queue (ft)	16	21	32	60	106	95	275	682	608	33	123	118
95th Queue (ft)	43	54	71	130	194	174	307	1245	1203	56	165	243
Link Distance (ft)		168	168		2497	2497		2026	2026			2578
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	100			100			200			200	100	
Storage Blk Time (%)	0	0		2	12		78	0	0		25	4
Queuing Penalty (veh)	0	0		5	11		185	0	0		44	10

Intersection: 26: Indian Street & Krameria Avenue

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	237	67
Average Queue (ft)	90	23
95th Queue (ft)	189	51
Link Distance (ft)	2578	2578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: Indian Street & Driveway 6

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	35	49
Average Queue (ft)	13	20
95th Queue (ft)	39	47
Link Distance (ft)	222	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 1326

Intersection: 14: Heacock Street & Krameria Avenue-North

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	204	158	795	820	125	250
Average Queue (ft)	115	67	778	708	55	118
95th Queue (ft)	187	117	790	1001	102	211
Link Distance (ft)		1201	763	763		1797
Upstream Blk Time (%)			64	16		
Queuing Penalty (veh)			334	83		
Storage Bay Dist (ft)	200				250	
Storage Blk Time (%)	1	0				1
Queuing Penalty (veh)	2	0				1

Intersection: 15: Heacock Street & Driveway 1

Movement	WB	NB	NB	SB	SB
Directions Served	LR	T	TR	L	T
Maximum Queue (ft)	267	571	596	29	39
Average Queue (ft)	132	549	558	4	1
95th Queue (ft)	286	562	597	19	28
Link Distance (ft)	331	533	533		763
Upstream Blk Time (%)	4	78	52		
Queuing Penalty (veh)	0	404	266		
Storage Bay Dist (ft)				100	
Storage Blk Time (%)					0
Queuing Penalty (veh)					0

Intersection: 16: Heacock Street & Driveway 2

Movement	WB	NB	NB	SB	SB
Directions Served	LR	T	TR	L	T
Maximum Queue (ft)	376	2060	2070	32	78
Average Queue (ft)	215	1854	1851	2	5
95th Queue (ft)	464	2488	2499	13	70
Link Distance (ft)	465	2030	2030		533
Upstream Blk Time (%)	11	46	41		
Queuing Penalty (veh)	0	232	207		
Storage Bay Dist (ft)				100	
Storage Blk Time (%)					0
Queuing Penalty (veh)					0

Intersection: 17: Heacock Street & Cardinal Avenue

Movement	WB	WB	NB	NB	NB	SB
Directions Served	L	R	T	T	R	L
Maximum Queue (ft)	259	661	1302	1302	1302	22
Average Queue (ft)	44	228	805	794	624	3
95th Queue (ft)	151	577	1745	1736	1696	17
Link Distance (ft)	1313	1313	1287	1287	1287	
Upstream Blk Time (%)			48	47	38	
Queuing Penalty (veh)			0	0	0	
Storage Bay Dist (ft)						140
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 21: Cosmos Street & Krameria Avenue-North/Driveway

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	L	TR
Maximum Queue (ft)	140	40	79	6	22
Average Queue (ft)	60	11	32	0	2
95th Queue (ft)	106	33	68	4	13
Link Distance (ft)	1201	190			1420
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			150	200	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 22: Cosmos Street & Driveway/Krameria Avenue

Movement	EB	WB	WB	NB	SB	SB
Directions Served	LTR	L	TR	LTR	L	TR
Maximum Queue (ft)	60	26	120	56	74	37
Average Queue (ft)	21	3	56	14	27	3
95th Queue (ft)	49	16	93	42	65	18
Link Distance (ft)	182		146	546	754	754
Upstream Blk Time (%)			0			
Queuing Penalty (veh)			0			
Storage Bay Dist (ft)		100				
Storage Blk Time (%)			1			
Queuing Penalty (veh)			0			

Intersection: 23: Driveway 3 & Krameria Avenue

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	12	50
Average Queue (ft)	1	23
95th Queue (ft)	8	48
Link Distance (ft)		138
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 24: Driveway 4 & Krameria Avenue

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	25	45
Average Queue (ft)	1	15
95th Queue (ft)	9	42
Link Distance (ft)		45
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 25: Driveway 5 & Krameria Avenue

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	6	6	44
Average Queue (ft)	0	1	23
95th Queue (ft)	4	8	45
Link Distance (ft)	354		153
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		100	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 26: Indian Street & Krameria Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	T	R	L	T
Maximum Queue (ft)	123	141	162	190	579	78	280	729	699	69	150	1105
Average Queue (ft)	61	89	114	177	289	30	259	468	428	38	149	725
95th Queue (ft)	111	133	159	222	565	62	335	878	831	61	160	1232
Link Distance (ft)		168	168		2497	2497		2026	2026			2578
Upstream Blk Time (%)		0	0									
Queuing Penalty (veh)		0	1									
Storage Bay Dist (ft)	100			100			200			200	100	
Storage Blk Time (%)	3	10		82	3		75	0	0		89	15
Queuing Penalty (veh)	6	13		57	5		215	0	0		231	41

Intersection: 26: Indian Street & Krameria Avenue

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	1072	64
Average Queue (ft)	684	26
95th Queue (ft)	1184	54
Link Distance (ft)	2578	2578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: Indian Street & Driveway 6

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (ft)	142	48	428
Average Queue (ft)	47	13	29
95th Queue (ft)	96	38	433
Link Distance (ft)	222		2026
Upstream Blk Time (%)	0		0
Queuing Penalty (veh)	0		1
Storage Bay Dist (ft)		100	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 2099

APPENDIX 3.1:

EXISTING TRAFFIC COUNTS – APRIL 2015

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92787
(951) 268-6268

City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

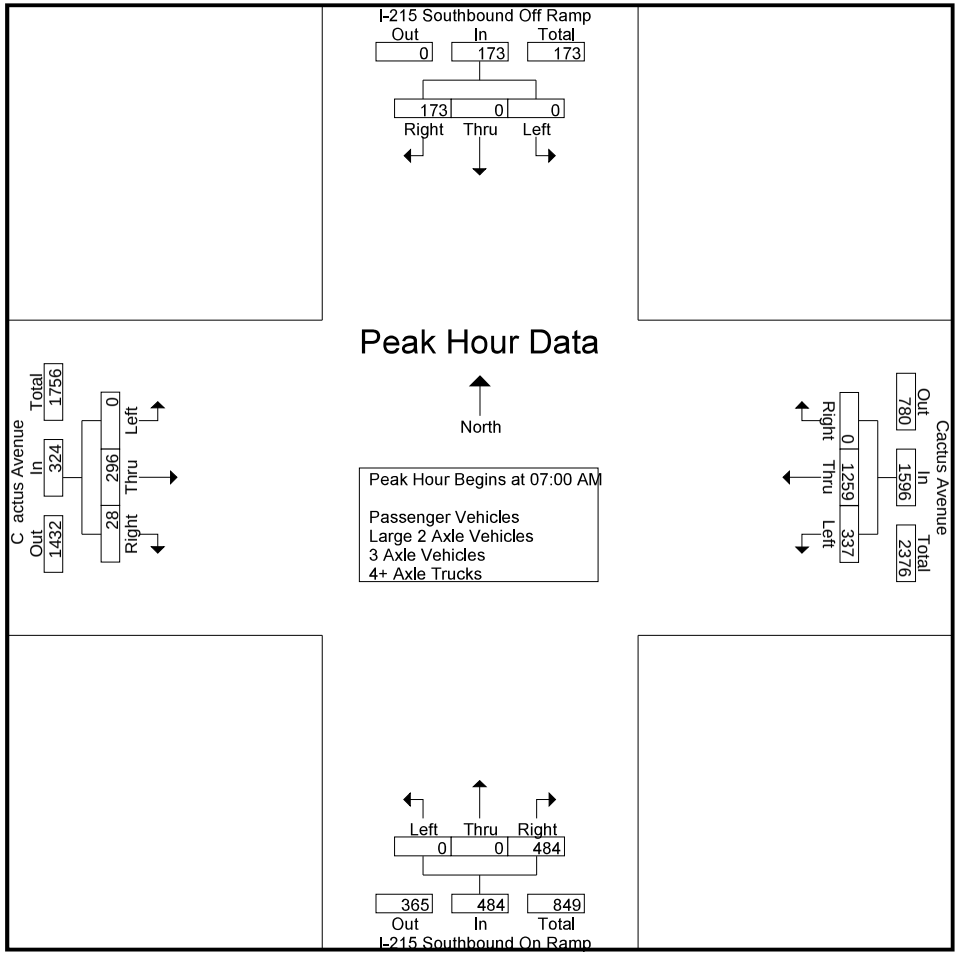
	I-215 Southbound Off Ramp Southbound					Cactus Avenue Westbound					I-215 Southbound On Ramp Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	24	3	24	88	330	0	0	418	0	0	129	0	129	0	74	11	2	85	5	656	661
07:15 AM	0	0	42	29	42	87	346	0	0	433	0	0	113	0	113	0	79	8	0	87	29	675	704
07:30 AM	0	0	41	21	41	86	288	0	0	374	0	0	119	0	119	0	67	4	1	71	22	605	627
07:45 AM	0	0	66	25	66	76	295	0	0	371	0	0	123	0	123	0	76	5	1	81	26	641	667
Total	0	0	173	78	173	337	1259	0	0	1596	0	0	484	0	484	0	296	28	4	324	82	2577	2659
08:00 AM	0	0	44	30	44	54	203	0	0	257	0	0	93	0	93	0	67	10	0	77	30	471	501
08:15 AM	0	0	21	13	21	66	175	0	0	241	0	0	92	0	92	0	73	4	1	77	14	431	445
08:30 AM	0	0	45	16	45	50	155	0	0	205	0	0	92	0	92	0	44	7	1	51	17	393	410
08:45 AM	0	0	40	29	40	55	127	0	0	182	0	0	66	0	66	0	48	5	0	53	29	341	370
Total	0	0	150	88	150	225	660	0	0	885	0	0	343	0	343	0	232	26	2	258	90	1636	1726
Grand Total	0	0	323	166	323	562	1919	0	0	2481	0	0	827	0	827	0	528	54	6	582	172	4213	4385
Apprch %	0	0	100			22.7	77.3	0			0	0	100			0	90.7	9.3					
Total %	0	0	7.7		7.7	13.3	45.5	0		58.9	0	0	19.6		19.6	0	12.5	1.3		13.8	3.9	96.1	
Passenger Vehicles	0	0	262		401	536	1892	0		2428	0	0	756		756	0	489	31		523	0	0	4108
% Passenger Vehicles	0	0	81.1	83.7	82	95.4	98.6	0	0	97.9	0	0	91.4	0	91.4	0	92.6	57.4	50	88.9	0	0	93.7
Large 2 Axle Vehicles	0	0	16		25	11	9	0		20	0	0	20		20	0	10	7		19	0	0	84
% Large 2 Axle Vehicles	0	0	5	5.4	5.1	2	0.5	0	0	0.8	0	0	2.4	0	2.4	0	1.9	13	33.3	3.2	0	0	1.9
3 Axle Vehicles	0	0	1		2	9	1	0		10	0	0	8		8	0	0	6		6	0	0	26
% 3 Axle Vehicles	0	0	0.3	0.6	0.4	1.6	0.1	0	0	0.4	0	0	1	0	1	0	0	11.1	0	1	0	0	0.6
4+ Axle Trucks	0	0	44		61	6	17	0		23	0	0	43		43	0	29	10		40	0	0	167
% 4+ Axle Trucks	0	0	13.6	10.2	12.5	1.1	0.9	0	0	0.9	0	0	5.2	0	5.2	0	5.5	18.5	16.7	6.8	0	0	3.8

	I-215 Southbound Off Ramp Southbound				Cactus Avenue Westbound				I-215 Southbound On Ramp Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	24	24	**88**	330	0	418	0	0	**129**	**129**	0	74	**11**	85	656
07:15 AM	0	0	42	42	87	**346**	0	**433**	0	0	113	113	0	**79**	8	**87**	**675**
07:30 AM	0	0	41	41	86	288	0	374	0	0	119	119	0	67	4	71	605
07:45 AM	0	0	**66**	**66**	76	295	0	371	0	0	123	123	0	76	5	81	641
Total Volume	0	0	173	173	337	1259	0	1596	0	0	484	484	0	296	28	324	2577
% App. Total	0	0	100		21.1	78.9	0		0	0	100		0	91.4	8.6		
PHF	.000	.000	.655	.655	.957	.910	.000	.921	.000	.000	.938	.938	.000	.937	.636	.931	.954

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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
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Site Code : 05115223
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Page No : 1

Groups Printed- Large 2 Axle Vehicles

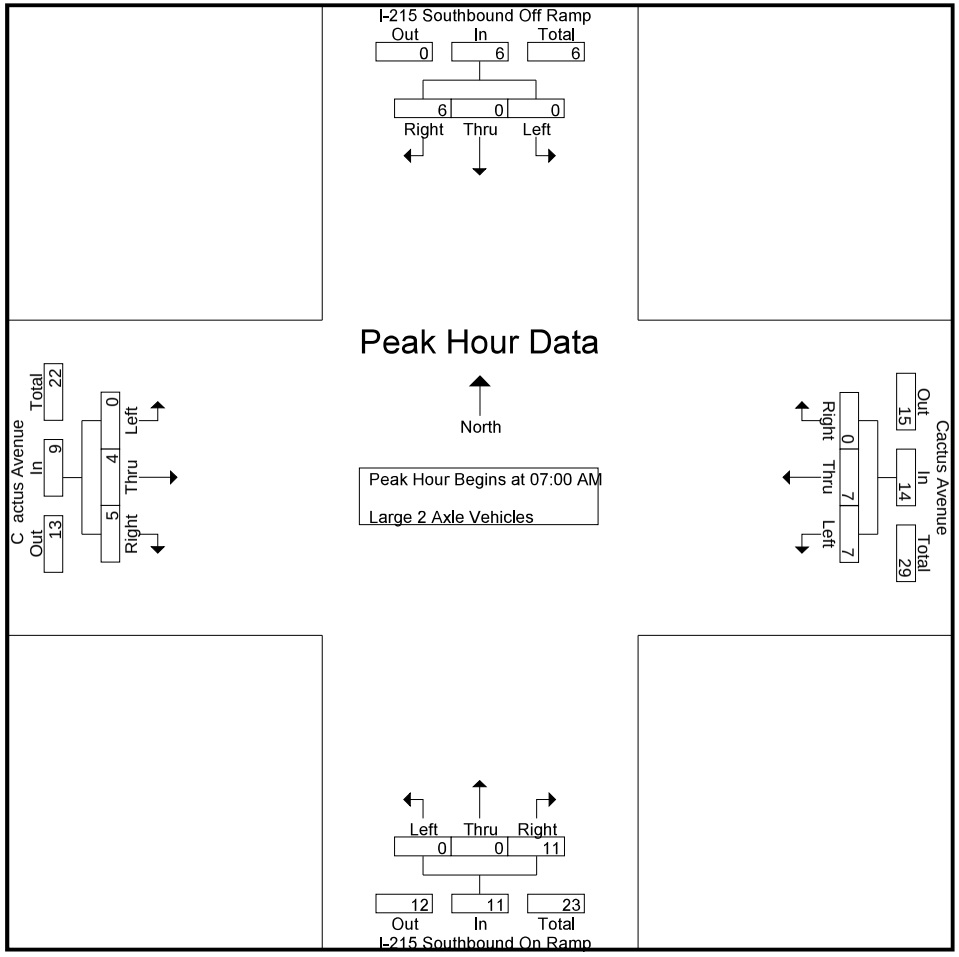
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Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	3	0	3	2	2	0	0	4	0	0	4	0	4	0	2	0	0	2	0	13	13
07:15 AM	0	0	2	2	2	3	2	0	0	5	0	0	1	0	1	0	0	3	0	3	2	11	13
07:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	3	0	3	0	0	1	1	1	1	5	6
07:45 AM	0	0	1	1	1	2	2	0	0	4	0	0	3	0	3	0	2	1	0	3	1	11	12
Total	0	0	6	3	6	7	7	0	0	14	0	0	11	0	11	0	4	5	1	9	4	40	44
08:00 AM	0	0	0	0	0	1	1	0	0	2	0	0	2	0	2	0	1	0	0	1	0	5	5
08:15 AM	0	0	2	0	2	3	0	0	0	3	0	0	1	0	1	0	2	1	0	3	0	9	9
08:30 AM	0	0	3	1	3	0	1	0	0	1	0	0	3	0	3	0	0	1	1	1	2	8	10
08:45 AM	0	0	5	5	5	0	0	0	0	0	0	0	3	0	3	0	3	0	0	3	5	11	16
Total	0	0	10	6	10	4	2	0	0	6	0	0	9	0	9	0	6	2	1	8	7	33	40
Grand Total	0	0	16	9	16	11	9	0	0	20	0	0	20	0	20	0	10	7	2	17	11	73	84
Apprch %	0	0	100			55	45	0			0	0	100			0	58.8	41.2					
Total %	0	0	21.9		21.9	15.1	12.3	0		27.4	0	0	27.4		27.4	0	13.7	9.6		23.3	13.1	86.9	

	I-215 Southbound Off Ramp Southbound				Cactus Avenue Westbound				I-215 Southbound On Ramp Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	**3**	**3**	2	**2**	0	4	0	0	**4**	**4**	0	**2**	0	2	**13**
07:15 AM	0	0	2	2	**3**	2	0	**5**	0	0	1	1	0	0	**3**	**3**	11
07:30 AM	0	0	0	0	0	1	0	1	0	0	3	3	0	0	1	1	5
07:45 AM	0	0	1	1	2	2	0	4	0	0	3	3	0	2	1	3	11
Total Volume	0	0	6	6	7	7	0	14	0	0	11	11	0	4	5	9	40
% App. Total	0	0	100		50	50	0		0	0	100		0	44.4	55.6		
PHF	.000	.000	.500	.500	.583	.875	.000	.700	.000	.000	.688	.688	.000	.500	.417	.750	.769

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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAAM
Site Code : 05115223
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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

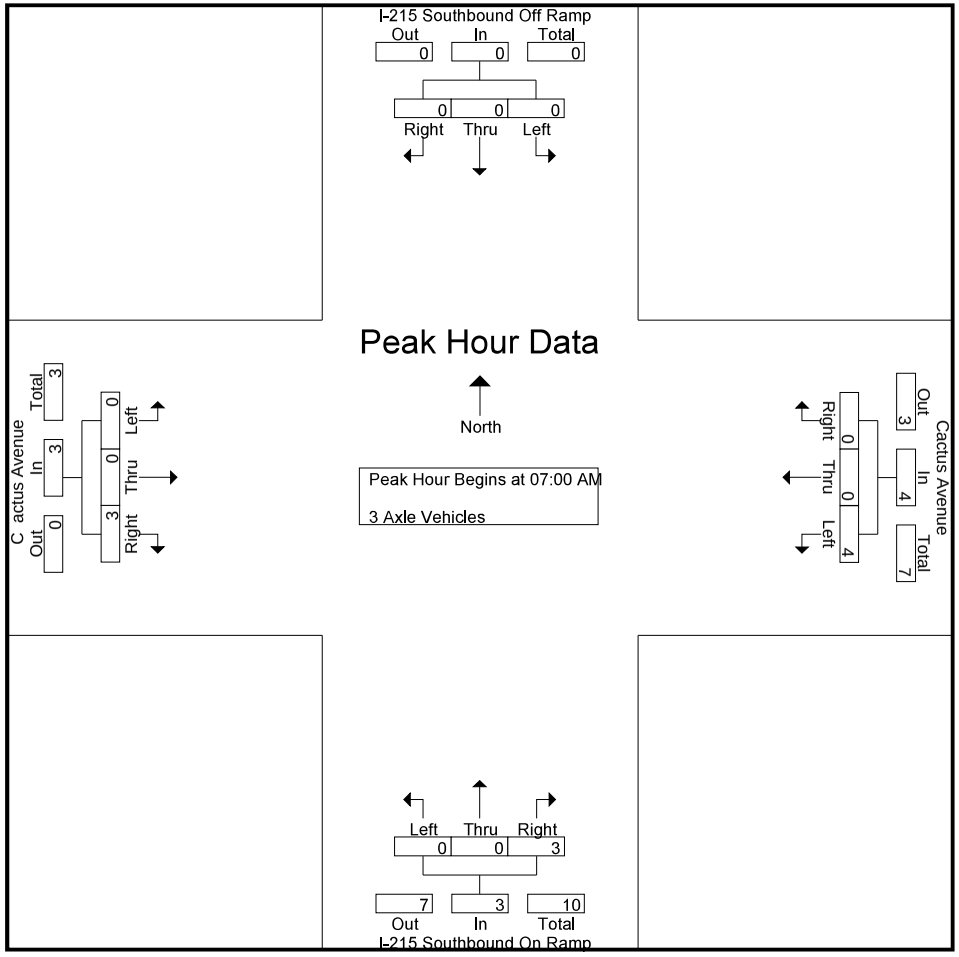
	I-215 Southbound Off Ramp Southbound					Cactus Avenue Westbound					I-215 Southbound On Ramp Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	1	0	1	0	4	4
07:15 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	1	0	3	3
07:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	2	2
07:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	4	0	0	0	4	0	0	3	0	3	0	0	3	0	3	0	10	10
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	1	0	1	0	4	4
08:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2	2
08:30 AM	0	0	0	0	0	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	3	3
08:45 AM	0	0	1	1	1	2	1	0	0	3	0	0	0	0	0	0	0	2	0	2	1	6	7
Total	0	0	1	1	1	5	1	0	0	6	0	0	5	0	5	0	0	3	0	3	1	15	16
Grand Total	0	0	1	1	1	9	1	0	0	10	0	0	8	0	8	0	0	6	0	6	1	25	26
Apprch %	0	0	100			90	10	0			0	0	100			0	0	100					
Total %	0	0	4		4	36	4	0		40	0	0	32		32	0	0	24		24	3.8	96.2	

	I-215 Southbound Off Ramp Southbound				Cactus Avenue Westbound				I-215 Southbound On Ramp Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	**3**	**3**	0	0	**1**	**1**	**4**
07:15 AM	0	0	0	0	**2**	0	0	**2**	0	0	0	0	0	0	1	1	3
07:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	2
07:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	4	0	0	4	0	0	3	3	0	0	3	3	10
% App. Total	0	0	0		100	0	0		0	0	100		0	0	100		
PHF	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.250	.250	.000	.000	.750	.750	.625

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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

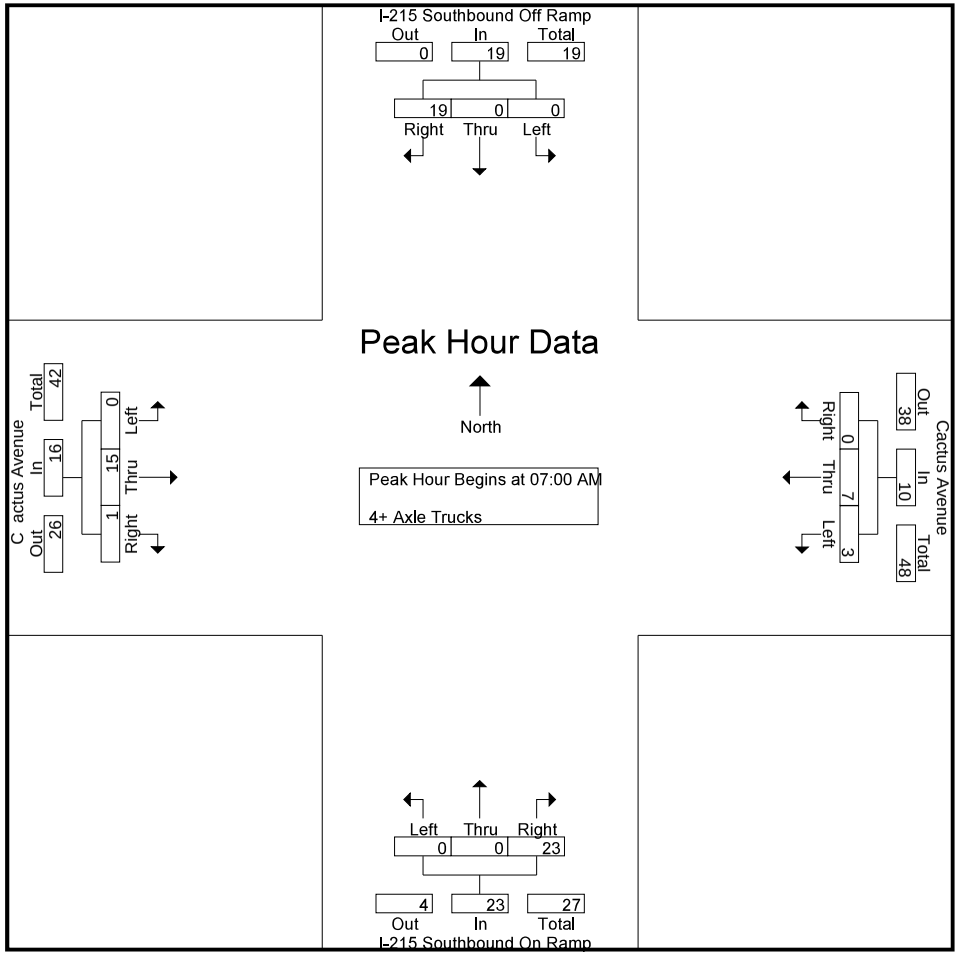
	I-215 Southbound Off Ramp Southbound					Cactus Avenue Westbound					I-215 Southbound On Ramp Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	5	0	5	1	0	0	0	1	0	0	8	0	8	0	5	0	0	5	0	19	19
07:15 AM	0	0	4	3	4	0	1	0	0	1	0	0	1	0	1	0	3	0	0	3	3	9	12
07:30 AM	0	0	4	0	4	1	4	0	0	5	0	0	5	0	5	0	5	0	0	5	0	19	19
07:45 AM	0	0	6	2	6	1	2	0	0	3	0	0	9	0	9	0	2	1	0	3	2	21	23
Total	0	0	19	5	19	3	7	0	0	10	0	0	23	0	23	0	15	1	0	16	5	68	73
08:00 AM	0	0	5	2	5	0	2	0	0	2	0	0	2	0	2	0	3	3	0	6	2	15	17
08:15 AM	0	0	3	1	3	0	3	0	0	3	0	0	10	0	10	0	1	2	1	3	2	19	21
08:30 AM	0	0	13	5	13	1	2	0	0	3	0	0	4	0	4	0	5	2	0	7	5	27	32
08:45 AM	0	0	4	4	4	2	3	0	0	5	0	0	4	0	4	0	5	2	0	7	4	20	24
Total	0	0	25	12	25	3	10	0	0	13	0	0	20	0	20	0	14	9	1	23	13	81	94
Grand Total	0	0	44	17	44	6	17	0	0	23	0	0	43	0	43	0	29	10	1	39	18	149	167
Apprch %	0	0	100			26.1	73.9	0			0	0	100			0	74.4	25.6					
Total %	0	0	29.5		29.5	4	11.4	0		15.4	0	0	28.9		28.9	0	19.5	6.7		26.2	10.8	89.2	

	I-215 Southbound Off Ramp Southbound				Cactus Avenue Westbound				I-215 Southbound On Ramp Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	5	5	**1**	0	0	1	0	0	8	8	0	**5**	0	**5**	19
07:15 AM	0	0	4	4	0	1	0	1	0	0	1	1	0	3	0	3	9
07:30 AM	0	0	**4**	4	1	**4**	0	**5**	0	0	5	5	0	5	0	5	19
07:45 AM	0	0	**6**	**6**	1	2	0	3	0	0	**9**	**9**	0	2	**1**	3	**21**
Total Volume	0	0	19	19	3	7	0	10	0	0	23	23	0	15	1	16	68
% App. Total	0	0	100		30	70	0		0	0	100		0	93.8	6.2		
PHF	.000	.000	.792	.792	.750	.438	.000	.500	.000	.000	.639	.639	.000	.750	.250	.800	.810

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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

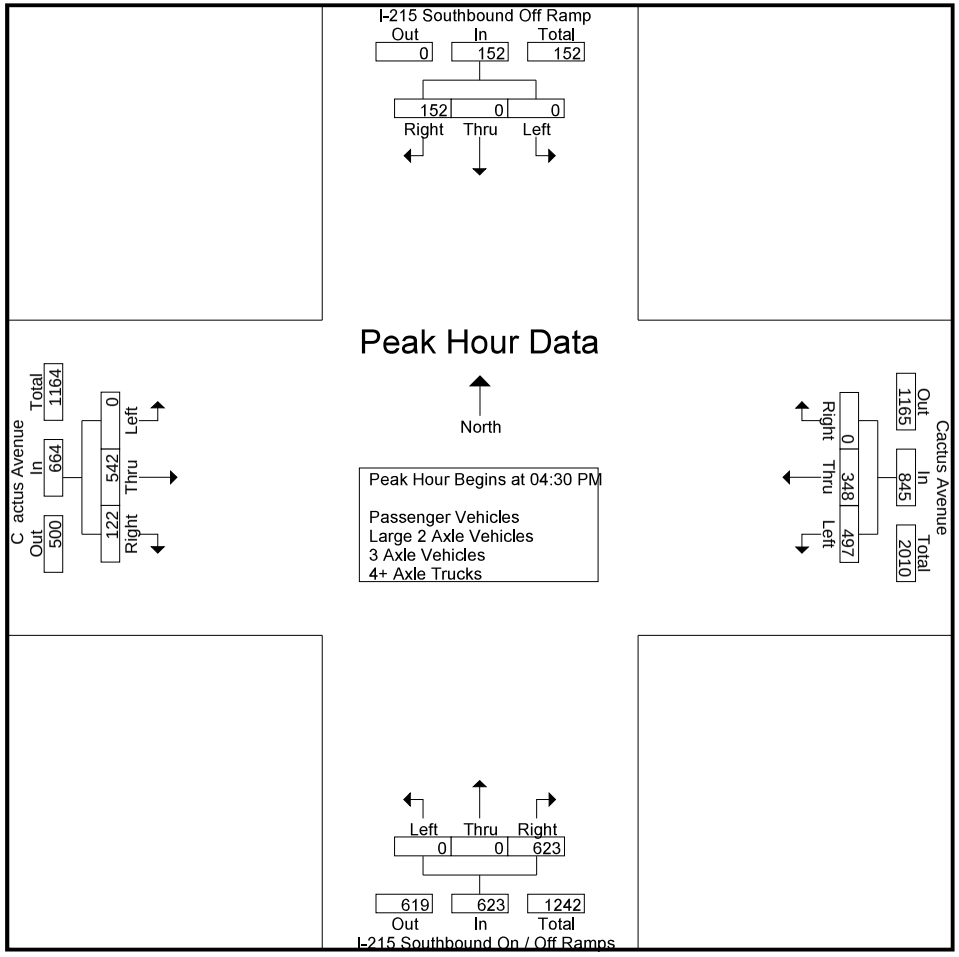
	I-215 Southbound Off Ramp Southbound					Cactus Avenue Westbound					I-215 Southbound On / Off Ramps Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	14	13	14	130	92	0	0	222	0	0	136	0	136	0	102	21	2	123	15	495	510
04:15 PM	0	0	17	13	17	136	99	0	0	235	0	0	124	0	124	0	104	17	3	121	16	497	513
04:30 PM	0	0	27	19	27	153	63	0	0	216	0	0	141	0	141	0	145	24	0	169	19	553	572
04:45 PM	0	0	40	33	40	126	104	0	0	230	0	0	143	0	143	0	107	21	0	128	33	541	574
Total	0	0	98	78	98	545	358	0	0	903	0	0	544	0	544	0	458	83	5	541	83	2086	2169
05:00 PM	0	0	39	27	39	118	77	0	0	195	0	0	154	0	154	0	167	46	6	213	33	601	634
05:15 PM	0	0	46	37	46	100	104	0	0	204	0	0	185	0	185	0	123	31	2	154	39	589	628
05:30 PM	0	0	49	37	49	92	77	0	0	169	0	0	160	0	160	0	131	27	0	158	37	536	573
05:45 PM	0	0	59	29	59	83	96	0	0	179	0	0	182	0	182	0	123	15	1	138	30	558	588
Total	0	0	193	130	193	393	354	0	0	747	0	0	681	0	681	0	544	119	9	663	139	2284	2423
Grand Total	0	0	291	208	291	938	712	0	0	1650	0	0	1225	0	1225	0	1002	202	14	1204	222	4370	4592
Apprch %	0	0	100			56.8	43.2	0			0	0	100			0	83.2	16.8					
Total %	0	0	6.7		6.7	21.5	16.3	0		37.8	0	0	28		28	0	22.9	4.6		27.6	4.8	95.2	
Passenger Vehicles	0	0	252		434	924	692	0		1616	0	0	1180		1180	0	949	194		1157	0	0	4387
% Passenger Vehicles	0	0	86.6	87.5	87	98.5	97.2	0	0	97.9	0	0	96.3	0	96.3	0	94.7	96	100	95	0	0	95.5
Large 2 Axle Vehicles	0	0	7		11	9	4	0		13	0	0	8		8	0	17	3		20	0	0	52
% Large 2 Axle Vehicles	0	0	2.4	1.9	2.2	1	0.6	0	0	0.8	0	0	0.7	0	0.7	0	1.7	1.5	0	1.6	0	0	1.1
3 Axle Vehicles	0	0	5		10	3	10	0		13	0	0	0		0	0	2	3		5	0	0	28
% 3 Axle Vehicles	0	0	1.7	2.4	2	0.3	1.4	0	0	0.8	0	0	0	0	0	0	0.2	1.5	0	0.4	0	0	0.6
4+ Axle Trucks	0	0	27		44	2	6	0		8	0	0	37		37	0	34	2		36	0	0	125
% 4+ Axle Trucks	0	0	9.3	8.2	8.8	0.2	0.8	0	0	0.5	0	0	3	0	3	0	3.4	1	0	3	0	0	2.7

	I-215 Southbound Off Ramp Southbound				Cactus Avenue Westbound				I-215 Southbound On / Off Ramps Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	27	27	**153**	63	0	216	0	0	141	141	0	145	24	169	553
04:45 PM	0	0	40	40	126	**104**	0	**230**	0	0	143	143	0	107	21	128	541
05:00 PM	0	0	39	39	118	77	0	195	0	0	154	154	0	**167**	**46**	**213**	**601**
05:15 PM	0	0	**46**	**46**	100	104	0	204	0	0	**185**	**185**	0	123	31	154	589
Total Volume	0	0	152	152	497	348	0	845	0	0	623	623	0	542	122	664	2284
% App. Total	0	0	100		58.8	41.2	0		0	0	100		0	81.6	18.4		
PHF	.000	.000	.826	.826	.812	.837	.000	.918	.000	.000	.842	.842	.000	.811	.663	.779	.950

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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

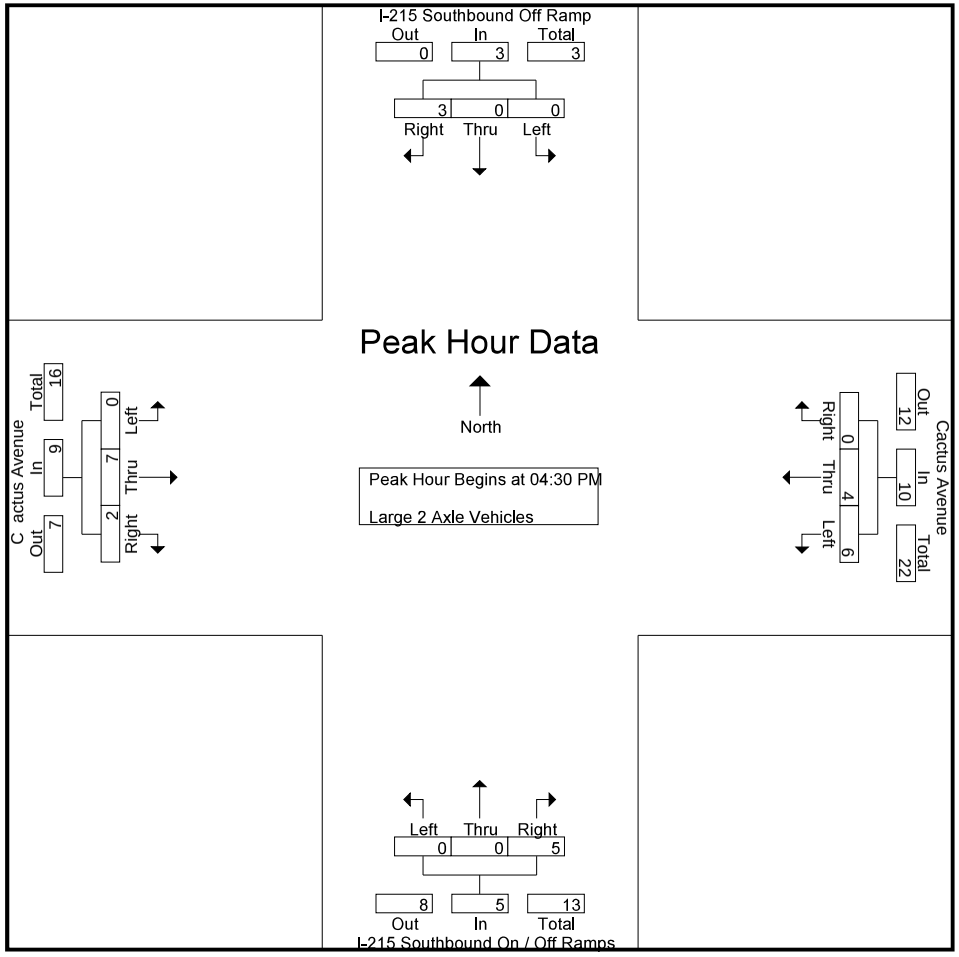
	I-215 Southbound Off Ramp Southbound					Cactus Avenue Westbound					I-215 Southbound On / Off Ramps Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	1	1	1	1	0	0	0	1	0	0	1	0	1	0	4	0	0	4	1	7	8
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	3	0	0	3	0	4	4
04:30 PM	0	0	2	0	2	1	1	0	0	2	0	0	1	0	1	0	1	0	0	1	0	6	6
04:45 PM	0	0	0	0	0	2	2	0	0	4	0	0	1	0	1	0	1	1	0	2	0	7	7
Total	0	0	3	1	3	4	3	0	0	7	0	0	4	0	4	0	9	1	0	10	1	24	25
05:00 PM	0	0	1	1	1	2	1	0	0	3	0	0	1	0	1	0	3	1	0	4	1	9	10
05:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	2	0	2	0	2	0	0	2	0	5	5
05:30 PM	0	0	1	1	1	2	0	0	0	2	0	0	0	0	0	0	2	1	0	3	1	6	7
05:45 PM	0	0	2	1	2	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	1	4	5
Total	0	0	4	3	4	5	1	0	0	6	0	0	4	0	4	0	8	2	0	10	3	24	27
Grand Total	0	0	7	4	7	9	4	0	0	13	0	0	8	0	8	0	17	3	0	20	4	48	52
Apprch %	0	0	100			69.2	30.8	0			0	0	100			0	85	15					
Total %	0	0	14.6		14.6	18.8	8.3	0		27.1	0	0	16.7		16.7	0	35.4	6.2		41.7	7.7	92.3	

	I-215 Southbound Off Ramp Southbound				Cactus Avenue Westbound				I-215 Southbound On / Off Ramps Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	**2**	**2**	1	1	0	2	0	0	1	1	0	1	0	1	6
04:45 PM	0	0	0	0	**2**	**2**	0	**4**	0	0	1	1	0	1	**1**	2	7
05:00 PM	0	0	1	1	2	1	0	3	0	0	1	1	0	**3**	1	**4**	**9**
05:15 PM	0	0	0	0	1	0	0	1	0	0	**2**	**2**	0	2	0	2	5
Total Volume	0	0	3	3	6	4	0	10	0	0	5	5	0	7	2	9	27
% App. Total	0	0	100		60	40	0		0	0	100		0	77.8	22.2		
PHF	.000	.000	.375	.375	.750	.500	.000	.625	.000	.000	.625	.625	.000	.583	.500	.563	.750

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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

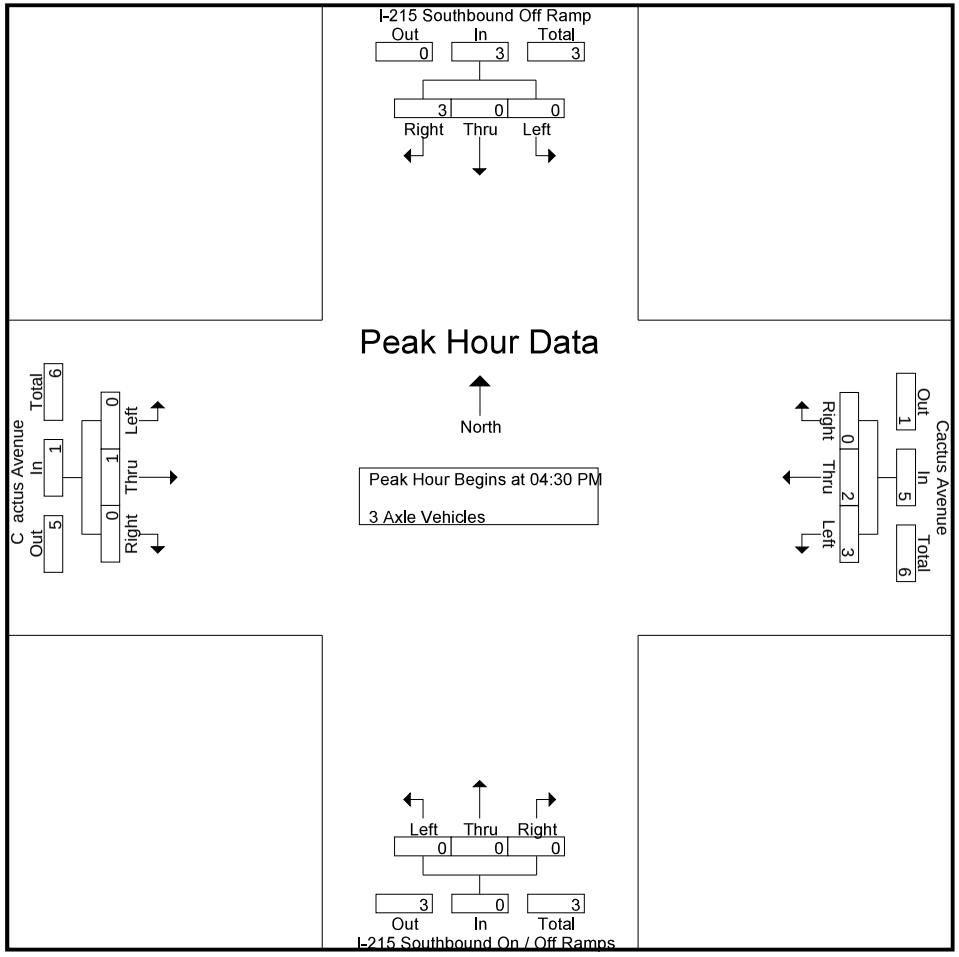
	I-215 Southbound Off Ramp Southbound					Cactus Avenue Westbound					I-215 Southbound On / Off Ramps Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	1	0	1	0	5	5
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
04:30 PM	0	0	1	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2	3
04:45 PM	0	0	2	2	2	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	2	5	7
Total	0	0	3	3	3	3	6	0	0	9	0	0	0	0	0	0	1	1	0	2	3	14	17
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	2	2
05:45 PM	0	0	2	2	2	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	2	5	7
Total	0	0	2	2	2	0	4	0	0	4	0	0	0	0	0	0	1	2	0	3	2	9	11
Grand Total	0	0	5	5	5	3	10	0	0	13	0	0	0	0	0	0	2	3	0	5	5	23	28
Apprch %	0	0	100			23.1	76.9	0			0	0	0			0	40	60					
Total %	0	0	21.7		21.7	13	43.5	0		56.5	0	0	0		0	0	8.7	13		21.7	17.9	82.1	

	I-215 Southbound Off Ramp Southbound				Cactus Avenue Westbound				I-215 Southbound On / Off Ramps Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	1	1	0	**1**	0	1	0	0	0	0	0	0	0	0	2
04:45 PM	0	0	**2**	**2**	**3**	0	0	**3**	0	0	0	0	0	0	0	0	**5**
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	**1**	0	**1**	2
Total Volume	0	0	3	3	3	2	0	5	0	0	0	0	0	1	0	1	9
% App. Total	0	0	100		60	40	0		0	0	0		0	100	0		
PHF	.000	.000	.375	.375	.250	.500	.000	.417	.000	.000	.000	.000	.000	.250	.000	.250	.450

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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

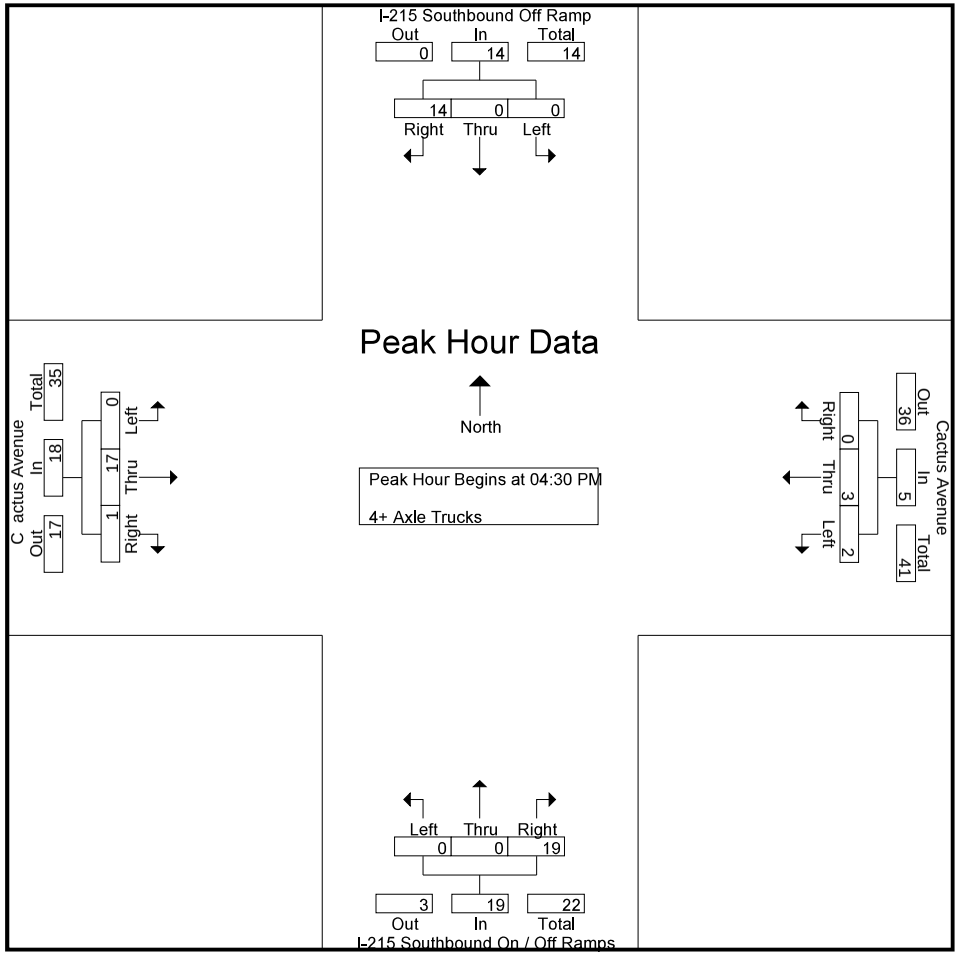
	I-215 Southbound Off Ramp Southbound					Cactus Avenue Westbound					I-215 Southbound On / Off Ramps Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	2	1	2	0	1	0	0	1	0	0	4	0	4	0	6	0	0	6	1	13	14
04:15 PM	0	0	3	2	3	0	0	0	0	0	0	0	6	0	6	0	2	0	0	2	2	11	13
04:30 PM	0	0	4	4	4	0	1	0	0	1	0	0	7	0	7	0	5	0	0	5	4	17	21
04:45 PM	0	0	3	2	3	0	1	0	0	1	0	0	2	0	2	0	2	0	0	2	2	8	10
Total	0	0	12	9	12	0	3	0	0	3	0	0	19	0	19	0	15	0	0	15	9	49	58
05:00 PM	0	0	5	3	5	2	1	0	0	3	0	0	4	0	4	0	9	1	0	10	3	22	25
05:15 PM	0	0	2	2	2	0	0	0	0	0	0	0	6	0	6	0	1	0	0	1	2	9	11
05:30 PM	0	0	2	1	2	0	1	0	0	1	0	0	4	0	4	0	7	0	0	7	1	14	15
05:45 PM	0	0	6	2	6	0	1	0	0	1	0	0	4	0	4	0	2	1	0	3	2	14	16
Total	0	0	15	8	15	2	3	0	0	5	0	0	18	0	18	0	19	2	0	21	8	59	67
Grand Total	0	0	27	17	27	2	6	0	0	8	0	0	37	0	37	0	34	2	0	36	17	108	125
Apprch %	0	0	100			25	75	0			0	0	100			0	94.4	5.6					
Total %	0	0	25		25	1.9	5.6	0		7.4	0	0	34.3		34.3	0	31.5	1.9		33.3	13.6	86.4	

	I-215 Southbound Off Ramp Southbound				Cactus Avenue Westbound				I-215 Southbound On / Off Ramps Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	4	4	0	**1**	0	1	0	0	**7**	**7**	0	5	0	5	17
04:45 PM	0	0	3	3	0	1	0	1	0	0	2	2	0	2	0	2	8
05:00 PM	0	0	**5**	**5**	**2**	1	0	**3**	0	0	4	4	0	**9**	**1**	**10**	**22**
05:15 PM	0	0	2	2	0	0	0	0	0	0	6	6	0	1	0	1	9
Total Volume	0	0	14	14	2	3	0	5	0	0	19	19	0	17	1	18	56
% App. Total	0	0	100		40	60	0		0	0	100		0	94.4	5.6		
PHF	.000	.000	.700	.700	.250	.750	.000	.417	.000	.000	.679	.679	.000	.472	.250	.450	.636

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City of Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215SCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



Location: Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg I-215 Southbound On / Off Ramps	East Leg Cactus Avenue	South Leg I-215 Southbound On / Off Ramps	West Leg Cactus Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-215 Southbound On / Off Ramps	East Leg Cactus Avenue	South Leg I-215 Southbound On / Off Ramps	West Leg Cactus Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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951-268-6268

Location: Moreno Valley
N/S: I-215 Southbound On / Off Ramps
E/W: Cactus Avenue

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg I-215 Southbound On / Off Ramps	East Leg Cactus Avenue	South Leg I-215 Southbound On / Off Ramps	West Leg Cactus Avenue	TOTAL
7:00 AM	1	0	2	0	3
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	1	0	0	0	1
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	2	0	2	0	4

	North Leg I-215 Southbound On / Off Ramps	East Leg Cactus Avenue	South Leg I-215 Southbound On / Off Ramps	West Leg Cactus Avenue	TOTAL
4:00 PM	0	0	1	0	1
4:15 PM	1	0	0	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	1	0	1
TOTAL VOLUMES:	1	0	2	0	3

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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : CRV215SHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

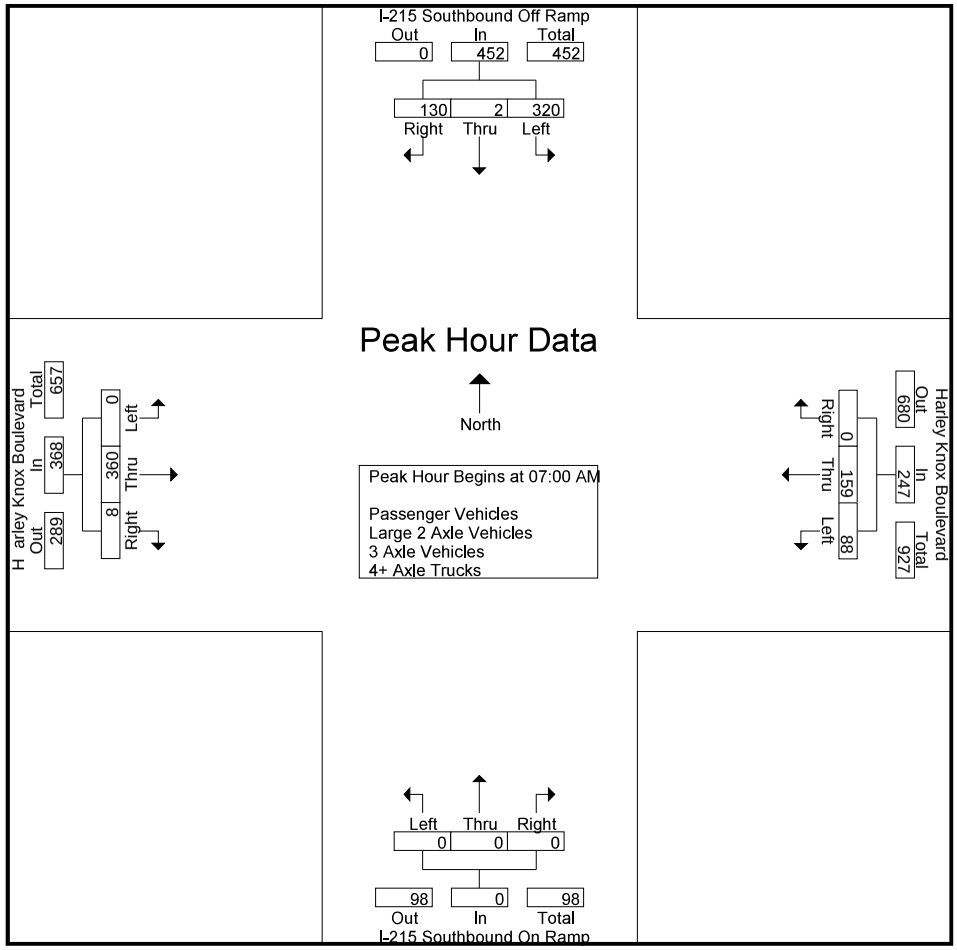
	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	73	0	23	9	96	21	83	0	0	104	0	0	0	0	0	0	84	1	1	85	10	285
07:15 AM	79	0	35	18	114	23	44	0	0	67	0	0	0	0	0	0	80	0	0	80	18	261
07:30 AM	72	2	39	20	113	26	18	0	0	44	0	0	0	0	0	0	110	2	1	112	21	269
07:45 AM	96	0	33	13	129	18	14	0	0	32	0	0	0	0	0	0	86	5	3	91	16	252
Total	320	2	130	60	452	88	159	0	0	247	0	0	0	0	0	0	360	8	5	368	65	1067
08:00 AM	47	0	16	8	63	19	10	0	0	29	0	0	0	0	0	0	45	3	1	48	9	140
08:15 AM	56	0	26	7	82	17	17	0	0	34	0	0	0	0	0	0	40	1	0	41	7	157
08:30 AM	62	0	23	10	85	19	10	0	0	29	0	0	0	0	0	0	54	2	2	56	12	170
08:45 AM	61	0	11	3	72	20	10	0	0	30	0	0	0	0	0	0	43	3	1	46	4	148
Total	226	0	76	28	302	75	47	0	0	122	0	0	0	0	0	0	182	9	4	191	32	615
Grand Total	546	2	206	88	754	163	206	0	0	369	0	0	0	0	0	0	542	17	9	559	97	1682
Apprch %	72.4	0.3	27.3			44.2	55.8	0			0	0	0			0	97	3				
Total %	32.5	0.1	12.2		44.8	9.7	12.2	0		21.9	0	0	0		0	0	32.2	1		33.2	5.5	94.5
Passenger Vehicles	422	2	179		682	117	198	0		315	0	0	0		0	0	510	13		531	0	0
% Passenger Vehicles	77.3	100	86.9	89.8	81	71.8	96.1	0	0	85.4	0	0	0	0	0	0	94.1	76.5	88.9	93.5	0	0
Large 2 Axle Vehicles	34	0	4		40	16	4	0		20	0	0	0		0	0	12	1		14	0	0
% Large 2 Axle Vehicles	6.2	0	1.9	2.3	4.8	9.8	1.9	0	0	5.4	0	0	0	0	0	0	2.2	5.9	11.1	2.5	0	0
3 Axle Vehicles	32	0	3		37	11	1	0		12	0	0	0		0	0	4	0		4	0	0
% 3 Axle Vehicles	5.9	0	1.5	2.3	4.4	6.7	0.5	0	0	3.3	0	0	0	0	0	0	0.7	0	0	0.7	0	0
4+ Axle Trucks	58	0	20		83	19	3	0		22	0	0	0		0	0	16	3		19	0	0
% 4+ Axle Trucks	10.6	0	9.7	5.7	9.9	11.7	1.5	0	0	6	0	0	0	0	0	0	3	17.6	0	3.3	0	0

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	73	0	23	96	21	83	0	104	0	0	0	0	0	84	1	85	285
07:15 AM	79	0	35	114	23	44	0	67	0	0	0	0	0	80	0	80	261
07:30 AM	72	2	39	113	26	18	0	44	0	0	0	0	0	110	2	112	269
07:45 AM	96	0	33	129	18	14	0	32	0	0	0	0	0	86	5	91	252
Total Volume	320	2	130	452	88	159	0	247	0	0	0	0	0	360	8	368	1067
% App. Total	70.8	0.4	28.8		35.6	64.4	0		0	0	0		0	97.8	2.2		
PHF	.833	.250	.833	.876	.846	.479	.000	.594	.000	.000	.000	.000	.000	.818	.400	.821	.936

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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : CRV215SHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 2



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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : CRV215SHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

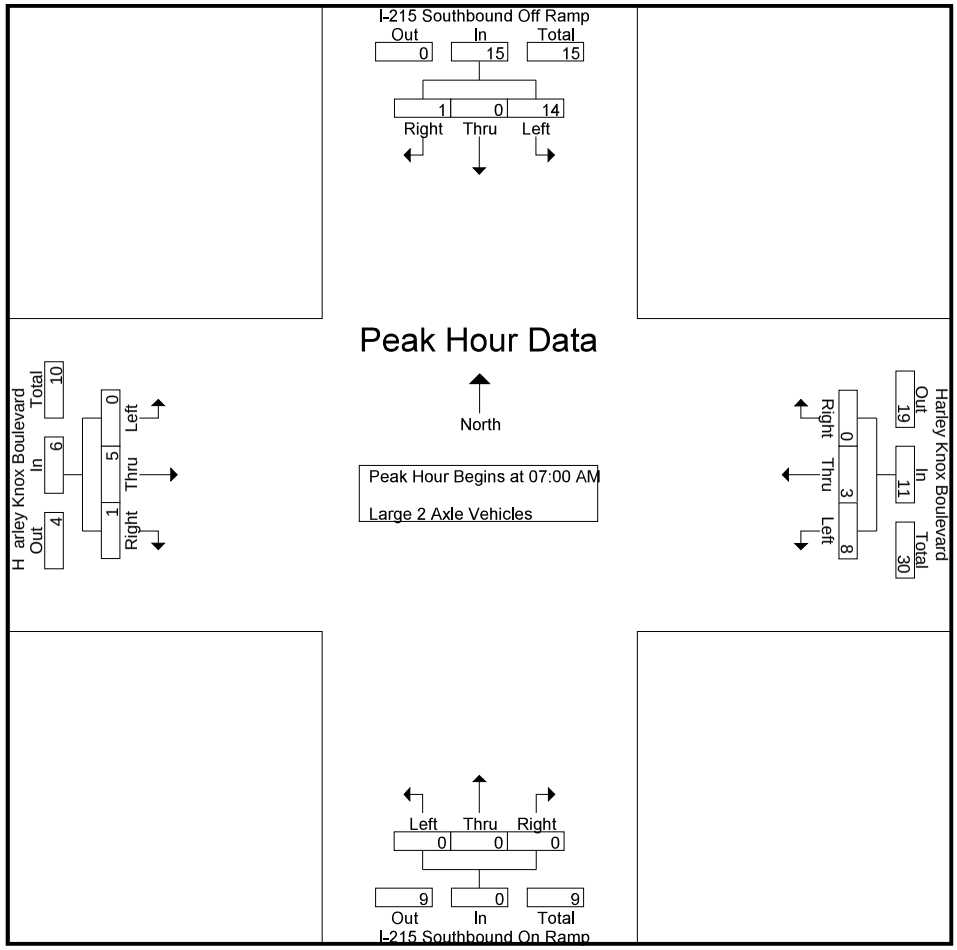
	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	4	0	0	0	4	1	2	0	0	3	0	0	0	0	0	0	1	0	0	1	0	8
07:15 AM	4	0	0	0	4	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	0	7
07:30 AM	4	0	1	1	5	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	1	8
07:45 AM	2	0	0	0	2	4	1	0	0	5	0	0	0	0	0	0	1	1	1	2	1	9
Total	14	0	1	1	15	8	3	0	0	11	0	0	0	0	0	0	5	1	1	6	2	32
08:00 AM	5	0	1	0	6	4	0	0	0	4	0	0	0	0	0	0	3	0	0	3	0	13
08:15 AM	4	0	0	0	4	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	6
08:30 AM	4	0	0	0	4	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	7
08:45 AM	7	0	2	1	9	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	1	13
Total	20	0	3	1	23	8	1	0	0	9	0	0	0	0	0	0	7	0	0	7	1	39
Grand Total	34	0	4	2	38	16	4	0	0	20	0	0	0	0	0	0	12	1	1	13	3	71
Apprch %	89.5	0	10.5			80	20	0			0	0	0			0	92.3	7.7				
Total %	47.9	0	5.6		53.5	22.5	5.6	0		28.2	0	0	0		0	0	16.9	1.4		18.3	4.1	95.9

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	4	0	0	4	1	2	0	3	0	0	0	0	0	1	0	1	8
07:15 AM	4	0	0	4	1	0	0	1	0	0	0	0	0	2	0	2	7
07:30 AM	4	0	1	5	2	0	0	2	0	0	0	0	0	1	0	1	8
07:45 AM	2	0	0	2	4	1	0	5	0	0	0	0	0	1	1	2	9
Total Volume	14	0	1	15	8	3	0	11	0	0	0	0	0	5	1	6	32
% App. Total	93.3	0	6.7		72.7	27.3	0		0	0	0		0	83.3	16.7		
PHF	.875	.000	.250	.750	.500	.375	.000	.550	.000	.000	.000	.000	.000	.625	.250	.750	.889

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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : CRV215SHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 2



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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : CRV215SHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

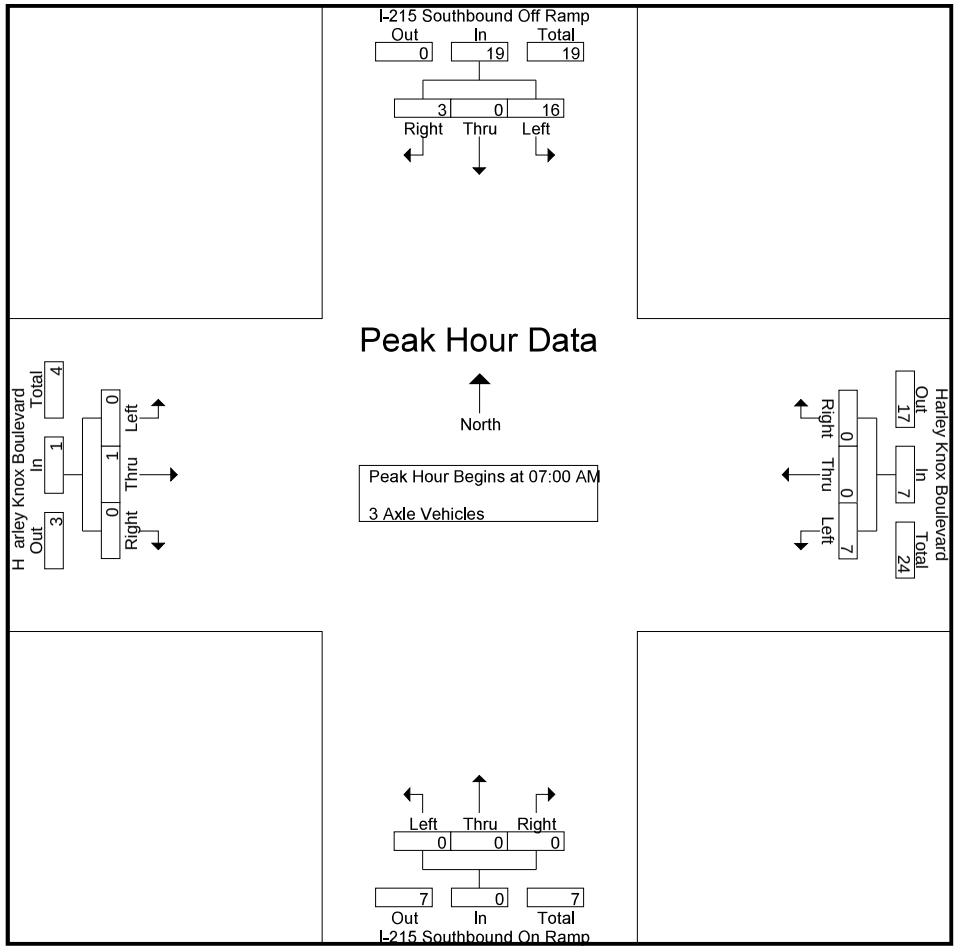
	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	7	0	1	1	8	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	11
07:15 AM	6	0	0	0	6	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	9
07:30 AM	2	0	1	1	3	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	4
07:45 AM	1	0	1	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
Total	16	0	3	2	19	7	0	0	0	7	0	0	0	0	0	0	1	0	0	1	2	27
08:00 AM	1	0	0	0	1	2	1	0	0	3	0	0	0	0	0	0	1	0	0	1	0	5
08:15 AM	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	4
08:30 AM	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
08:45 AM	10	0	0	0	10	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	12
Total	16	0	0	0	16	4	1	0	0	5	0	0	0	0	0	0	3	0	0	3	0	24
Grand Total	32	0	3	2	35	11	1	0	0	12	0	0	0	0	0	0	4	0	0	4	2	51
Apprch %	91.4	0	8.6			91.7	8.3	0			0	0	0			0	100	0				
Total %	62.7	0	5.9		68.6	21.6	2	0		23.5	0	0	0		0	0	7.8	0		7.8	3.8	96.2

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	7	0	1	8	3	0	0	3	0	0	0	0	0	0	0	0	11
07:15 AM	6	0	0	6	2	0	0	2	0	0	0	0	0	1	0	1	9
07:30 AM	2	0	1	3	1	0	0	1	0	0	0	0	0	0	0	0	4
07:45 AM	1	0	1	2	1	0	0	1	0	0	0	0	0	0	0	0	3
Total Volume	16	0	3	19	7	0	0	7	0	0	0	0	0	1	0	1	27
% App. Total	84.2	0	15.8		100	0	0		0	0	0		0	100	0		
PHF	.571	.000	.750	.594	.583	.000	.000	.583	.000	.000	.000	.000	.000	.250	.000	.250	.614

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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : CRV215SHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 2



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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
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File Name : CRV215SHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

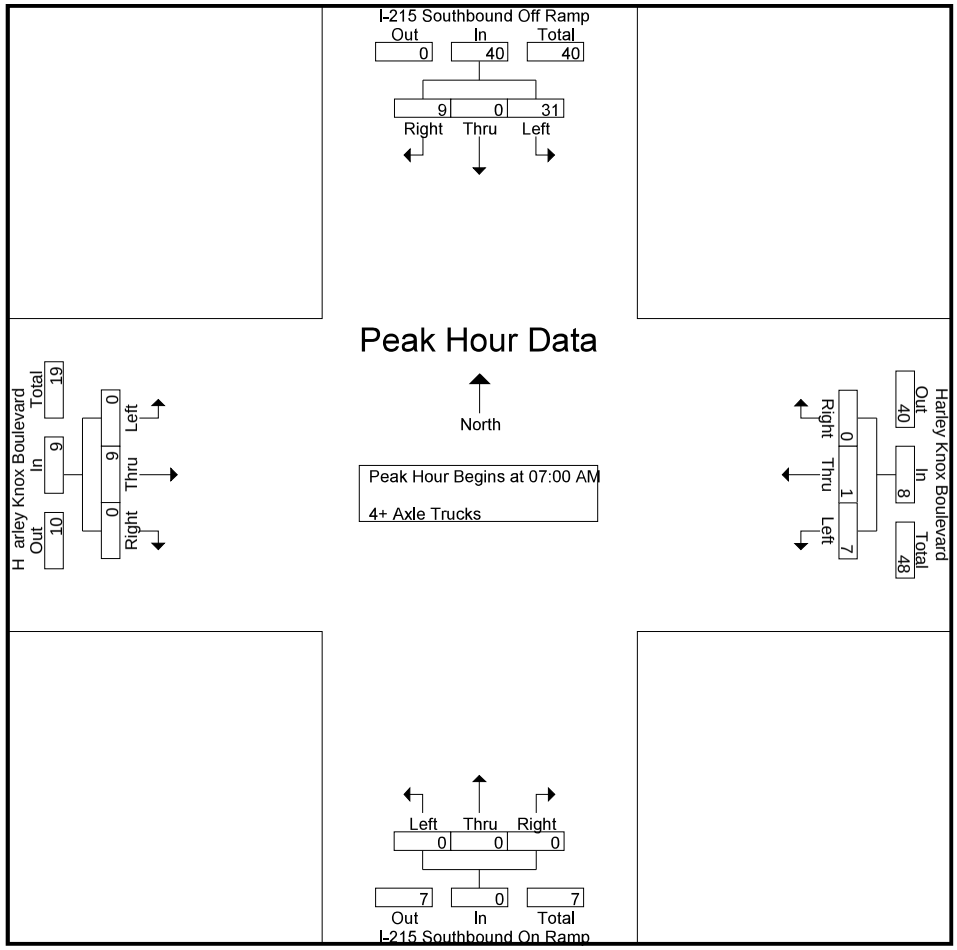
	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	8	0	2	0	10	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	11
07:15 AM	10	0	4	0	14	2	0	0	0	2	0	0	0	0	0	0	3	0	0	3	0	19
07:30 AM	5	0	1	0	6	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	8
07:45 AM	8	0	2	1	10	2	1	0	0	3	0	0	0	0	0	0	6	0	0	6	1	19
Total	31	0	9	1	40	7	1	0	0	8	0	0	0	0	0	0	9	0	0	9	1	57
08:00 AM	4	0	2	1	6	3	0	0	0	3	0	0	0	0	0	0	0	1	0	1	1	10
08:15 AM	8	0	6	1	14	4	1	0	0	5	0	0	0	0	0	0	1	1	0	2	1	21
08:30 AM	8	0	2	2	10	3	1	0	0	4	0	0	0	0	0	0	6	0	0	6	2	20
08:45 AM	7	0	1	0	8	2	0	0	0	2	0	0	0	0	0	0	0	1	0	1	0	11
Total	27	0	11	4	38	12	2	0	0	14	0	0	0	0	0	0	7	3	0	10	4	62
Grand Total	58	0	20	5	78	19	3	0	0	22	0	0	0	0	0	0	16	3	0	19	5	119
Apprch %	74.4	0	25.6			86.4	13.6	0			0	0	0			0	84.2	15.8				
Total %	48.7	0	16.8		65.5	16	2.5	0		18.5	0	0	0		0	0	13.4	2.5		16	4	96

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	8	0	2	10	1	0	0	1	0	0	0	0	0	0	0	0	11
07:15 AM	10	0	4	14	2	0	0	2	0	0	0	0	0	3	0	3	19
07:30 AM	5	0	1	6	2	0	0	2	0	0	0	0	0	0	0	0	8
07:45 AM	8	0	2	10	2	1	0	3	0	0	0	0	0	6	0	6	19
Total Volume	31	0	9	40	7	1	0	8	0	0	0	0	0	9	0	9	57
% App. Total	77.5	0	22.5		87.5	12.5	0		0	0	0		0	100	0		
PHF	.775	.000	.563	.714	.875	.250	.000	.667	.000	.000	.000	.000	.000	.375	.000	.375	.750

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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : CRV215SHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 2



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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : CRV215SHKPM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

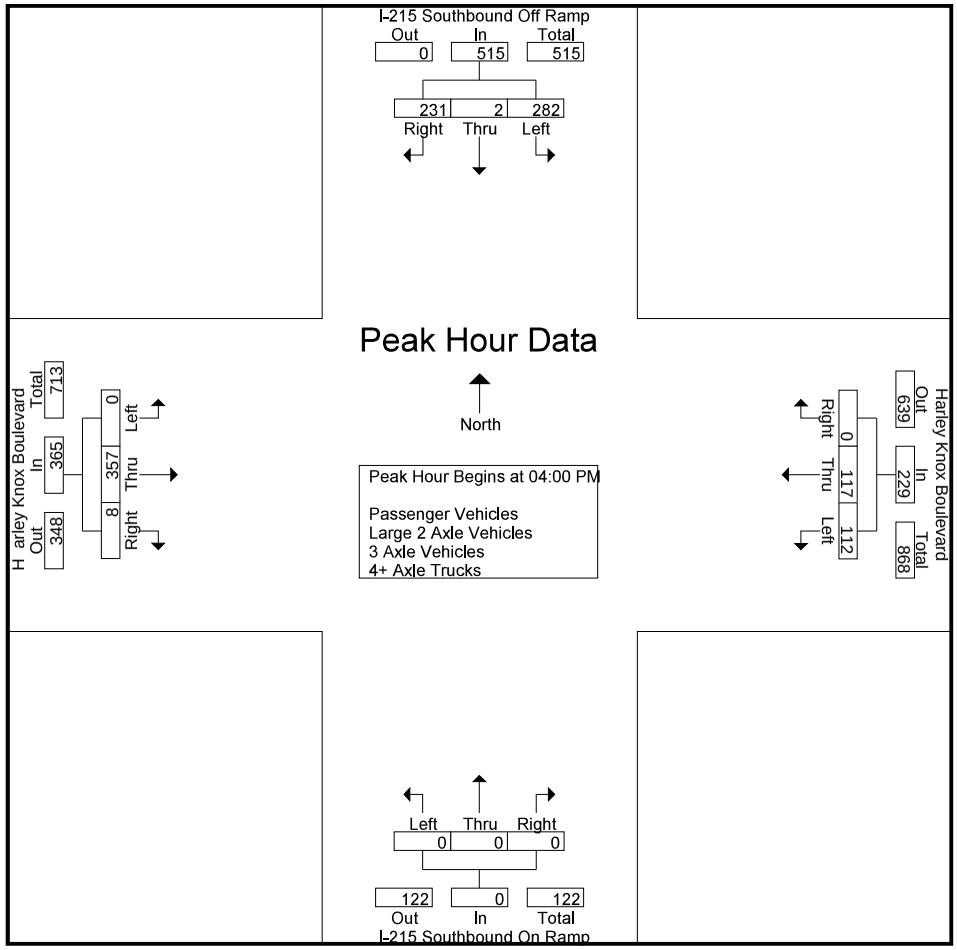
	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	65	1	57	12	123	24	22	0	0	46	0	0	0	0	0	0	89	0	0	89	12	258
04:15 PM	79	0	53	17	132	31	21	0	0	52	0	0	0	0	0	0	86	3	0	89	17	273
04:30 PM	73	0	66	21	139	26	34	0	0	60	0	0	0	0	0	0	94	2	0	96	21	295
04:45 PM	65	1	55	22	121	31	40	0	0	71	0	0	0	0	0	0	88	3	0	91	22	283
Total	282	2	231	72	515	112	117	0	0	229	0	0	0	0	0	0	357	8	0	365	72	1109
05:00 PM	51	3	59	26	113	21	33	0	0	54	0	0	0	0	0	0	76	0	0	76	26	243
05:15 PM	53	0	72	18	125	18	28	0	0	46	0	0	0	0	0	0	75	1	0	76	18	247
05:30 PM	65	0	42	16	107	22	25	0	0	47	0	0	0	0	0	0	86	1	0	87	16	241
05:45 PM	63	2	54	14	119	9	27	0	0	36	0	0	0	0	0	0	60	1	0	61	14	216
Total	232	5	227	74	464	70	113	0	0	183	0	0	0	0	0	0	297	3	0	300	74	947
Grand Total	514	7	458	146	979	182	230	0	0	412	0	0	0	0	0	0	654	11	0	665	146	2056
Apprch %	52.5	0.7	46.8			44.2	55.8	0			0	0	0			0	98.3	1.7				
Total %	25	0.3	22.3		47.6	8.9	11.2	0		20	0	0	0		0	0	31.8	0.5		32.3	6.6	93.4
Passenger Vehicles	431	7	415		982	168	212	0		380	0	0	0		0	0	607	8		615	0	0
% Passenger Vehicles	83.9	100	90.6	88.4	87.3	92.3	92.2	0	0	92.2	0	0	0	0	0	0	92.8	72.7	0	92.5	0	0
Large 2 Axle Vehicles	20	0	16		42	3	5	0		8	0	0	0		0	0	10	2		12	0	0
% Large 2 Axle Vehicles	3.9	0	3.5	4.1	3.7	1.6	2.2	0	0	1.9	0	0	0	0	0	0	1.5	18.2	0	1.8	0	0
3 Axle Vehicles	12	0	2		16	4	6	0		10	0	0	0		0	0	15	0		15	0	0
% 3 Axle Vehicles	2.3	0	0.4	1.4	1.4	2.2	2.6	0	0	2.4	0	0	0	0	0	0	2.3	0	0	2.3	0	0
4+ Axle Trucks	51	0	25		85	7	7	0		14	0	0	0		0	0	22	1		23	0	0
% 4+ Axle Trucks	9.9	0	5.5	6.2	7.6	3.8	3	0	0	3.4	0	0	0	0	0	0	3.4	9.1	0	3.5	0	0

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	65	1	57	123	24	22	0	46	0	0	0	0	0	89	0	89	258
04:15 PM	79	0	53	132	31	21	0	52	0	0	0	0	0	86	3	89	273
04:30 PM	73	0	66	139	26	34	0	60	0	0	0	0	0	94	2	96	295
04:45 PM	65	1	55	121	31	40	0	71	0	0	0	0	0	88	3	91	283
Total Volume	282	2	231	515	112	117	0	229	0	0	0	0	0	357	8	365	1109
% App. Total	54.8	0.4	44.9		48.9	51.1	0		0	0	0		0	97.8	2.2		
PHF	.892	.500	.875	.926	.903	.731	.000	.806	.000	.000	.000	.000	.000	.949	.667	.951	.940

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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : CRV215SHKPM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 2



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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
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File Name : CRV215SHKPM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

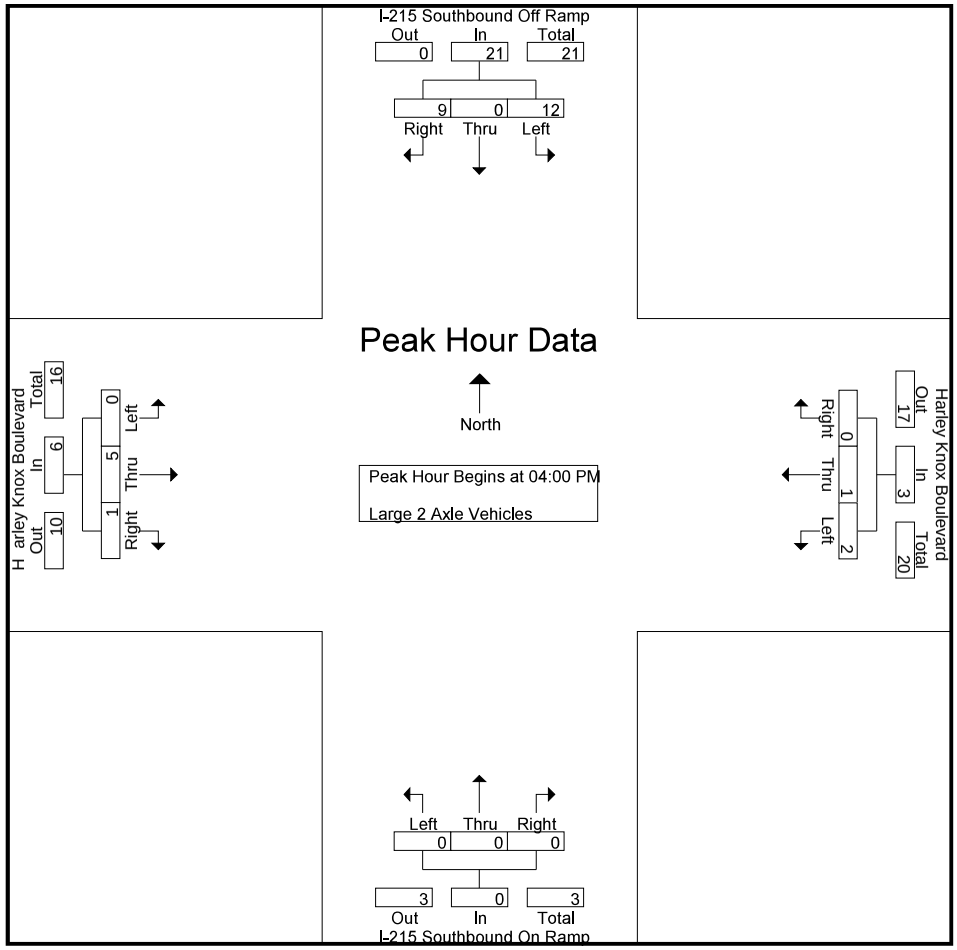
	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	6	0	3	1	9	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	11
04:15 PM	3	0	1	1	4	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	5
04:30 PM	2	0	2	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
04:45 PM	1	0	3	1	4	1	1	0	0	2	0	0	0	0	0	0	3	1	0	4	1	10
Total	12	0	9	4	21	2	1	0	0	3	0	0	0	0	0	0	5	1	0	6	4	30
05:00 PM	2	0	2	0	4	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	0	8
05:15 PM	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	6
05:30 PM	3	0	2	1	5	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1	8
05:45 PM	1	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	4
Total	8	0	7	2	15	1	4	0	0	5	0	0	0	0	0	0	5	1	0	6	2	26
Grand Total	20	0	16	6	36	3	5	0	0	8	0	0	0	0	0	0	10	2	0	12	6	56
Apprch %	55.6	0	44.4			37.5	62.5	0			0	0	0			0	83.3	16.7				
Total %	35.7	0	28.6		64.3	5.4	8.9	0		14.3	0	0	0		0	0	17.9	3.6		21.4	9.7	90.3

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	6	0	3	9	0	0	0	0	0	0	0	0	0	2	0	2	11
04:15 PM	3	0	1	4	1	0	0	1	0	0	0	0	0	0	0	0	5
04:30 PM	2	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:45 PM	1	0	3	4	1	1	0	2	0	0	0	0	0	3	1	4	10
Total Volume	12	0	9	21	2	1	0	3	0	0	0	0	0	5	1	6	30
% App. Total	57.1	0	42.9		66.7	33.3	0		0	0	0		0	83.3	16.7		
PHF	.500	.000	.750	.583	.500	.250	.000	.375	.000	.000	.000	.000	.000	.417	.250	.375	.682

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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : CRV215SHKPM
Site Code : 05115195
Start Date : 4/14/2015
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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : CRV215SHKPM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

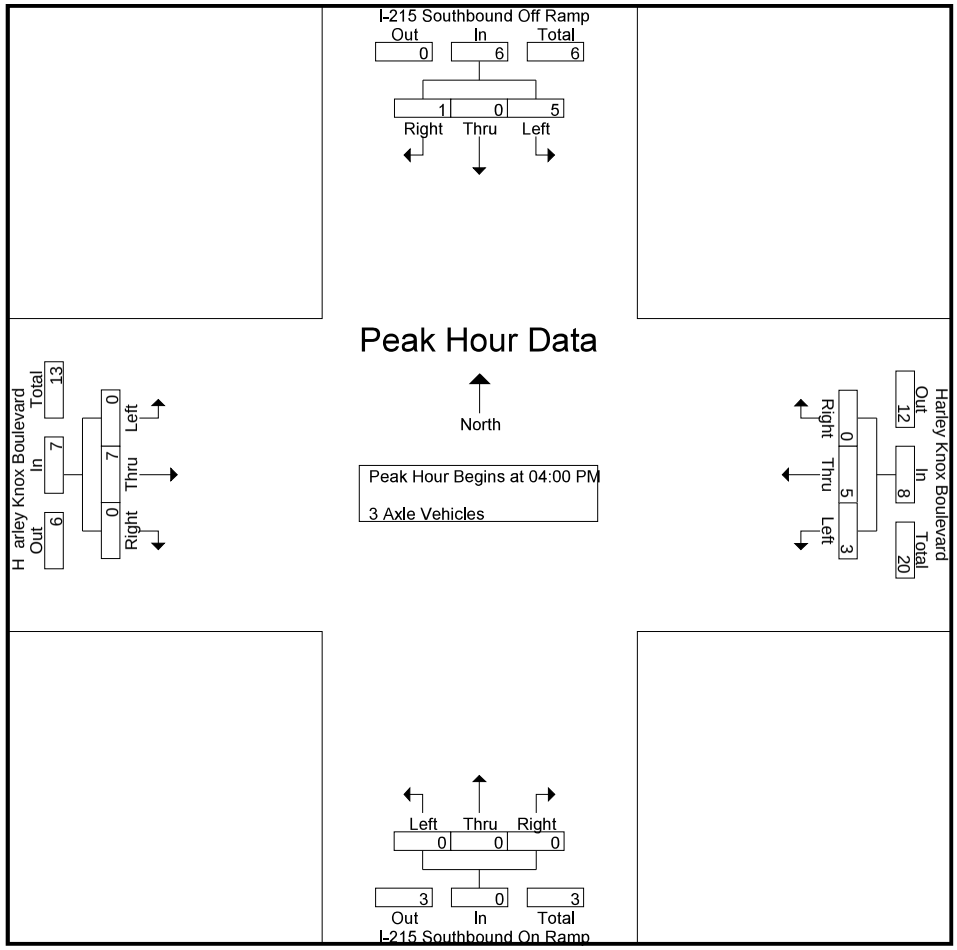
	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	1	0	0	0	1	2	3	0	0	5	0	0	0	0	0	0	1	0	0	1	0	7
04:15 PM	3	0	0	0	3	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	5
04:30 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	7
04:45 PM	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	2
Total	5	0	1	1	6	3	5	0	0	8	0	0	0	0	0	0	7	0	0	7	1	21
05:00 PM	1	0	1	1	2	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	1	6
05:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	5
05:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	4
05:45 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3
Total	7	0	1	1	8	1	1	0	0	2	0	0	0	0	0	0	8	0	0	8	1	18
Grand Total	12	0	2	2	14	4	6	0	0	10	0	0	0	0	0	0	15	0	0	15	2	39
Apprch %	85.7	0	14.3			40	60	0			0	0	0			0	100	0				
Total %	30.8	0	5.1		35.9	10.3	15.4	0		25.6	0	0	0		0	0	38.5	0		38.5	4.9	95.1

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	1	0	0	1	2	3	0	5	0	0	0	0	0	1	0	1	7
04:15 PM	3	0	0	3	1	0	0	1	0	0	0	0	0	1	0	1	5
04:30 PM	1	0	0	1	0	2	0	2	0	0	0	0	0	4	0	4	7
04:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	2
Total Volume	5	0	1	6	3	5	0	8	0	0	0	0	0	7	0	7	21
% App. Total	83.3	0	16.7		37.5	62.5	0		0	0	0		0	100	0		
PHF	.417	.000	.250	.500	.375	.417	.000	.400	.000	.000	.000	.000	.000	.438	.000	.438	.750

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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : CRV215SHKPM
Site Code : 05115195
Start Date : 4/14/2015
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County of Riverside
N/S: I-215 Southbound Ramps
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File Name : CRV215SHKPM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

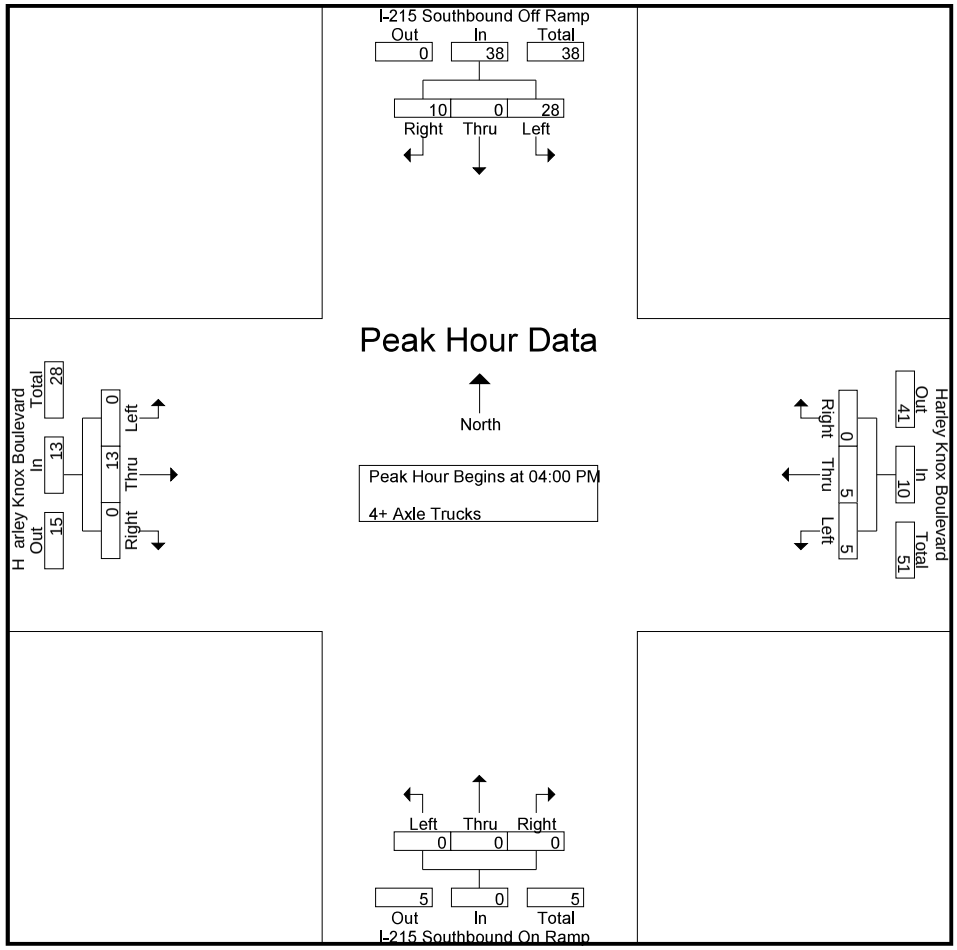
	I-215 Southbound Off Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Southbound On Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	6	0	2	0	8	4	1	0	0	5	0	0	0	0	0	0	5	0	0	5	0	18
04:15 PM	7	0	2	2	9	1	2	0	0	3	0	0	0	0	0	0	3	0	0	3	2	15
04:30 PM	7	0	4	1	11	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	1	17
04:45 PM	8	0	2	1	10	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	11
Total	28	0	10	4	38	5	5	0	0	10	0	0	0	0	0	0	13	0	0	13	4	61
05:00 PM	6	0	4	0	10	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	14
05:15 PM	6	0	6	3	12	1	1	0	0	2	0	0	0	0	0	0	1	1	0	2	3	16
05:30 PM	6	0	2	1	8	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	1	11
05:45 PM	5	0	3	1	8	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	1	11
Total	23	0	15	5	38	2	2	0	0	4	0	0	0	0	0	0	9	1	0	10	5	52
Grand Total	51	0	25	9	76	7	7	0	0	14	0	0	0	0	0	0	22	1	0	23	9	113
Apprch %	67.1	0	32.9			50	50	0			0	0	0			0	95.7	4.3				
Total %	45.1	0	22.1		67.3	6.2	6.2	0		12.4	0	0	0		0	0	19.5	0.9		20.4	7.4	92.6

	I-215 Southbound Off Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Southbound On Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	6	0	2	8	4	1	0	5	0	0	0	0	0	5	0	5	18
04:15 PM	7	0	2	9	1	2	0	3	0	0	0	0	0	3	0	3	15
04:30 PM	7	0	4	11	0	1	0	1	0	0	0	0	0	5	0	5	17
04:45 PM	8	0	2	10	0	1	0	1	0	0	0	0	0	0	0	0	11
Total Volume	28	0	10	38	5	5	0	10	0	0	0	0	0	13	0	13	61
% App. Total	73.7	0	26.3		50	50	0		0	0	0		0	100	0		
PHF	.875	.000	.625	.864	.313	.625	.000	.500	.000	.000	.000	.000	.000	.650	.000	.650	.847

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County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : CRV215SHKPM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 2



Location: County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard

Date: 4/14/2015
Weather: Clear

PEDESTRIANS

	North Leg I-215 Southbound Ramps	East Leg Harley Knox Boulevard	South Leg I-215 Southbound Ramps	West Leg Harley Knox Boulevard	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-215 Southbound Ramps	East Leg Harley Knox Boulevard	South Leg I-215 Southbound Ramps	West Leg Harley Knox Boulevard	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	1	0	0	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	1

Location: County of Riverside
N/S: I-215 Southbound Ramps
E/W: Harley Knox Boulevard

Date: 4/14/2015
Weather: Clear

BICYCLES

	North Leg I-215 Southbound Ramps	East Leg Harley Knox Boulevard	South Leg I-215 Southbound Ramps	West Leg Harley Knox Boulevard	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-215 Southbound Ramps	East Leg Harley Knox Boulevard	South Leg I-215 Southbound Ramps	West Leg Harley Knox Boulevard	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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City of Moreno Valley
N/S: I-215 Northbound Ramps / Old 215
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215NCAAM
Site Code : 13414472
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

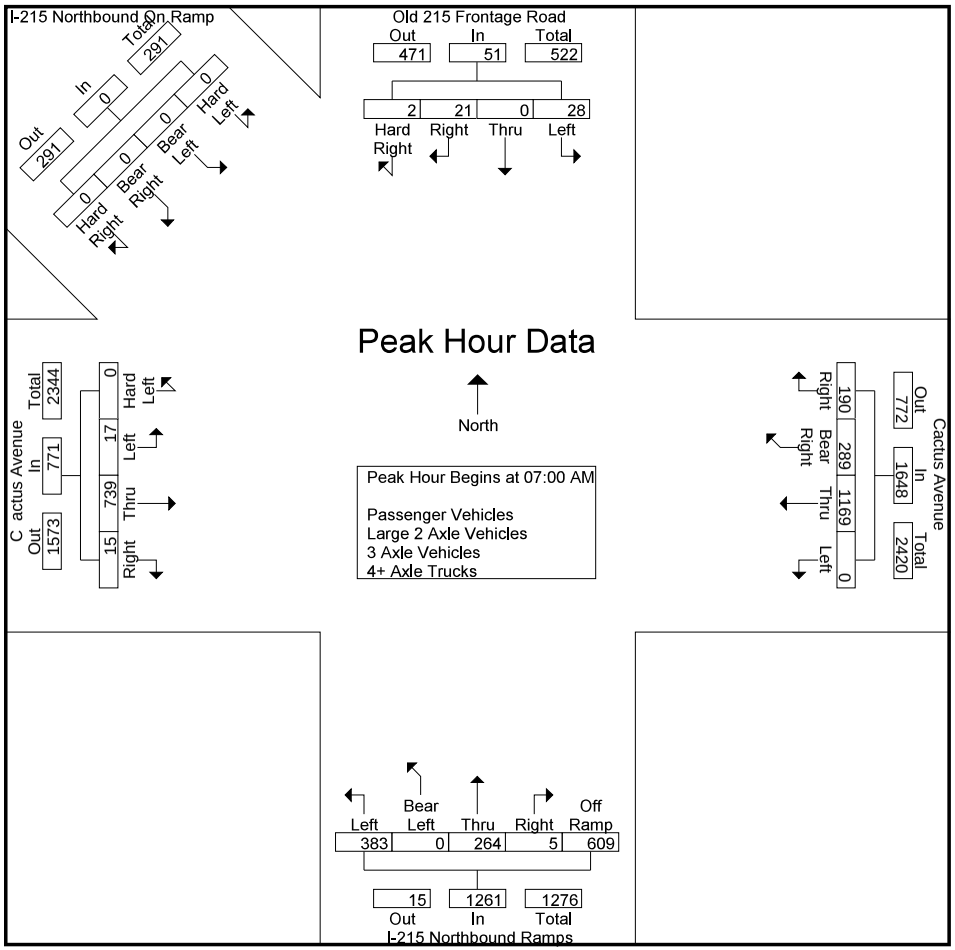
	Old 215 Frontage Road Southbound						Cactus Avenue Westbound						I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound						I-215 Northbound On Ramp Southeastbound							
Start Time	Left	Thru	Right	Hard Right	RTOR	App. Total	Left	Thru	Bear Right	Right	RTOR	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	RTOR	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Exclu. Total	Inclu. Total
07:00 AM	5	0	3	1	1	9	0	308	61	32	13	401	101	0	55	0	143	299	0	3	192	5	3	200	0	0	0	0	0	17	909
07:15 AM	4	0	8	1	3	13	0	315	66	47	8	428	106	0	70	0	154	330	0	6	174	3	0	183	0	0	0	0	0	11	954
07:30 AM	7	0	7	0	1	14	0	273	81	60	10	414	102	0	73	1	147	323	0	5	182	5	3	192	0	0	0	0	0	14	943
07:45 AM	12	0	3	0	0	15	0	273	81	51	12	405	74	0	66	4	165	309	0	3	191	2	0	196	0	0	0	0	0	12	925
Total	28	0	21	2	5	51	0	1169	289	190	43	1648	383	0	264	5	609	1261	0	17	739	15	6	771	0	0	0	0	0	54	3731
08:00 AM	8	0	4	0	2	12	0	206	94	43	7	343	68	0	36	3	132	239	0	7	161	4	0	172	0	0	0	0	0	9	766
08:15 AM	5	0	5	1	2	11	0	164	113	33	8	310	78	0	37	0	117	232	0	4	147	4	1	155	0	0	0	0	0	11	708
08:30 AM	8	1	7	0	3	16	0	157	91	8	2	256	49	0	18	2	138	207	0	3	130	5	2	138	0	0	0	0	0	7	617
08:45 AM	6	0	10	1	3	17	0	147	96	19	5	262	32	0	8	0	122	162	0	5	113	4	0	122	0	0	0	0	0	8	563
Total	27	1	26	2	10	56	0	674	394	103	22	1171	227	0	99	5	509	840	0	19	551	17	3	587	0	0	0	0	0	35	2654
Grand Total	55	1	47	4	15	107	0	1843	683	293	65	2819	610	0	363	10	1118	2101	0	36	1290	32	9	1358	0	0	0	0	0	89	6385
Apprch %	51.4	0.9	43.9	3.7			0	65.4	24.2	10.4			29	0	17.3	0.5	53.2		0	2.7	95	2.4			0	0	0	0			
Total %	0.9	0	0.7	0.1		1.7	0	28.9	10.7	4.6		44.2	9.6	0	5.7	0.2	17.5	32.9	0	0.6	20.2	0.5		21.3	0	0	0	0	0	1.4	98.6
Passenger Vehicles	47	1	27	0		88	0	1819	630	284		2795	600	0	344	10	1090	2044	0	26	1216	7		1251	0	0	0	0	0	0	0
% Passenger Vehicles	85.5	100	57.4	0	86.7	72.1	0	98.7	92.2	96.9	95.4	96.9	98.4	0	94.8	100	97.5	97.3	0	72.2	94.3	21.9	22.2	91.5	0	0	0	0	0	0	0
Large 2 Axle Vehicles	0	0	3	0		4	0	13	18	2		33	3	0	3	0	10	16	0	4	19	5		29	0	0	0	0	0	0	0
% Large 2 Axle Vehicles	0	0	6.4	0	6.7	3.3	0	0.7	2.6	0.7	0	1.1	0.5	0	0.8	0	0.9	0.8	0	11.1	1.5	15.6	11.1	2.1	0	0	0	0	0	0	0
3 Axle Vehicles	5	0	6	0		12	0	5	8	5		21	0	0	2	0	6	8	0	1	8	0		9	0	0	0	0	0	0	0
% 3 Axle Vehicles	9.1	0	12.8	0	6.7	9.8	0	0.3	1.2	1.7	4.6	0.7	0	0	0.6	0	0.5	0.4	0	2.8	0.6	0	0	0.7	0	0	0	0	0	0	0
4+ Axle Trucks	3	0	11	4		18	0	6	27	2		35	7	0	14	0	12	33	0	5	47	20		78	0	0	0	0	0	0	0
% 4+ Axle Trucks	5.5	0	23.4	100	0	14.8	0	0.3	4	0.7	0	1.2	1.1	0	3.9	0	1.1	1.6	0	13.9	3.6	62.5	66.7	5.7	0	0	0	0	0	0	0

	Old 215 Frontage Road Southbound					Cactus Avenue Westbound					I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound					I-215 Northbound On Ramp Southeastbound						
Start Time	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																											
Peak Hour for Entire Intersection Begins at 07:00 AM																											
07:00 AM	5	0	3	1	9	0	308	61	32	401	101	0	55	0	143	299	0	3	192	5	200	0	0	0	0	0	909
07:15 AM	4	0	8	1	13	0	315	66	47	428	106	0	70	0	154	330	0	6	174	3	183	0	0	0	0	0	954
07:30 AM	7	0	7	0	14	0	273	81	60	414	102	0	73	1	147	323	0	5	182	5	192	0	0	0	0	0	943
07:45 AM	12	0	3	0	15	0	273	81	51	405	74	0	66	4	165	309	0	3	191	2	196	0	0	0	0	0	925
Total Volume	28	0	21	2	51	0	1169	289	190	1648	383	0	264	5	609	1261	0	17	739	15	771	0	0	0	0	0	3731
% App. Total	54.9	0	41.2	3.9		0	70.9	17.5	11.5		30.4	0	20.9	0.4	48.3		0	2.2	95.8	1.9		0	0	0	0		
PHF	.583	.000	.656	.500	.850	.000	.928	.892	.792	.963	.903	.000	.904	.313	.923	.955	.000	.708	.962	.750	.964	.000	.000	.000	.000	.000	.978

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City of Moreno Valley
N/S: I-215 Northbound Ramps / Old 215
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215NCAAM
Site Code : 13414472
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: I-215 Northbound Ramps / Old 215
E/W: Cactus Avenue
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File Name : MRV215NCAAM
Site Code : 13414472
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Page No : 1

Groups Printed- Large 2 Axle Vehicles

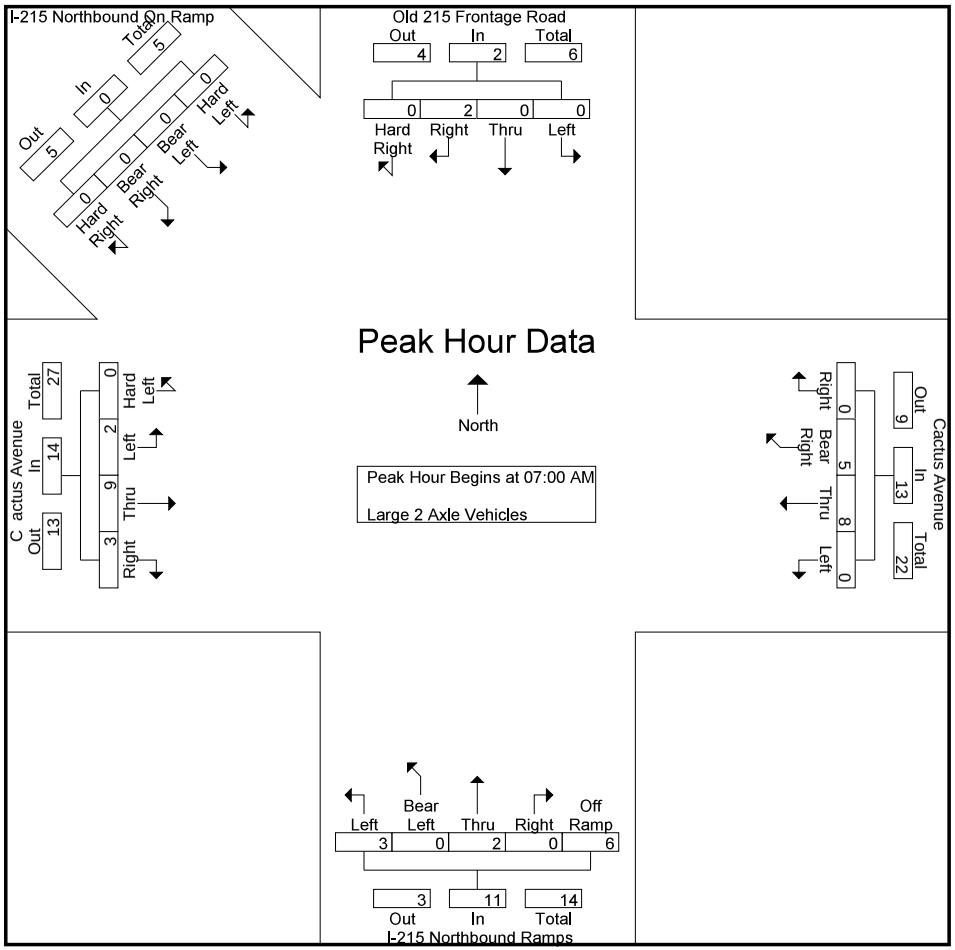
	Old 215 Frontage Road Southbound						Cactus Avenue Westbound						I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound						I-215 Northbound On Ramp Southeastbound							
Start Time	Left	Thru	Right	Hard Right	RTOR	App. Total	Left	Thru	Bear Right	Right	RTOR	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	RTOR	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	0	3	0	0	0	3	1	0	0	0	2	3	0	0	3	1	1	4	0	0	0	0	0	1	10
07:15 AM	0	0	0	0	0	0	0	2	3	0	0	5	2	0	0	0	1	3	0	1	0	0	0	1	0	0	0	0	0	0	9
07:30 AM	0	0	1	0	0	1	0	0	2	0	0	2	0	0	1	0	1	2	0	1	3	1	0	5	0	0	0	0	0	0	10
07:45 AM	0	0	1	0	0	1	0	3	0	0	0	3	0	0	1	0	2	3	0	0	3	1	0	4	0	0	0	0	0	0	11
Total	0	0	2	0	0	2	0	8	5	0	0	13	3	0	2	0	6	11	0	2	9	3	1	14	0	0	0	0	0	1	40
08:00 AM	0	0	1	0	1	1	0	1	3	1	0	5	0	0	1	0	1	2	0	0	3	1	0	4	0	0	0	0	0	1	12
08:15 AM	0	0	0	0	0	0	0	2	4	0	0	6	0	0	0	0	2	2	0	1	0	1	0	2	0	0	0	0	0	0	10
08:30 AM	0	0	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	7
08:45 AM	0	0	0	0	0	0	0	1	3	1	0	5	0	0	0	0	1	1	0	0	5	0	0	5	0	0	0	0	0	0	11
Total	0	0	1	0	1	1	0	5	13	2	0	20	0	0	1	0	4	5	0	2	10	2	0	14	0	0	0	0	0	1	40
Grand Total	0	0	3	0	1	3	0	13	18	2	0	33	3	0	3	0	10	16	0	4	19	5	1	28	0	0	0	0	0	2	80
Apprch %	0	0	100	0			0	39.4	54.5	6.1			18.8	0	18.8	0	62.5		0	14.3	67.9	17.9			0	0	0	0			
Total %	0	0	3.8	0		3.8	0	16.2	22.5	2.5		41.2	3.8	0	3.8	0	12.5	20	0	5	23.8	6.2		35	0	0	0	0	0	2.4	97.6

	Old 215 Frontage Road Southbound					Cactus Avenue Westbound					I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound					I-215 Northbound On Ramp Southeastbound						
Start Time	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																											
Peak Hour for Entire Intersection Begins at 07:00 AM																											
07:00 AM	0	0	0	0	0	0	3	0	0	3	1	0	0	0	2	3	0	0	3	1	4	0	0	0	0	0	10
07:15 AM	0	0	0	0	0	0	2	3	0	5	2	0	0	0	1	3	0	1	0	0	1	0	0	0	0	0	9
07:30 AM	0	0	1	0	1	0	0	2	0	2	0	0	1	0	1	2	0	1	3	1	5	0	0	0	0	0	10
07:45 AM	0	0	1	0	1	0	3	0	0	3	0	0	1	0	2	3	0	0	3	1	4	0	0	0	0	0	11
Total Volume	0	0	2	0	2	0	8	5	0	13	3	0	2	0	6	11	0	2	9	3	14	0	0	0	0	0	40
% App. Total	0	0	100	0		0	61.5	38.5	0		27.3	0	18.2	0	54.5		0	14.3	64.3	21.4		0	0	0	0		
PHF	.000	.000	.500	.000	.500	.000	.667	.417	.000	.650	.375	.000	.500	.000	.750	.917	.000	.500	.750	.750	.700	.000	.000	.000	.000	.000	.909

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City of Moreno Valley
N/S: I-215 Northbound Ramps / Old 215
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215NCAAM
Site Code : 13414472
Start Date : 4/28/2015
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City of Moreno Valley
N/S: I-215 Northbound Ramps / Old 215
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215NCAAM
Site Code : 13414472
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

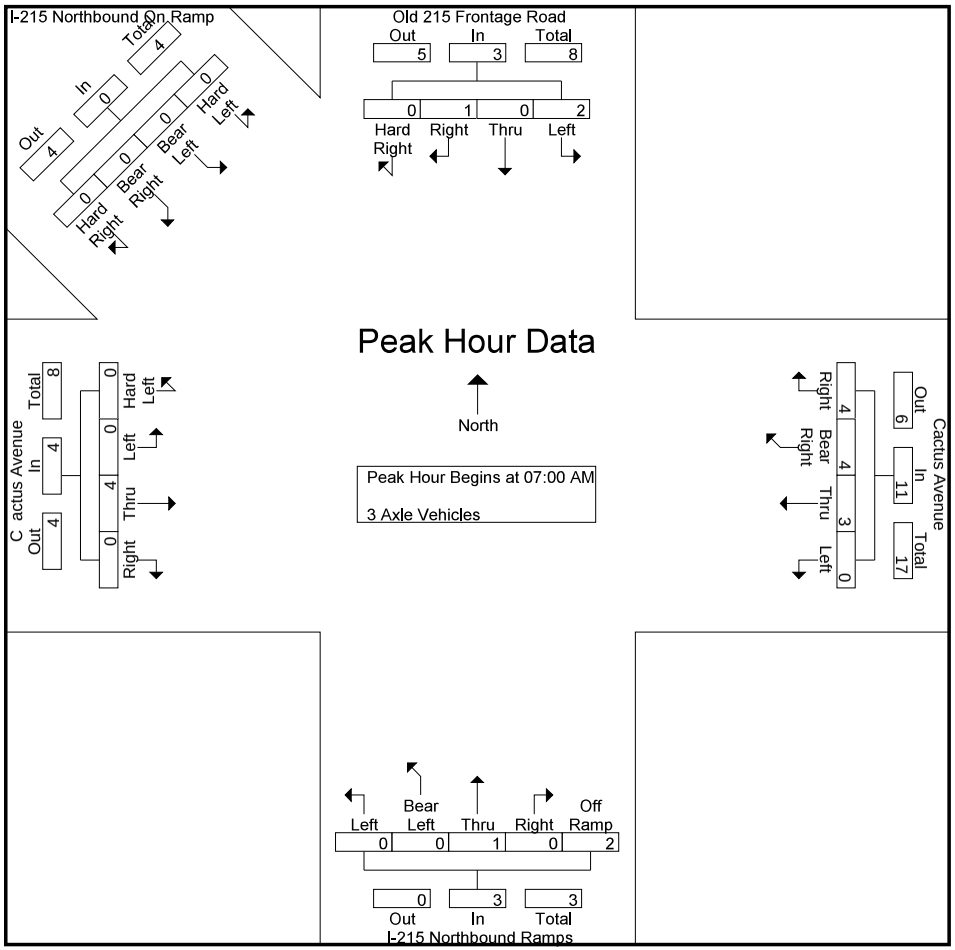
	Old 215 Frontage Road Southbound						Cactus Avenue Westbound						I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound						I-215 Northbound On Ramp Southeastbound							
Start Time	Left	Thru	Right	Hard Right	RTOR	App. Total	Left	Thru	Bear Right	Right	RTOR	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	RTOR	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	3	0	0	3	0	0	0	0	0	0	5
07:15 AM	0	0	1	0	0	1	0	0	0	1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	3
07:30 AM	1	0	0	0	0	1	0	1	3	2	1	6	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	8
07:45 AM	1	0	0	0	0	1	0	1	1	1	0	3	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5
Total	2	0	1	0	0	3	0	3	4	4	2	11	0	0	1	0	2	3	0	0	4	0	0	4	0	0	0	0	0	2	21
08:00 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	1	2	0	0	3	0	0	0	0	0	0	6
08:15 AM	0	0	1	0	1	1	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	4
08:30 AM	0	0	1	0	0	1	0	2	1	0	0	3	0	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	6
08:45 AM	1	0	3	0	0	4	0	0	1	1	1	2	0	0	0	0	2	2	0	0	1	0	0	1	0	0	0	0	0	1	9
Total	3	0	5	0	1	8	0	2	4	1	1	7	0	0	1	0	4	5	0	1	4	0	0	5	0	0	0	0	0	2	25
Grand Total	5	0	6	0	1	11	0	5	8	5	3	18	0	0	2	0	6	8	0	1	8	0	0	9	0	0	0	0	0	4	46
Apprch %	45.5	0	54.5	0			0	27.8	44.4	27.8			0	0	25	0	75		0	11.1	88.9	0			0	0	0	0			
Total %	10.9	0	13	0		23.9	0	10.9	17.4	10.9		39.1	0	0	4.3	0	13	17.4	0	2.2	17.4	0		19.6	0	0	0	0	0	8	92

	Old 215 Frontage Road Southbound					Cactus Avenue Westbound					I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound					I-215 Northbound On Ramp Southeastbound						
Start Time	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																											
Peak Hour for Entire Intersection Begins at 07:00 AM																											
07:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	3	0	3	0	0	0	0	0	5
07:15 AM	0	0	1	0	1	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3
07:30 AM	1	0	0	0	1	0	1	3	2	6	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	8
07:45 AM	1	0	0	0	1	0	1	1	1	3	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	5
Total Volume	2	0	1	0	3	0	3	4	4	11	0	0	1	0	2	3	0	0	4	0	4	0	0	0	0	0	21
% App. Total	66.7	0	33.3	0		0	27.3	36.4	36.4		0	0	33.3	0	66.7		0	0	100	0		0	0	0	0		
PHF	.500	.000	.250	.000	.750	.000	.750	.333	.500	.458	.000	.000	.250	.000	.500	.750	.000	.000	.333	.000	.333	.000	.000	.000	.000	.000	.656

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City of Moreno Valley
N/S: I-215 Northbound Ramps / Old 215
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File Name : MRV215NCAAM
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N/S: I-215 Northbound Ramps / Old 215
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File Name : MRV215NCAAM
Site Code : 13414472
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

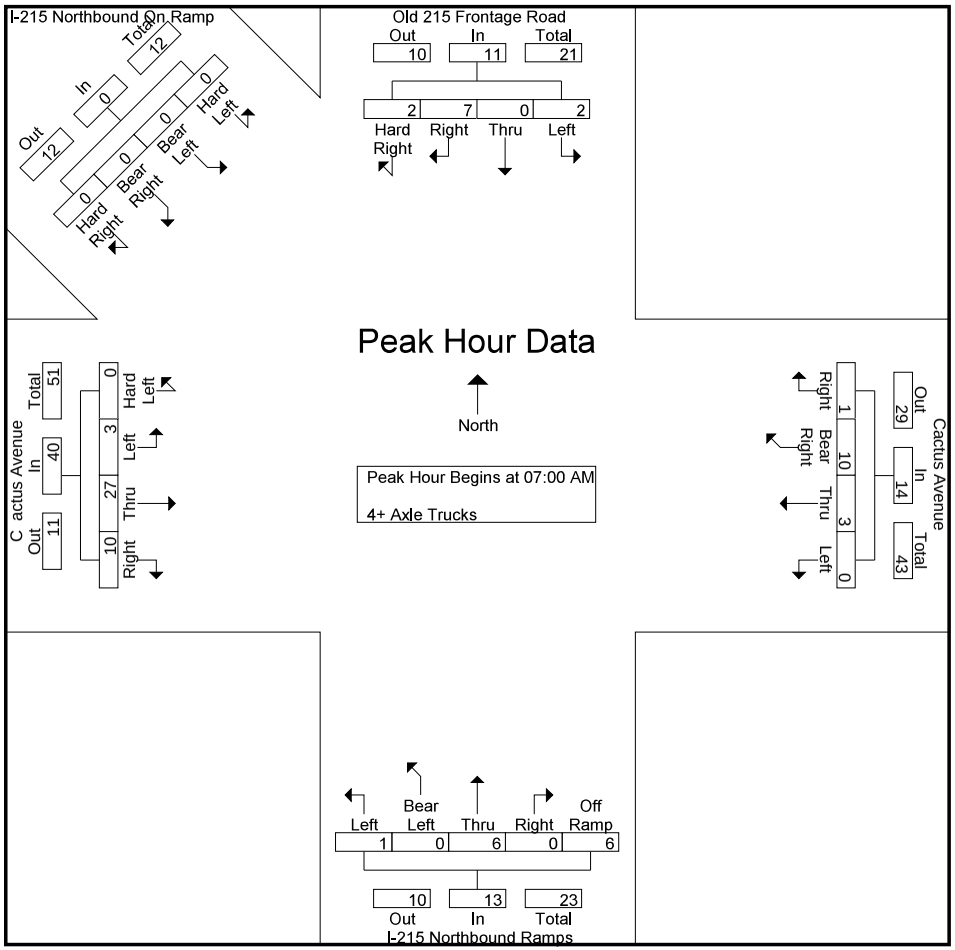
	Old 215 Frontage Road Southbound						Cactus Avenue Westbound						I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound						I-215 Northbound On Ramp Southeastbound							
Start Time	Left	Thru	Right	Hard Right	RTOR	App. Total	Left	Thru	Bear Right	Right	RTOR	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	RTOR	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	2	1	0	3	0	0	1	0	0	1	0	0	2	0	3	5	0	1	8	3	2	12	0	0	0	0	0	2	21
07:15 AM	0	0	1	1	0	2	0	0	1	0	0	1	1	0	0	0	1	2	0	0	1	3	0	4	0	0	0	0	0	0	9
07:30 AM	1	0	4	0	0	5	0	1	3	0	0	4	0	0	2	0	1	3	0	1	6	4	3	11	0	0	0	0	0	3	23
07:45 AM	1	0	0	0	0	1	0	2	5	1	0	8	0	0	2	0	1	3	0	1	12	0	0	13	0	0	0	0	0	0	25
Total	2	0	7	2	0	11	0	3	10	1	0	14	1	0	6	0	6	13	0	3	27	10	5	40	0	0	0	0	0	5	78
08:00 AM	0	0	1	0	0	1	0	0	7	0	0	7	2	0	2	0	1	5	0	1	1	2	0	4	0	0	0	0	0	0	17
08:15 AM	0	0	1	1	0	2	0	1	2	0	0	3	1	0	4	0	2	7	0	0	10	1	0	11	0	0	0	0	0	0	23
08:30 AM	0	0	0	0	0	0	0	1	4	0	0	5	2	0	0	0	2	4	0	0	5	4	1	9	0	0	0	0	0	1	18
08:45 AM	1	0	2	1	0	4	0	1	4	1	0	6	1	0	2	0	1	4	0	1	4	3	0	8	0	0	0	0	0	0	22
Total	1	0	4	2	0	7	0	3	17	1	0	21	6	0	8	0	6	20	0	2	20	10	1	32	0	0	0	0	0	1	80
Grand Total	3	0	11	4	0	18	0	6	27	2	0	35	7	0	14	0	12	33	0	5	47	20	6	72	0	0	0	0	0	6	158
Apprch %	16.7	0	61.1	22.2			0	17.1	77.1	5.7			21.2	0	42.4	0	36.4		0	6.9	65.3	27.8			0	0	0	0			
Total %	1.9	0	7	2.5		11.4	0	3.8	17.1	1.3		22.2	4.4	0	8.9	0	7.6	20.9	0	3.2	29.7	12.7		45.6	0	0	0	0	0	3.7	96.3

	Old 215 Frontage Road Southbound					Cactus Avenue Westbound					I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound					I-215 Northbound On Ramp Southeastbound						
Start Time	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																												
Peak Hour for Entire Intersection Begins at 07:00 AM																												
07:00 AM	0	0	2	1	3	0	0	1	0	1	0	0	2	0	3	5	0	1	8	3	12	0	0	0	0	0		21
07:15 AM	0	0	1	1	2	0	0	1	0	1	1	0	0	0	1	2	0	0	1	3	4	0	0	0	0	0		9
07:30 AM	1	0	4	0	5	0	1	3	0	4	0	0	2	0	1	3	0	1	6	4	11	0	0	0	0	0		23
07:45 AM	1	0	0	0	1	0	2	5	1	8	0	0	2	0	1	3	0	1	12	0	13	0	0	0	0	0		25
Total Volume	2	0	7	2	11	0	3	10	1	14	1	0	6	0	6	13	0	3	27	10	40	0	0	0	0	0		78
% App. Total	18.2	0	63.6	18.2		0	21.4	71.4	7.1		7.7	0	46.2	0	46.2		0	7.5	67.5	25		0	0	0	0			
PHF	.500	.000	.438	.500	.550	.000	.375	.500	.250	.438	.250	.000	.750	.000	.500	.650	.000	.750	.563	.625	.769	.000	.000	.000	.000	.000		.780

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City of Moreno Valley
N/S: I-215 Northbound Ramps / Old 215
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215NCAAM
Site Code : 13414472
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: I-215 Northbound Ramps / Old 215
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215NCAPM2
Site Code : 13414472
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

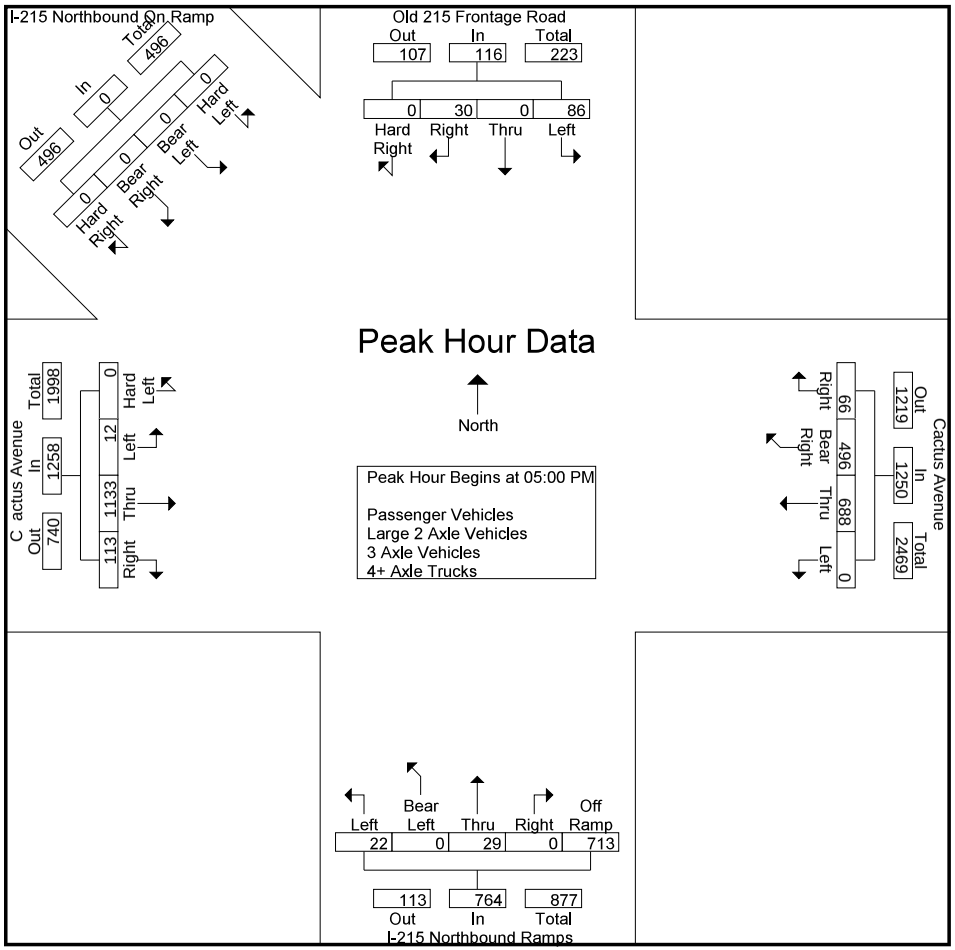
	Old 215 Frontage Road Southbound						Cactus Avenue Westbound						I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound						I-215 Northbound On Ramp Southeastbound							
Start Time	Left	Thru	Right	Hard Right	RTOR	App. Total	Left	Thru	Bear Right	Right	RTOR	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	RTOR	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Exclu. Total	Inclu. Total
04:00 PM	23	0	7	0	4	30	0	215	169	20	3	404	8	0	13	0	89	110	0	2	211	23	0	236	0	0	0	0	0	7	780
04:15 PM	21	0	6	0	4	27	0	214	171	22	2	407	7	0	5	2	116	130	0	4	210	20	0	234	0	0	0	0	0	6	798
04:30 PM	18	0	5	0	2	23	0	223	163	17	1	403	5	0	5	0	126	136	0	3	246	41	6	290	0	0	0	0	0	9	852
04:45 PM	18	0	5	0	3	23	0	209	167	25	5	401	10	0	10	0	120	140	0	4	220	26	2	250	0	0	0	0	0	10	814
Total	80	0	23	0	13	103	0	861	670	84	11	1615	30	0	33	2	451	516	0	13	887	110	8	1010	0	0	0	0	0	32	3244
05:00 PM	22	0	12	0	7	34	0	197	134	15	1	346	7	0	6	0	146	159	0	3	280	54	0	337	0	0	0	0	0	8	876
05:15 PM	21	0	7	0	2	28	0	162	120	19	3	301	6	0	9	0	179	194	0	2	290	23	1	315	0	0	0	0	0	6	838
05:30 PM	18	0	5	0	2	23	0	167	131	21	3	319	3	0	10	0	196	209	0	4	279	21	2	304	0	0	0	0	0	7	855
05:45 PM	25	0	6	0	4	31	0	162	111	11	2	284	6	0	4	0	192	202	0	3	284	15	1	302	0	0	0	0	0	7	819
Total	86	0	30	0	15	116	0	688	496	66	9	1250	22	0	29	0	713	764	0	12	1133	113	4	1258	0	0	0	0	0	28	3388
Grand Total	166	0	53	0	28	219	0	1549	1166	150	20	2865	52	0	62	2	1164	1280	0	25	2020	223	12	2268	0	0	0	0	0	60	6632
Apprch %	75.8	0	24.2	0			0	54.1	40.7	5.2			4.1	0	4.8	0.2	90.9		0	1.1	89.1	9.8			0	0	0	0			
Total %	2.5	0	0.8	0		3.3	0	23.4	17.6	2.3		43.2	0.8	0	0.9	0	17.6	19.3	0	0.4	30.5	3.4		34.2	0	0	0	0	0	0.9	99.1
Passenger Vehicles	163	0	46	0		232	0	1533	1118	148		2818	37	0	57	1	1155	1250	0	21	1971	189		2190	0	0	0	0	0	0	0
% Passenger Vehicles	98.2	0	86.8	0	82.1	93.9	0	99	95.9	98.7	95	97.7	71.2	0	91.9	50	99.2	97.7	0	84	97.6	84.8	75	96.1	0	0	0	0	0	0	0
Large 2 Axle Vehicles	2	0	0	0		2	0	14	16	0		30	1	0	3	0	9	13	0	0	10	6		16	0	0	0	0	0	0	0
% Large 2 Axle Vehicles	1.2	0	0	0	0	0.8	0	0.9	1.4	0	0	1	1.9	0	4.8	0	0.8	1	0	0	0.5	2.7	0	0.7	0	0	0	0	0	0	0
3 Axle Vehicles	1	0	3	0		7	0	1	5	1		8	10	0	0	0	0	10	0	0	1	2		3	0	0	0	0	0	0	0
% 3 Axle Vehicles	0.6	0	5.7	0	10.7	2.8	0	0.1	0.4	0.7	5	0.3	19.2	0	0	0	0	0.8	0	0	0	0.9	0	0.1	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	4	0		6	0	1	27	1		29	4	0	2	1	0	7	0	4	38	26		71	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	7.5	0	7.1	2.4	0	0.1	2.3	0.7	0	1	7.7	0	3.2	50	0	0.5	0	16	1.9	11.7	25	3.1	0	0	0	0	0	0	0

	Old 215 Frontage Road Southbound					Cactus Avenue Westbound					I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound					I-215 Northbound On Ramp Southeastbound						
Start Time	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																											
Peak Hour for Entire Intersection Begins at 05:00 PM																											
05:00 PM	22	0	12	0	34	0	197	134	15	346	7	0	6	0	146	159	0	3	280	54	337	0	0	0	0	0	876
05:15 PM	21	0	7	0	28	0	162	120	19	301	6	0	9	0	179	194	0	2	290	23	315	0	0	0	0	0	838
05:30 PM	18	0	5	0	23	0	167	131	21	319	3	0	10	0	196	209	0	4	279	21	304	0	0	0	0	0	855
05:45 PM	25	0	6	0	31	0	162	111	11	284	6	0	4	0	192	202	0	3	284	15	302	0	0	0	0	0	819
Total Volume	86	0	30	0	116	0	688	496	66	1250	22	0	29	0	713	764	0	12	1133	113	1258	0	0	0	0	0	3388
% App. Total	74.1	0	25.9	0		0	55	39.7	5.3		2.9	0	3.8	0	93.3		0	1	90.1	9		0	0	0	0		
PHF	.860	.000	.625	.000	.853	.000	.873	.925	.786	.903	.786	.000	.725	.000	.909	.914	.000	.750	.977	.523	.933	.000	.000	.000	.000	.000	.967

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City of Moreno Valley
N/S: I-215 Northbound Ramps / Old 215
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215NCAPM2
Site Code : 13414472
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: I-215 Northbound Ramps / Old 215
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Weather: Clear

File Name : MRV215NCAPM2
Site Code : 13414472
Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

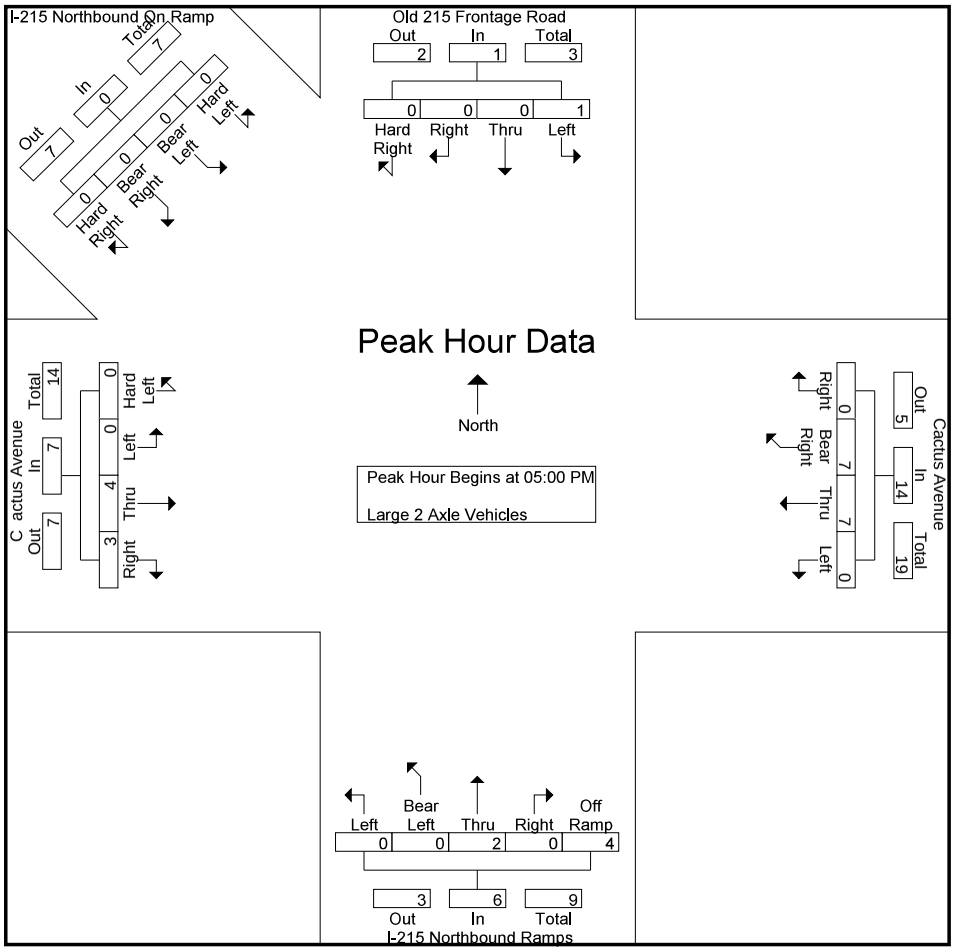
	Old 215 Frontage Road Southbound						Cactus Avenue Westbound						I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound						I-215 Northbound On Ramp Southeastbound							
Start Time	Left	Thru	Right	Hard Right	RTOR	App. Total	Left	Thru	Bear Right	Right	RTOR	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	RTOR	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Exclu. Total	Inclu. Total
04:00 PM	1	0	0	0	0	1	0	2	6	0	0	8	0	0	1	0	1	2	0	0	4	1	0	5	0	0	0	0	0	0	16
04:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	1	1	0	0	1	0	0	1	0	0	0	0	0	0	4
04:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	2	2	0	0	1	1	0	2	0	0	0	0	0	0	6
04:45 PM	0	0	0	0	0	0	0	3	1	0	0	4	1	0	0	0	1	2	0	0	0	1	0	1	0	0	0	0	0	0	7
Total	1	0	0	0	0	1	0	7	9	0	0	16	1	0	1	0	5	7	0	0	6	3	0	9	0	0	0	0	0	0	33
05:00 PM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	6
05:15 PM	1	0	0	0	0	1	0	1	1	0	0	2	0	0	2	0	1	3	0	0	2	1	0	3	0	0	0	0	0	0	9
05:30 PM	0	0	0	0	0	0	0	2	3	0	0	5	0	0	0	0	2	2	0	0	0	1	0	1	0	0	0	0	0	0	8
05:45 PM	0	0	0	0	0	0	0	1	3	0	0	4	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	1	0	0	0	0	1	0	7	7	0	0	14	0	0	2	0	4	6	0	0	4	3	0	7	0	0	0	0	0	0	28
Grand Total	2	0	0	0	0	2	0	14	16	0	0	30	1	0	3	0	9	13	0	0	10	6	0	16	0	0	0	0	0	0	61
Apprch %	100	0	0	0			0	46.7	53.3	0			7.7	0	23.1	0	69.2		0	0	62.5	37.5			0	0	0	0			
Total %	3.3	0	0	0		3.3	0	23	26.2	0		49.2	1.6	0	4.9	0	14.8	21.3	0	0	16.4	9.8		26.2	0	0	0	0	0	0	100

	Old 215 Frontage Road Southbound					Cactus Avenue Westbound					I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound					I-215 Northbound On Ramp Southeastbound						
Start Time	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																											
Peak Hour for Entire Intersection Begins at 05:00 PM																											
05:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	6
05:15 PM	1	0	0	0	1	0	1	1	0	2	0	0	2	0	1	3	0	0	2	1	3	0	0	0	0	0	9
05:30 PM	0	0	0	0	0	0	2	3	0	5	0	0	0	0	2	2	0	0	0	1	1	0	0	0	0	0	8
05:45 PM	0	0	0	0	0	0	1	3	0	4	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	5
Total Volume	1	0	0	0	1	0	7	7	0	14	0	0	2	0	4	6	0	0	4	3	7	0	0	0	0	0	28
% App. Total	100	0	0	0		0	50	50	0		0	0	33.3	0	66.7		0	0	57.1	42.9		0	0	0	0		
PHF	.250	.000	.000	.000	.250	.000	.583	.583	.000	.700	.000	.000	.250	.000	.500	.500	.000	.000	.500	.750	.583	.000	.000	.000	.000	.000	.778

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City of Moreno Valley
N/S: I-215 Northbound Ramps / Old 215
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215NCAPM2
Site Code : 13414472
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: I-215 Northbound Ramps / Old 215
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215NCAPM2
Site Code : 13414472
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

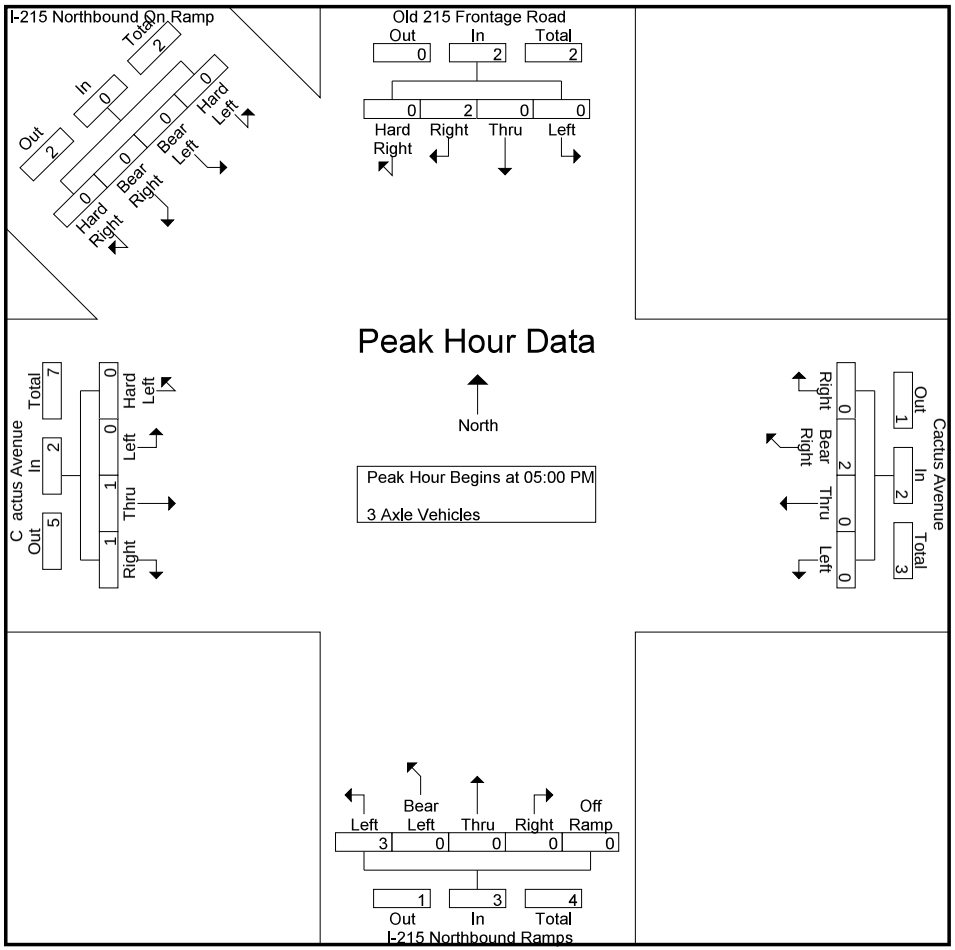
	Old 215 Frontage Road Southbound						Cactus Avenue Westbound						I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound						I-215 Northbound On Ramp Southeastbound							
Start Time	Left	Thru	Right	Hard Right	RTOR	App. Total	Left	Thru	Bear Right	Right	RTOR	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	RTOR	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Exclu. Total	Inclu. Total
04:00 PM	1	0	0	0	0	1	0	0	1	0	0	1	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	6
04:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	3
04:30 PM	0	0	1	0	1	1	0	0	1	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	3
04:45 PM	0	0	0	0	0	0	0	1	0	1	1	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	3
Total	1	0	1	0	1	2	0	1	3	1	1	5	7	0	0	0	0	7	0	0	0	1	0	1	0	0	0	0	0	2	15
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	2	0	2	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	5
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0	3
Total	0	0	2	0	2	2	0	0	2	0	0	2	3	0	0	0	0	3	0	0	1	1	0	2	0	0	0	0	0	2	9
Grand Total	1	0	3	0	3	4	0	1	5	1	1	7	10	0	0	0	0	10	0	0	1	2	0	3	0	0	0	0	0	4	24
Apprch %	25	0	75	0			0	14.3	71.4	14.3			100	0	0	0	0		0	0	33.3	66.7			0	0	0	0			
Total %	4.2	0	12.5	0		16.7	0	4.2	20.8	4.2		29.2	41.7	0	0	0	0	41.7	0	0	4.2	8.3		12.5	0	0	0	0	0	14.3	85.7

	Old 215 Frontage Road Southbound					Cactus Avenue Westbound					I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound					I-215 Northbound On Ramp Southeastbound						
Start Time	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																											
Peak Hour for Entire Intersection Begins at 05:00 PM																											
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	5
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0	3
Total Volume	0	0	2	0	2	0	0	2	0	2	3	0	0	0	0	3	0	0	1	1	2	0	0	0	0	0	9
% App. Total	0	0	100	0		0	0	100	0		100	0	0	0	0		0	0	50	50		0	0	0	0		
PHF	.000	.000	.250	.000	.250	.000	.000	.250	.000	.250	.375	.000	.000	.000	.000	.375	.000	.000	.250	.250	.500	.000	.000	.000	.000	.000	.450

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City of Moreno Valley
N/S: I-215 Northbound Ramps / Old 215
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215NCAPM2
Site Code : 13414472
Start Date : 4/28/2015
Page No : 2



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E/W: Cactus Avenue
Weather: Clear

File Name : MRV215NCAPM2
Site Code : 13414472
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

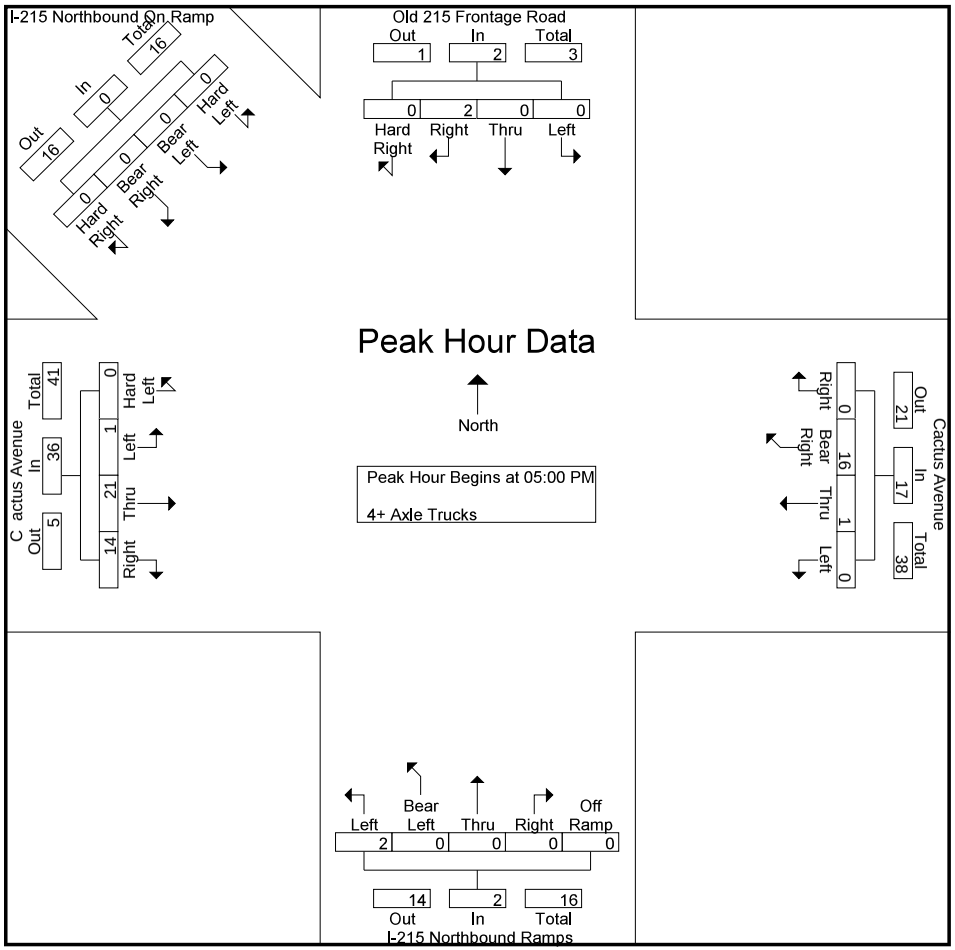
	Old 215 Frontage Road Southbound						Cactus Avenue Westbound						I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound						I-215 Northbound On Ramp Southeastbound							
Start Time	Left	Thru	Right	Hard Right	RTOR	App. Total	Left	Thru	Bear Right	Right	RTOR	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	RTOR	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	2	0	1	2	0	0	1	1	0	2	0	0	1	0	0	1	0	0	5	5	0	10	0	0	0	0	0	1	15
04:15 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	1	0	1	0	2	4	1	0	7	0	0	0	0	0	0	13
04:30 PM	0	0	0	0	0	0	0	0	3	0	0	3	1	0	0	0	0	1	0	1	6	4	1	11	0	0	0	0	0	1	15
04:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	1	0	1	0	0	2	0	0	2	2	1	4	0	0	0	0	0	1	8
Total	0	0	2	0	1	2	0	0	11	1	0	12	2	0	2	1	0	5	0	3	17	12	2	32	0	0	0	0	0	3	51
05:00 PM	0	0	1	0	0	1	0	1	3	0	0	4	1	0	0	0	0	1	0	1	7	5	0	13	0	0	0	0	0	0	19
05:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	0	9
05:30 PM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	4	6	1	10	0	0	0	0	0	1	14
05:45 PM	0	0	1	0	1	1	0	0	7	0	0	7	1	0	0	0	0	1	0	0	4	2	0	6	0	0	0	0	0	1	15
Total	0	0	2	0	1	2	0	1	16	0	0	17	2	0	0	0	0	2	0	1	21	14	1	36	0	0	0	0	0	2	57
Grand Total	0	0	4	0	2	4	0	1	27	1	0	29	4	0	2	1	0	7	0	4	38	26	3	68	0	0	0	0	0	5	108
Apprch %	0	0	100	0			0	3.4	93.1	3.4			57.1	0	28.6	14.3	0		0	5.9	55.9	38.2			0	0	0	0			
Total %	0	0	3.7	0		3.7	0	0.9	25	0.9		26.9	3.7	0	1.9	0.9	0	6.5	0	3.7	35.2	24.1		63	0	0	0	0	0	4.4	95.6

	Old 215 Frontage Road Southbound					Cactus Avenue Westbound					I-215 Northbound Ramps Northbound						Cactus Avenue Eastbound					I-215 Northbound On Ramp Southeastbound						
Start Time	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Left	Bear Left	Thru	Right	Off Ramp	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																											
Peak Hour for Entire Intersection Begins at 05:00 PM																											
05:00 PM	0	0	1	0	1	0	1	3	0	4	1	0	0	0	0	1	0	1	7	5	13	0	0	0	0	0	19
05:15 PM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	6	1	7	0	0	0	0	0	9
05:30 PM	0	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	4	6	10	0	0	0	0	0	14
05:45 PM	0	0	1	0	1	0	0	7	0	7	1	0	0	0	0	1	0	0	4	2	6	0	0	0	0	0	15
Total Volume	0	0	2	0	2	0	1	16	0	17	2	0	0	0	0	2	0	1	21	14	36	0	0	0	0	0	57
% App. Total	0	0	100	0		0	5.9	94.1	0		100	0	0	0	0		0	2.8	58.3	38.9		0	0	0	0		
PHF	.000	.000	.500	.000	.500	.000	.250	.571	.000	.607	.500	.000	.000	.000	.000	.500	.000	.250	.750	.583	.692	.000	.000	.000	.000	.000	.750

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City of Moreno Valley
N/S: I-215 Northbound Ramps / Old 215
E/W: Cactus Avenue
Weather: Clear

File Name : MRV215NCAPM2
Site Code : 13414472
Start Date : 4/28/2015
Page No : 2



Location: Moreno Valley
N/S: I-215 Northbound On / Off Ramps
E/W: Cactus Avenue

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg I-215 Northbound On / Off Ramps	East Leg Cactus Avenue	South Leg I-215 Northbound On / Off Ramps	West Leg Cactus Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-215 Northbound On / Off Ramps	East Leg Cactus Avenue	South Leg I-215 Northbound On / Off Ramps	West Leg Cactus Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Moreno Valley
N/S: I-215 Northbound On / Off Ramps
E/W: Cactus Avenue

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg I-215 Northbound On / Off Ramps	East Leg Cactus Avenue	South Leg I-215 Northbound On / Off Ramps	West Leg Cactus Avenue	TOTAL
7:00 AM	1	0	2	0	3
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	1	0	0	0	1
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	2	0	2	0	4

	North Leg I-215 Northbound On / Off Ramps	East Leg Cactus Avenue	South Leg I-215 Northbound On / Off Ramps	West Leg Cactus Avenue	TOTAL
4:00 PM	0	0	1	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	1	0	1
TOTAL VOLUMES:	0	0	2	0	2

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : PER215NHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

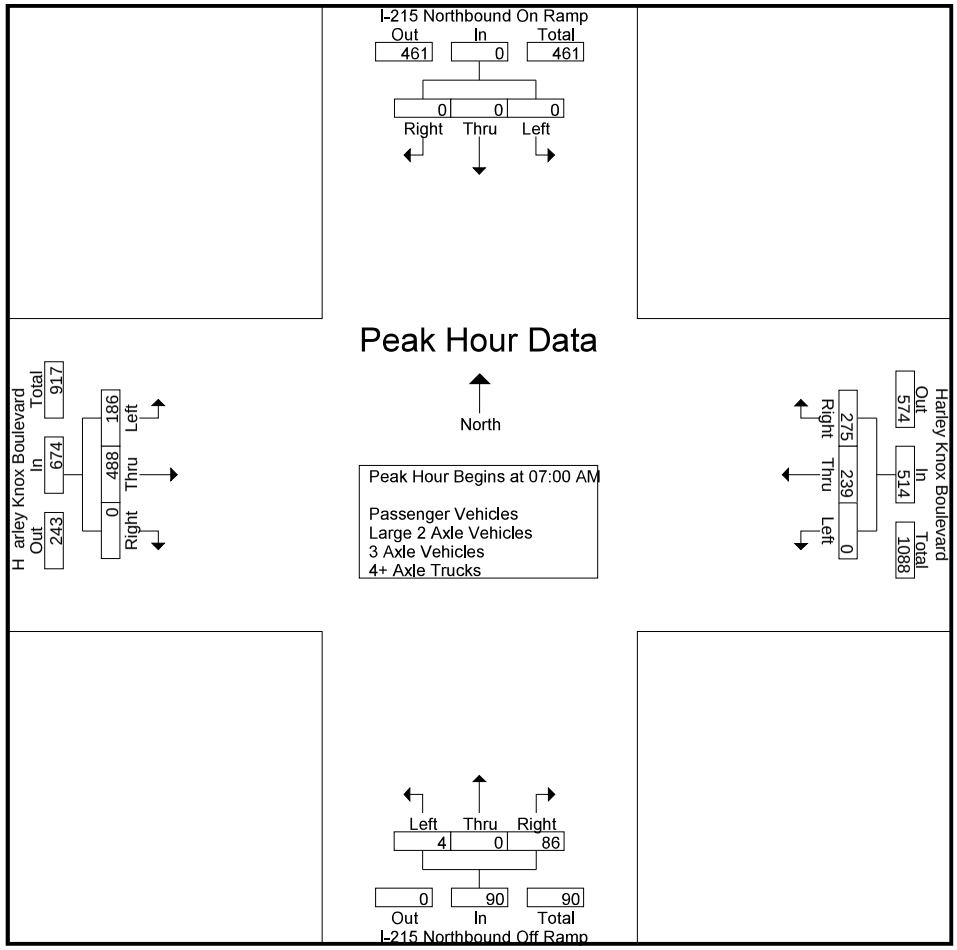
	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	98	71	6	169	0	0	24	22	24	41	112	0	0	153	28	346
07:15 AM	0	0	0	0	0	0	67	71	7	138	0	0	14	14	14	39	119	0	0	158	21	310
07:30 AM	0	0	0	0	0	0	42	73	7	115	3	0	14	14	17	50	131	0	0	181	21	313
07:45 AM	0	0	0	0	0	0	32	60	12	92	1	0	34	29	35	56	126	0	0	182	41	309
Total	0	0	0	0	0	0	239	275	32	514	4	0	86	79	90	186	488	0	0	674	111	1278
08:00 AM	0	0	0	0	0	0	26	54	4	80	4	1	15	12	20	27	65	0	0	92	16	192
08:15 AM	0	0	0	0	0	0	30	49	6	79	4	0	10	10	14	31	62	0	0	93	16	186
08:30 AM	0	0	0	0	0	0	29	44	4	73	1	1	19	18	21	49	68	0	0	117	22	211
08:45 AM	0	0	0	0	0	0	25	37	2	62	4	3	22	20	29	29	73	0	0	102	22	193
Total	0	0	0	0	0	0	110	184	16	294	13	5	66	60	84	136	268	0	0	404	76	782
Grand Total	0	0	0	0	0	0	349	459	48	808	17	5	152	139	174	322	756	0	0	1078	187	2060
Apprch %	0	0	0			0	43.2	56.8			9.8	2.9	87.4			29.9	70.1	0				
Total %	0	0	0		0	0	16.9	22.3		39.2	0.8	0.2	7.4		8.4	15.6	36.7	0		52.3	8.3	91.7
Passenger Vehicles	0	0	0		0	0	294	352		682	14	5	133		273	298	621	0		919	0	0
% Passenger Vehicles	0	0	0	0	0	0	84.2	76.7	75	79.7	82.4	100	87.5	87.1	87.2	92.5	82.1	0	0	85.3	0	0
Large 2 Axle Vehicles	0	0	0		0	0	23	39		69	0	0	6		12	8	42	0		50	0	0
% Large 2 Axle Vehicles	0	0	0	0	0	0	6.6	8.5	14.6	8.1	0	0	3.9	4.3	3.8	2.5	5.6	0	0	4.6	0	0
3 Axle Vehicles	0	0	0		0	0	9	16		26	1	0	4		8	2	31	0		33	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	2.6	3.5	2.1	3	5.9	0	2.6	2.2	2.6	0.6	4.1	0	0	3.1	0	0
4+ Axle Trucks	0	0	0		0	0	23	52		79	2	0	9		20	14	62	0		76	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	6.6	11.3	8.3	9.2	11.8	0	5.9	6.5	6.4	4.3	8.2	0	0	7.1	0	0

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	98	71	169	0	0	24	24	41	112	0	153	346
07:15 AM	0	0	0	0	0	67	71	138	0	0	14	14	39	119	0	158	310
07:30 AM	0	0	0	0	0	42	73	115	3	0	14	17	50	131	0	181	313
07:45 AM	0	0	0	0	0	32	60	92	1	0	34	35	56	126	0	182	309
Total Volume	0	0	0	0	0	239	275	514	4	0	86	90	186	488	0	674	1278
% App. Total	0	0	0		0	46.5	53.5		4.4	0	95.6		27.6	72.4	0		
PHF	.000	.000	.000	.000	.000	.610	.942	.760	.333	.000	.632	.643	.830	.931	.000	.926	.923

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : PER215NHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : PER215NHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

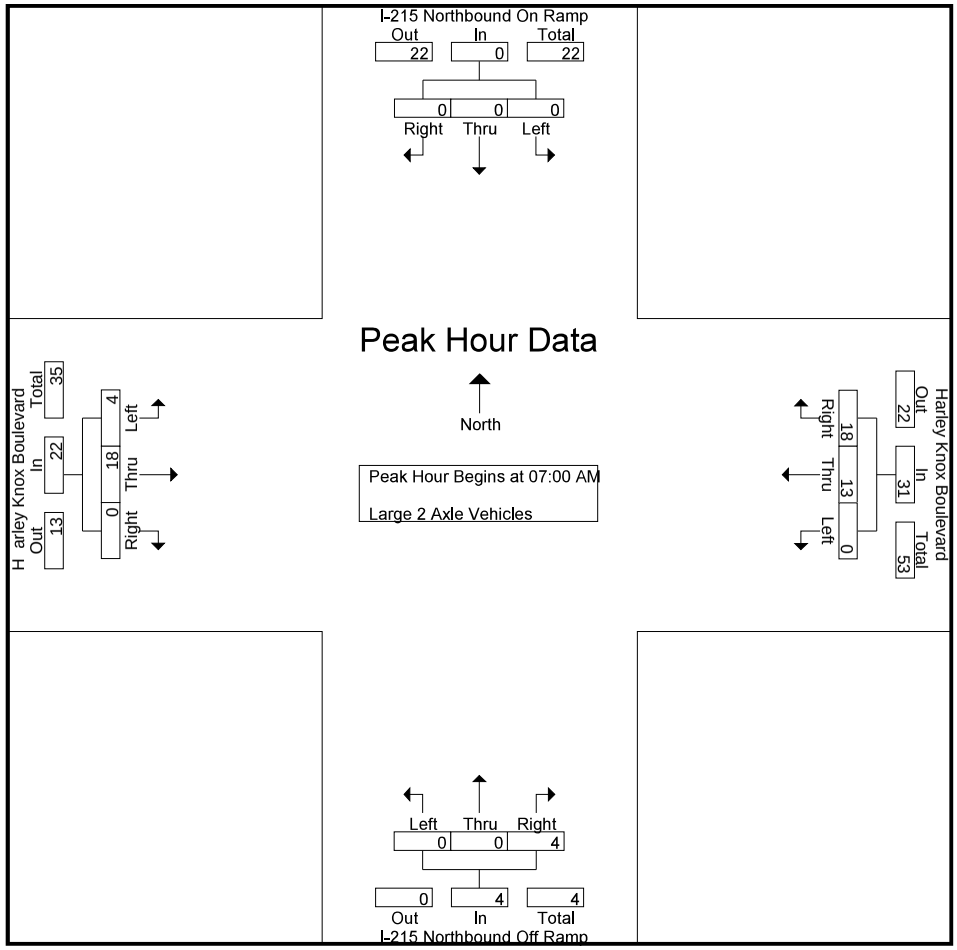
	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	2	7	1	9	0	0	2	2	2	2	4	0	0	6	3	17
07:15 AM	0	0	0	0	0	0	2	2	1	4	0	0	2	2	2	2	3	0	0	5	3	11
07:30 AM	0	0	0	0	0	0	3	3	0	6	0	0	0	0	0	0	7	0	0	7	0	13
07:45 AM	0	0	0	0	0	0	6	6	2	12	0	0	0	0	0	0	4	0	0	4	2	16
Total	0	0	0	0	0	0	13	18	4	31	0	0	4	4	4	4	18	0	0	22	8	57
08:00 AM	0	0	0	0	0	0	6	3	0	9	0	0	1	1	1	2	5	0	0	7	1	17
08:15 AM	0	0	0	0	0	0	1	6	1	7	0	0	0	0	0	0	6	0	0	6	1	13
08:30 AM	0	0	0	0	0	0	2	4	1	6	0	0	0	0	0	1	4	0	0	5	1	11
08:45 AM	0	0	0	0	0	0	1	8	1	9	0	0	1	1	1	1	9	0	0	10	2	20
Total	0	0	0	0	0	0	10	21	3	31	0	0	2	2	2	4	24	0	0	28	5	61
Grand Total	0	0	0	0	0	0	23	39	7	62	0	0	6	6	6	8	42	0	0	50	13	118
Apprch %	0	0	0			0	37.1	62.9			0	0	100			16	84	0				
Total %	0	0	0		0	0	19.5	33.1		52.5	0	0	5.1		5.1	6.8	35.6	0		42.4	9.9	90.1

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	2	7	9	0	0	2	2	2	4	0	6	17
07:15 AM	0	0	0	0	0	2	2	4	0	0	2	2	2	3	0	5	11
07:30 AM	0	0	0	0	0	3	3	6	0	0	0	0	0	7	0	7	13
07:45 AM	0	0	0	0	0	6	6	12	0	0	0	0	0	4	0	4	16
Total Volume	0	0	0	0	0	13	18	31	0	0	4	4	4	18	0	22	57
% App. Total	0	0	0		0	41.9	58.1		0	0	100		18.2	81.8	0		
PHF	.000	.000	.000	.000	.000	.542	.643	.646	.000	.000	.500	.500	.500	.643	.000	.786	.838

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : PER215NHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : PER215NHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

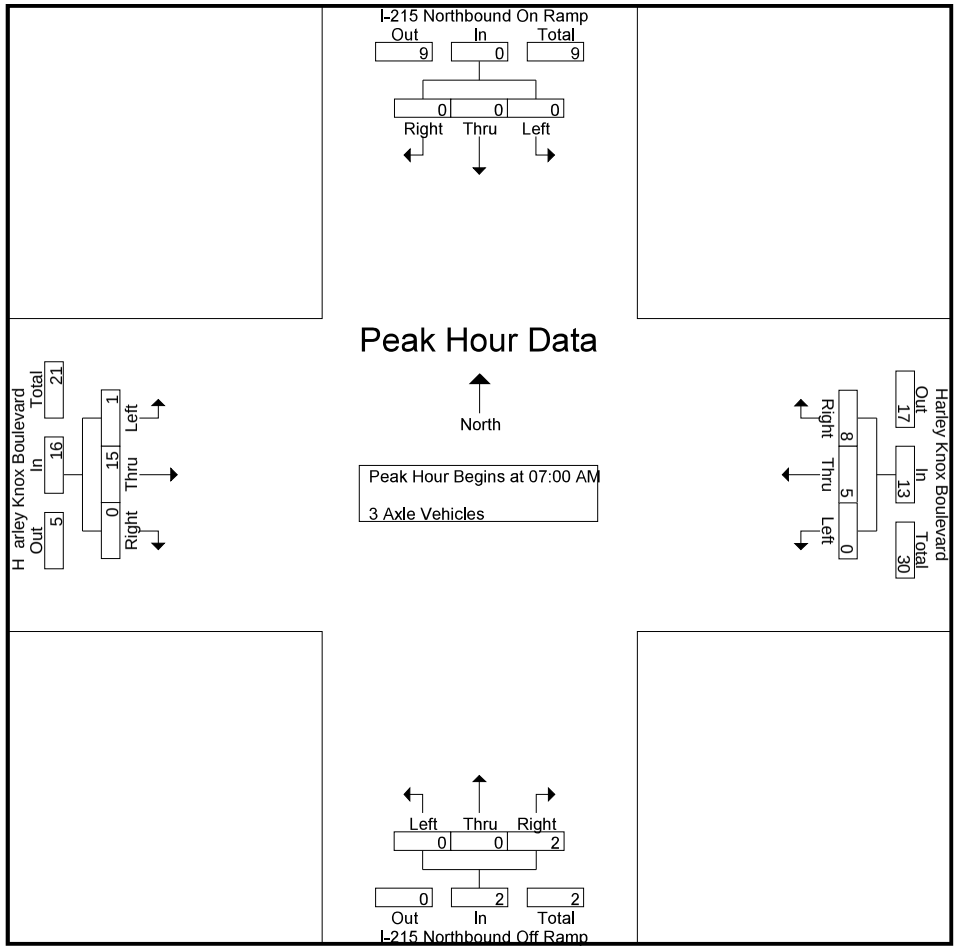
	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	2	1	0	3	0	0	1	1	1	0	7	0	0	7	1	11
07:15 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	1	5	0	0	6	0	8
07:30 AM	0	0	0	0	0	0	1	4	0	5	0	0	0	0	0	0	2	0	0	2	0	7
07:45 AM	0	0	0	0	0	0	1	2	0	3	0	0	1	0	1	0	1	0	0	1	0	5
Total	0	0	0	0	0	0	5	8	0	13	0	0	2	1	2	1	15	0	0	16	1	31
08:00 AM	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	1	1	0	0	2	0	6
08:15 AM	0	0	0	0	0	0	0	1	1	1	1	0	1	1	2	0	4	0	0	4	2	7
08:30 AM	0	0	0	0	0	0	1	4	0	5	0	0	0	0	0	0	1	0	0	1	0	6
08:45 AM	0	0	0	0	0	0	1	1	0	2	0	0	1	1	1	0	10	0	0	10	1	13
Total	0	0	0	0	0	0	4	8	1	12	1	0	2	2	3	1	16	0	0	17	3	32
Grand Total	0	0	0	0	0	0	9	16	1	25	1	0	4	3	5	2	31	0	0	33	4	63
Apprch %	0	0	0			0	36	64			20	0	80			6.1	93.9	0				
Total %	0	0	0		0	0	14.3	25.4		39.7	1.6	0	6.3		7.9	3.2	49.2	0		52.4	6	94

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	2	1	3	0	0	1	1	0	7	0	7	11
07:15 AM	0	0	0	0	0	1	1	2	0	0	0	0	1	5	0	6	8
07:30 AM	0	0	0	0	0	1	4	5	0	0	0	0	0	2	0	2	7
07:45 AM	0	0	0	0	0	1	2	3	0	0	1	1	0	1	0	1	5
Total Volume	0	0	0	0	0	5	8	13	0	0	2	2	1	15	0	16	31
% App. Total	0	0	0		0	38.5	61.5		0	0	100		6.2	93.8	0		
PHF	.000	.000	.000	.000	.000	.625	.500	.650	.000	.000	.500	.500	.250	.536	.000	.571	.705

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : PER215NHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Road
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File Name : PER215NHKAM
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Start Date : 4/14/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

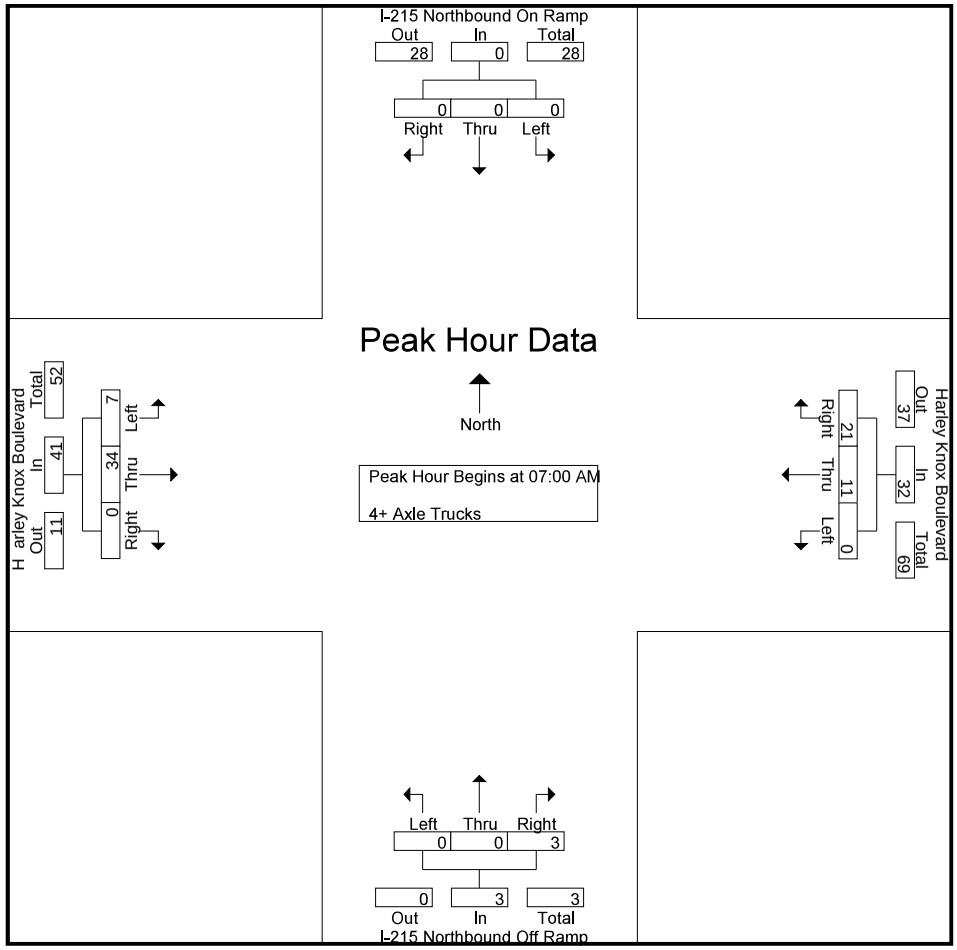
	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	2	6	0	8	0	0	0	0	0	0	9	0	0	9	0	17
07:15 AM	0	0	0	0	0	0	2	2	0	4	0	0	2	2	2	1	12	0	0	13	2	19
07:30 AM	0	0	0	0	0	0	3	7	1	10	0	0	0	0	0	0	5	0	0	5	1	15
07:45 AM	0	0	0	0	0	0	4	6	1	10	0	0	1	1	1	6	8	0	0	14	2	25
Total	0	0	0	0	0	0	11	21	2	32	0	0	3	3	3	7	34	0	0	41	5	76
08:00 AM	0	0	0	0	0	0	3	7	2	10	0	0	1	1	1	0	5	0	0	5	3	16
08:15 AM	0	0	0	0	0	0	4	6	0	10	1	0	0	0	1	1	8	0	0	9	0	20
08:30 AM	0	0	0	0	0	0	3	10	0	13	1	0	2	2	3	5	8	0	0	13	2	29
08:45 AM	0	0	0	0	0	0	2	8	0	10	0	0	3	3	3	1	7	0	0	8	3	21
Total	0	0	0	0	0	0	12	31	2	43	2	0	6	6	8	7	28	0	0	35	8	86
Grand Total	0	0	0	0	0	0	23	52	4	75	2	0	9	9	11	14	62	0	0	76	13	162
Apprch %	0	0	0			0	30.7	69.3			18.2	0	81.8			18.4	81.6	0				
Total %	0	0	0		0	0	14.2	32.1		46.3	1.2	0	5.6		6.8	8.6	38.3	0		46.9	7.4	92.6

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	2	6	8	0	0	0	0	0	9	0	9	17
07:15 AM	0	0	0	0	0	2	2	4	0	0	2	2	1	12	0	13	19
07:30 AM	0	0	0	0	0	3	7	10	0	0	0	0	0	5	0	5	15
07:45 AM	0	0	0	0	0	4	6	10	0	0	1	1	6	8	0	14	25
Total Volume	0	0	0	0	0	11	21	32	0	0	3	3	7	34	0	41	76
% App. Total	0	0	0		0	34.4	65.6		0	0	100		17.1	82.9	0		
PHF	.000	.000	.000	.000	.000	.688	.750	.800	.000	.000	.375	.375	.292	.708	.000	.732	.760

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : PER215NHKAM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : PER215NHKPM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

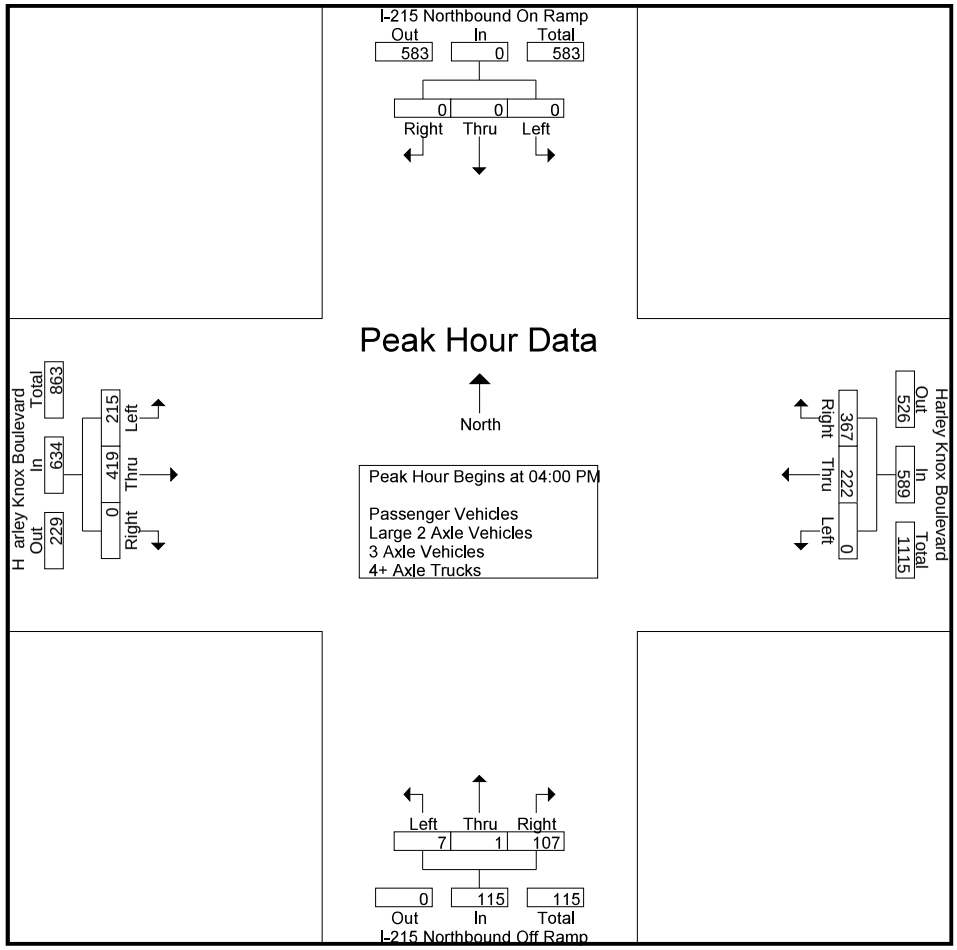
	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	0	0	0	0	45	60	4	105	1	1	22	19	24	54	102	0	0	156	23	285
04:15 PM	0	0	0	0	0	0	49	81	5	130	4	0	18	18	22	53	114	0	0	167	23	319
04:30 PM	0	0	0	0	0	0	61	111	7	172	2	0	44	39	46	59	100	0	0	159	46	377
04:45 PM	0	0	0	0	0	0	67	115	6	182	0	0	23	21	23	49	103	0	0	152	27	357
Total	0	0	0	0	0	0	222	367	22	589	7	1	107	97	115	215	419	0	0	634	119	1338
05:00 PM	0	0	0	0	0	0	54	68	9	122	3	1	21	19	25	53	73	0	0	126	28	273
05:15 PM	0	0	0	0	0	0	41	51	7	92	2	0	16	15	18	47	84	0	0	131	22	241
05:30 PM	0	0	0	0	0	0	45	74	14	119	3	0	25	20	28	55	95	0	0	150	34	297
05:45 PM	0	0	0	0	0	0	34	52	4	86	1	1	21	21	23	43	79	0	0	122	25	231
Total	0	0	0	0	0	0	174	245	34	419	9	2	83	75	94	198	331	0	0	529	109	1042
Grand Total	0	0	0	0	0	0	396	612	56	1008	16	3	190	172	209	413	750	0	0	1163	228	2380
Apprch %	0	0	0			0	39.3	60.7			7.7	1.4	90.9			35.5	64.5	0				
Total %	0	0	0		0	0	16.6	25.7		42.4	0.7	0.1	8		8.8	17.4	31.5	0		48.9	8.7	91.3
Passenger Vehicles	0	0	0		0	0	368	539		959	13	2	174		349	387	660	0		1047	0	0
% Passenger Vehicles	0	0	0	0	0	0	92.9	88.1	92.9	90.1	81.2	66.7	91.6	93	91.6	93.7	88	0	0	90	0	0
Large 2 Axle Vehicles	0	0	0		0	0	5	19		25	1	0	4		9	5	13	0		18	0	0
% Large 2 Axle Vehicles	0	0	0	0	0	0	1.3	3.1	1.8	2.3	6.2	0	2.1	2.3	2.4	1.2	1.7	0	0	1.5	0	0
3 Axle Vehicles	0	0	0		0	0	10	11		23	1	0	10		18	5	22	0		27	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	2.5	1.8	3.6	2.2	6.2	0	5.3	4.1	4.7	1.2	2.9	0	0	2.3	0	0
4+ Axle Trucks	0	0	0		0	0	13	43		57	1	1	2		5	16	55	0		71	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	3.3	7	1.8	5.4	6.2	33.3	1.1	0.6	1.3	3.9	7.3	0	0	6.1	0	0

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	45	60	105	1	1	22	24	54	102	0	156	285
04:15 PM	0	0	0	0	0	49	81	130	4	0	18	22	53	114	0	167	319
04:30 PM	0	0	0	0	0	61	111	172	2	0	44	46	59	100	0	159	377
04:45 PM	0	0	0	0	0	67	115	182	0	0	23	23	49	103	0	152	357
Total Volume	0	0	0	0	0	222	367	589	7	1	107	115	215	419	0	634	1338
% App. Total	0	0	0		0	37.7	62.3		6.1	0.9	93		33.9	66.1	0		
PHF	.000	.000	.000	.000	.000	.828	.798	.809	.438	.250	.608	.625	.911	.919	.000	.949	.887

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : PER215NHKPM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : PER215NHKPM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

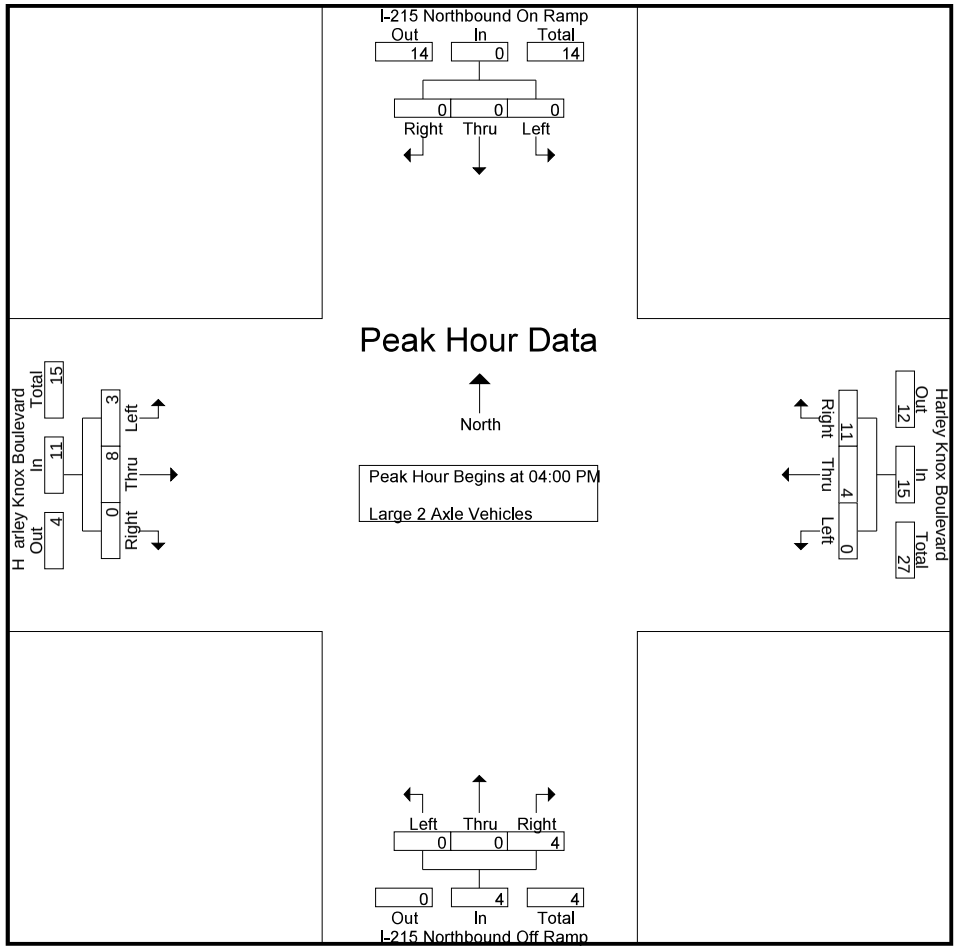
	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	1	3	0	0	4	0	7
04:15 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	1	3	0	0	4	0	6
04:30 PM	0	0	0	0	0	0	1	2	1	3	0	0	3	3	3	0	0	0	0	0	4	6
04:45 PM	0	0	0	0	0	0	2	5	0	7	0	0	1	1	1	1	2	0	0	3	1	11
Total	0	0	0	0	0	0	4	11	1	15	0	0	4	4	4	3	8	0	0	11	5	30
05:00 PM	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	1	0	0	1	0	4
05:15 PM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2	3	0	0	5	0	7
05:30 PM	0	0	0	0	0	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	1	0	0	1	0	3
Total	0	0	0	0	0	0	1	8	0	9	1	0	0	0	1	2	5	0	0	7	0	17
Grand Total	0	0	0	0	0	0	5	19	1	24	1	0	4	4	5	5	13	0	0	18	5	47
Apprch %	0	0	0			0	20.8	79.2			20	0	80			27.8	72.2	0				
Total %	0	0	0		0	0	10.6	40.4		51.1	2.1	0	8.5		10.6	10.6	27.7	0		38.3	9.6	90.4

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	3	3	0	0	0	0	1	3	0	4	7
04:15 PM	0	0	0	0	0	1	1	2	0	0	0	0	1	3	0	4	6
04:30 PM	0	0	0	0	0	1	2	3	0	0	3	3	0	0	0	0	6
04:45 PM	0	0	0	0	0	2	5	7	0	0	1	1	1	2	0	3	11
Total Volume	0	0	0	0	0	4	11	15	0	0	4	4	3	8	0	11	30
% App. Total	0	0	0		0	26.7	73.3		0	0	100		27.3	72.7	0		
PHF	.000	.000	.000	.000	.000	.500	.550	.536	.000	.000	.333	.333	.750	.667	.000	.688	.682

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : PER215NHKPM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : PER215NHKPM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

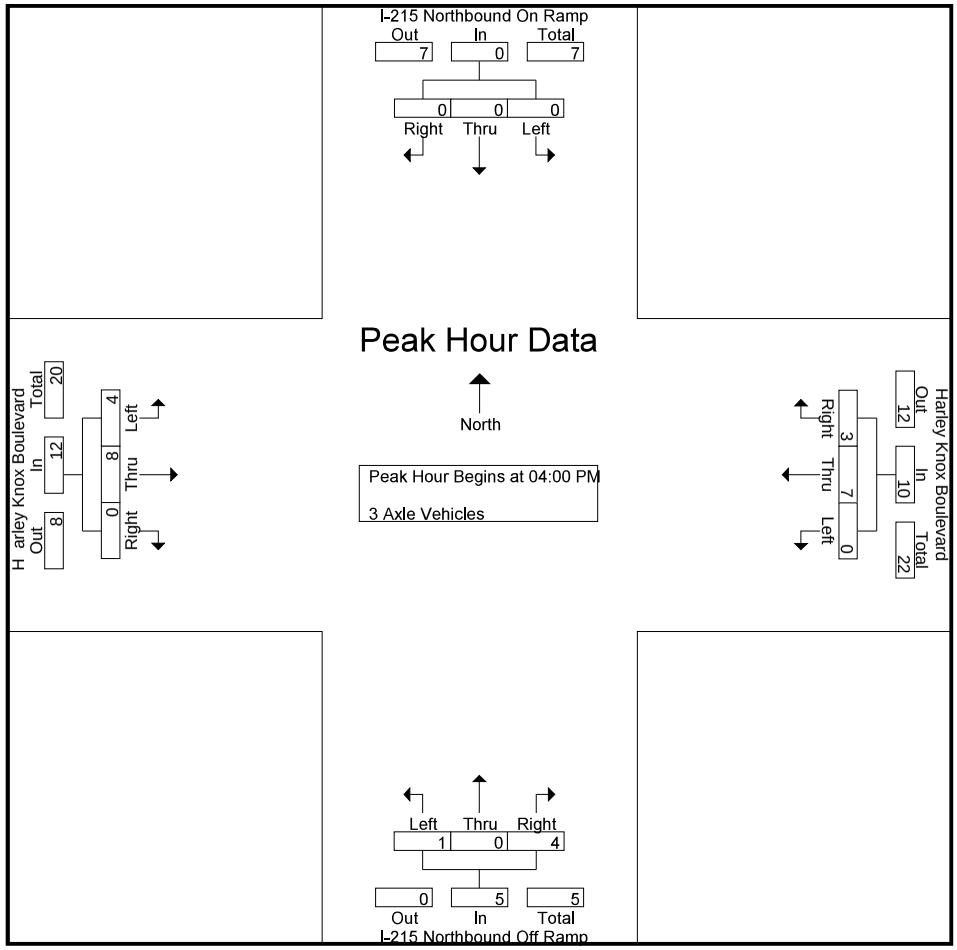
	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	0	0	0	0	5	0	0	5	0	0	2	2	2	0	2	0	0	2	2	9
04:15 PM	0	0	0	0	0	0	1	2	1	3	0	0	0	0	0	1	3	0	0	4	1	7
04:30 PM	0	0	0	0	0	0	1	1	0	2	1	0	1	1	2	3	2	0	0	5	1	9
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	2
Total	0	0	0	0	0	0	7	3	1	10	1	0	4	3	5	4	8	0	0	12	4	27
05:00 PM	0	0	0	0	0	0	3	3	0	6	0	0	2	2	2	1	2	0	0	3	2	11
05:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	1	1	1	0	5	0	0	5	1	7
05:30 PM	0	0	0	0	0	0	0	3	1	3	0	0	3	1	3	0	4	0	0	4	2	10
05:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	3	0	0	3	0	4
Total	0	0	0	0	0	0	3	8	1	11	0	0	6	4	6	1	14	0	0	15	5	32
Grand Total	0	0	0	0	0	0	10	11	2	21	1	0	10	7	11	5	22	0	0	27	9	59
Apprch %	0	0	0			0	47.6	52.4			9.1	0	90.9			18.5	81.5	0				
Total %	0	0	0		0	0	16.9	18.6		35.6	1.7	0	16.9		18.6	8.5	37.3	0		45.8	13.2	86.8

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	5	0	5	0	0	2	2	0	2	0	2	9
04:15 PM	0	0	0	0	0	1	2	3	0	0	0	0	1	3	0	4	7
04:30 PM	0	0	0	0	0	1	1	2	1	0	1	2	3	2	0	5	9
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2
Total Volume	0	0	0	0	0	7	3	10	1	0	4	5	4	8	0	12	27
% App. Total	0	0	0		0	70	30		20	0	80		33.3	66.7	0		
PHF	.000	.000	.000	.000	.000	.350	.375	.500	.250	.000	.500	.625	.333	.667	.000	.600	.750

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City of Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Road
Weather: Clear

File Name : PER215NHKPM
Site Code : 05115195
Start Date : 4/14/2015
Page No : 2



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City of Perris
N/S: I-215 Northbound Ramps
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Groups Printed- 4+ Axle Trucks

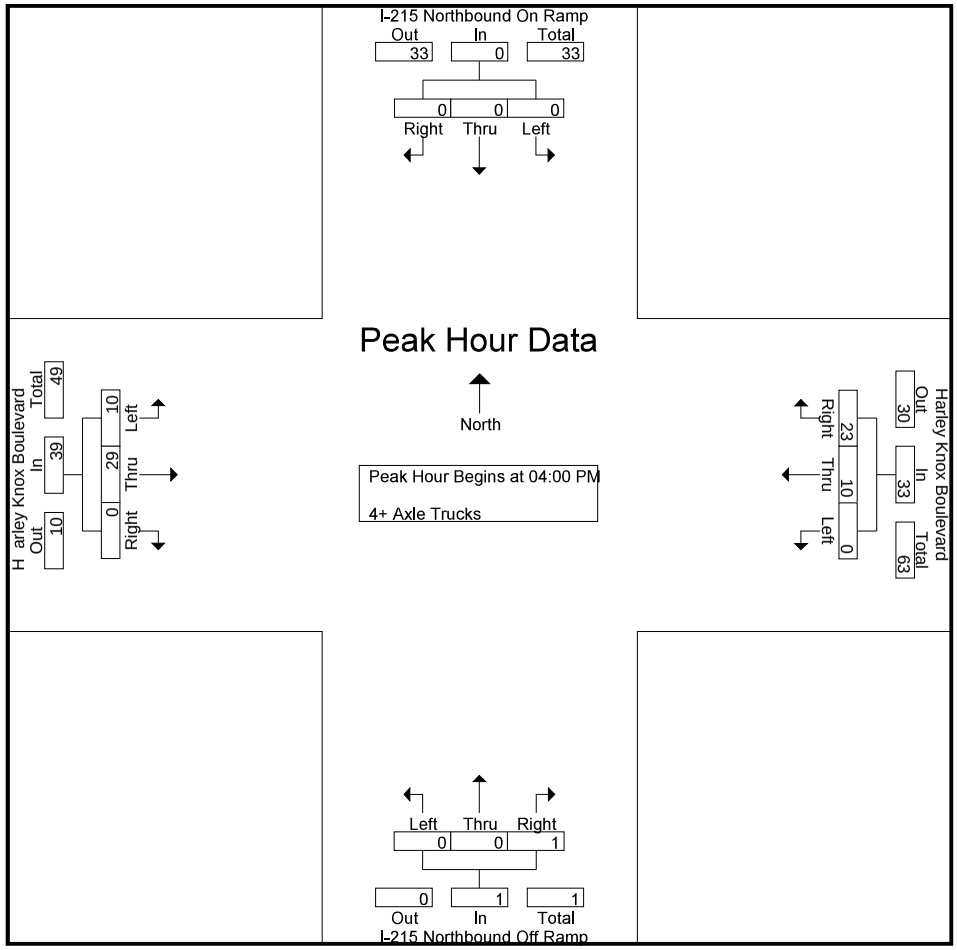
	I-215 Northbound On Ramp Southbound					Harley Knox Boulevard Westbound					I-215 Northbound Off Ramp Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	0	0	0	0	5	4	0	9	0	0	1	0	1	3	7	0	0	10	0	20
04:15 PM	0	0	0	0	0	0	3	8	1	11	0	0	0	0	0	3	7	0	0	10	1	21
04:30 PM	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	4	8	0	0	12	0	15
04:45 PM	0	0	0	0	0	0	1	9	0	10	0	0	0	0	0	0	7	0	0	7	0	17
Total	0	0	0	0	0	0	10	23	1	33	0	0	1	0	1	10	29	0	0	39	1	73
05:00 PM	0	0	0	0	0	0	1	5	0	6	1	1	0	0	2	1	8	0	0	9	0	17
05:15 PM	0	0	0	0	0	0	1	6	0	7	0	0	1	1	1	0	7	0	0	7	1	15
05:30 PM	0	0	0	0	0	0	1	4	0	5	0	0	0	0	0	2	6	0	0	8	0	13
05:45 PM	0	0	0	0	0	0	0	5	0	5	0	0	0	0	0	3	5	0	0	8	0	13
Total	0	0	0	0	0	0	3	20	0	23	1	1	1	1	3	6	26	0	0	32	1	58
Grand Total	0	0	0	0	0	0	13	43	1	56	1	1	2	1	4	16	55	0	0	71	2	131
Apprch %	0	0	0			0	23.2	76.8			25	25	50			22.5	77.5	0				
Total %	0	0	0		0	0	9.9	32.8		42.7	0.8	0.8	1.5		3.1	12.2	42	0		54.2	1.5	98.5

	I-215 Northbound On Ramp Southbound				Harley Knox Boulevard Westbound				I-215 Northbound Off Ramp Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	5	4	9	0	0	1	1	3	7	0	10	20
04:15 PM	0	0	0	0	0	3	8	11	0	0	0	0	3	7	0	10	21
04:30 PM	0	0	0	0	0	1	2	3	0	0	0	0	4	8	0	12	15
04:45 PM	0	0	0	0	0	1	9	10	0	0	0	0	0	7	0	7	17
Total Volume	0	0	0	0	0	10	23	33	0	0	1	1	10	29	0	39	73
% App. Total	0	0	0		0	30.3	69.7		0	0	100		25.6	74.4	0		
PHF	.000	.000	.000	.000	.000	.500	.639	.750	.000	.000	.250	.250	.625	.906	.000	.813	.869

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File Name : PER215NHKPM
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Start Date : 4/14/2015
Page No : 2



Location: Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard

Date: 4/14/2015
Weather: Clear

PEDESTRIANS

	North Leg I-215 Northbound Ramps	East Leg Harley Knox Boulevard	South Leg I-215 Northbound Ramps	West Leg Harley Knox Boulevard	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-215 Northbound Ramps	East Leg Harley Knox Boulevard	South Leg I-215 Northbound Ramps	West Leg Harley Knox Boulevard	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	1	0	0	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	1

Location: Perris
N/S: I-215 Northbound Ramps
E/W: Harley Knox Boulevard

Date: 4/14/2015
Weather: Clear

BICYCLES

	North Leg I-215 Northbound Ramps	East Leg Harley Knox Boulevard	South Leg I-215 Northbound Ramps	West Leg Harley Knox Boulevard	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-215 Northbound Ramps	East Leg Harley Knox Boulevard	South Leg I-215 Northbound Ramps	West Leg Harley Knox Boulevard	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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City of Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVELCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

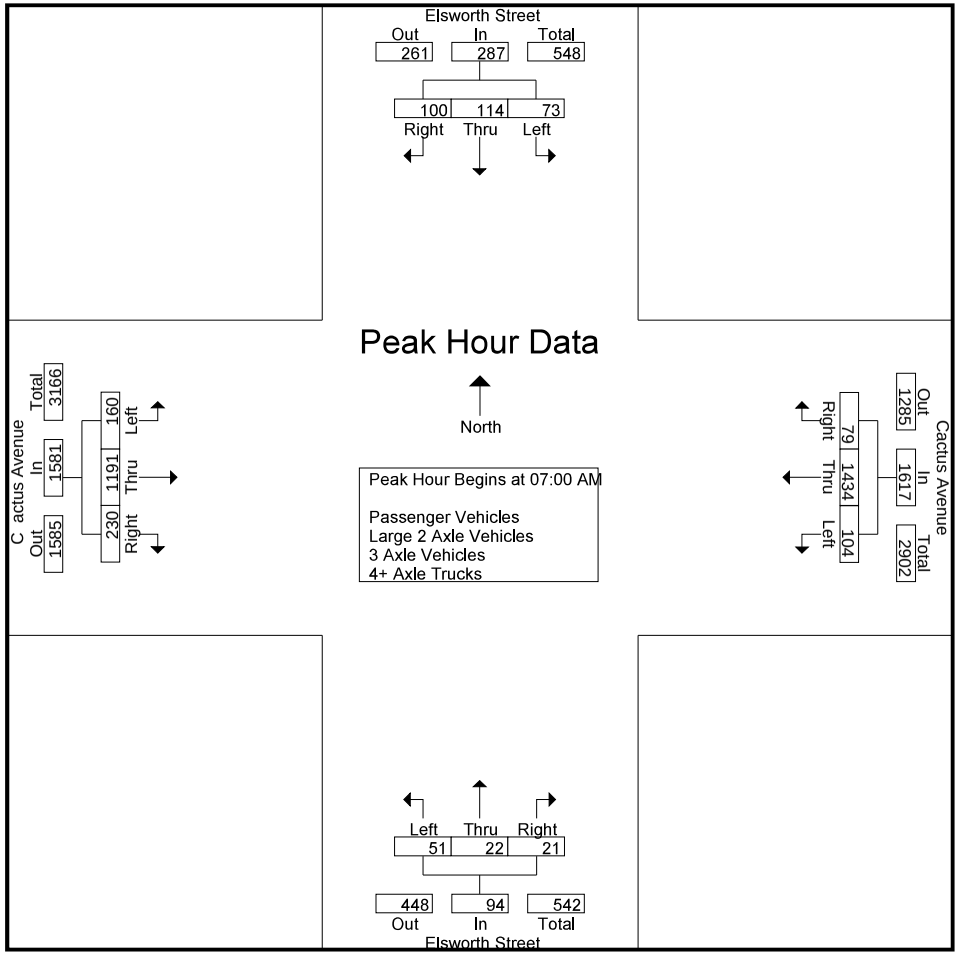
	Elsworth Street Southbound					Cactus Avenue Westbound					Elsworth Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	15	28	23	16	66	27	356	14	2	397	10	3	2	2	15	30	240	62	26	332	46	810	856
07:15 AM	18	29	28	10	75	30	374	20	1	424	9	3	8	8	20	50	297	61	21	408	40	927	967
07:30 AM	22	24	20	8	66	28	360	27	2	415	14	7	9	9	30	39	340	52	29	431	48	942	990
07:45 AM	18	33	29	16	80	19	344	18	3	381	18	9	2	1	29	41	314	55	12	410	32	900	932
Total	73	114	100	50	287	104	1434	79	8	1617	51	22	21	20	94	160	1191	230	88	1581	166	3579	3745
08:00 AM	7	14	17	10	38	13	256	20	1	289	10	3	5	5	18	41	239	37	5	317	21	662	683
08:15 AM	13	15	27	17	55	17	228	25	3	270	18	2	4	4	24	50	244	36	7	330	31	679	710
08:30 AM	30	5	19	17	54	6	191	31	3	228	11	4	13	12	28	27	198	24	13	249	45	559	604
08:45 AM	10	6	21	14	37	10	192	21	5	223	7	10	10	5	27	23	150	16	5	189	29	476	505
Total	60	40	84	58	184	46	867	97	12	1010	46	19	32	26	97	141	831	113	30	1085	126	2376	2502
Grand Total	133	154	184	108	471	150	2301	176	20	2627	97	41	53	46	191	301	2022	343	118	2666	292	5955	6247
Apprch %	28.2	32.7	39.1			5.7	87.6	6.7			50.8	21.5	27.7			11.3	75.8	12.9					
Total %	2.2	2.6	3.1		7.9	2.5	38.6	3		44.1	1.6	0.7	0.9		3.2	5.1	34	5.8		44.8	4.7	95.3	
Passenger Vehicles	125	151	175		556	150	2233	170		2572	96	41	53		236	292	1917	339		2665	0	0	6029
% Passenger Vehicles	94	98.1	95.1	97.2	96	100	97	96.6	95	97.2	99	100	100	100	99.6	97	94.8	98.8	99.2	95.7	0	0	96.5
Large 2 Axle Vehicles	6	2	7		17	0	22	4		27	1	0	0		1	7	33	4		45	0	0	90
% Large 2 Axle Vehicles	4.5	1.3	3.8	1.9	2.9	0	1	2.3	5	1	1	0	0	0	0.4	2.3	1.6	1.2	0.8	1.6	0	0	1.4
3 Axle Vehicles	1	1	2		5	0	11	1		12	0	0	0		0	1	9	0		10	0	0	27
% 3 Axle Vehicles	0.8	0.6	1.1	0.9	0.9	0	0.5	0.6	0	0.5	0	0	0	0	0	0.3	0.4	0	0	0.4	0	0	0.4
4+ Axle Trucks	1	0	0		1	0	35	1		36	0	0	0		0	1	63	0		64	0	0	101
% 4+ Axle Trucks	0.8	0	0	0	0.2	0	1.5	0.6	0	1.4	0	0	0	0	0	0.3	3.1	0	0	2.3	0	0	1.6

	Elsworth Street Southbound				Cactus Avenue Westbound				Elsworth Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	15	28	23	66	27	356	14	397	10	3	2	15	30	240	**62**	332	810
07:15 AM	18	29	28	75	**30**	**374**	20	**424**	9	3	8	20	**50**	297	61	408	927
07:30 AM	**22**	24	20	66	28	360	**27**	415	14	7	**9**	**30**	39	**340**	52	**431**	**942**
07:45 AM	18	**33**	**29**	**80**	19	344	18	381	**18**	**9**	2	29	41	314	55	410	900
Total Volume	73	114	100	287	104	1434	79	1617	51	22	21	94	160	1191	230	1581	3579
% App. Total	25.4	39.7	34.8		6.4	88.7	4.9		54.3	23.4	22.3		10.1	75.3	14.5		
PHF	.830	.864	.862	.897	.867	.959	.731	.953	.708	.611	.583	.783	.800	.876	.927	.917	.950

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City of Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVELCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVELCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

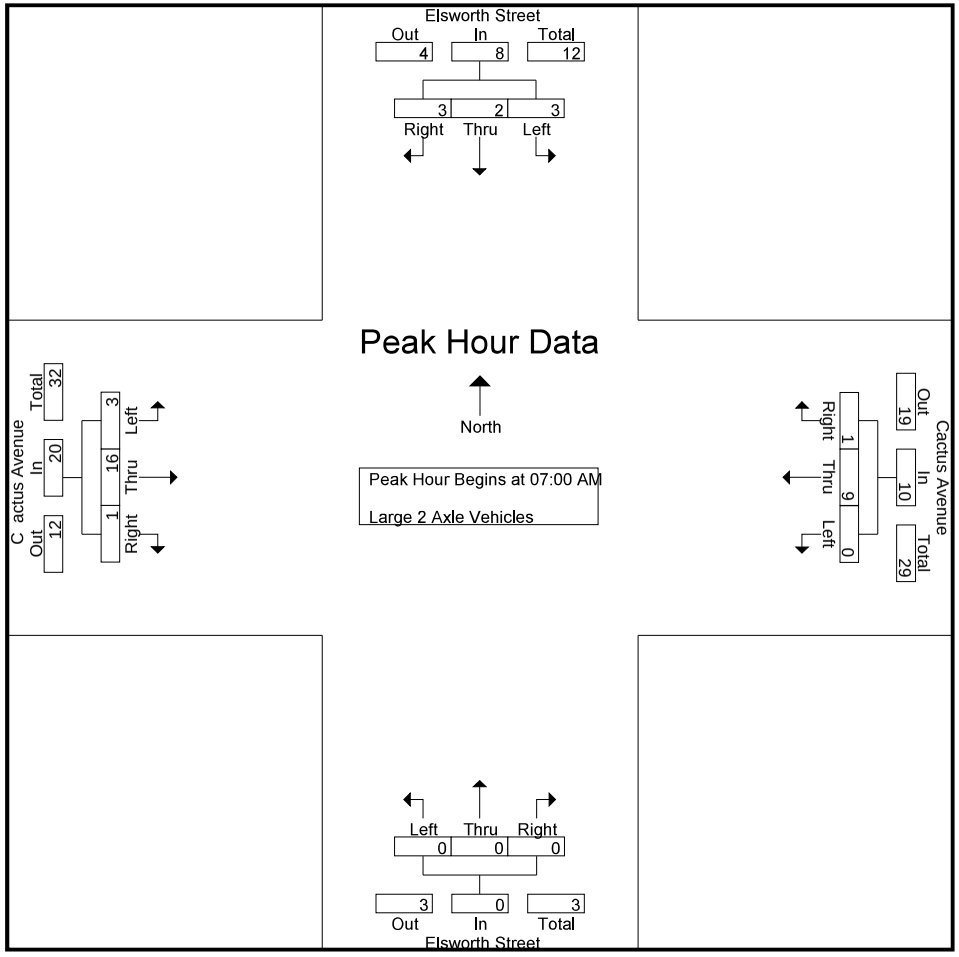
	Elsworth Street Southbound					Cactus Avenue Westbound					Elsworth Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	6	0	0	7	0	8	8
07:15 AM	0	0	2	0	2	0	2	1	1	3	0	0	0	0	0	1	3	0	0	4	1	9	10
07:30 AM	2	2	0	0	4	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	0	12	12
07:45 AM	1	0	1	0	2	0	4	0	0	4	0	0	0	0	0	1	1	1	1	3	1	9	10
Total	3	2	3	0	8	0	9	1	1	10	0	0	0	0	0	3	16	1	1	20	2	38	40
08:00 AM	1	0	3	1	4	0	3	1	0	4	0	0	0	0	0	0	3	3	0	6	1	14	15
08:15 AM	1	0	0	0	1	0	5	1	0	6	1	0	0	0	1	1	3	0	0	4	0	12	12
08:30 AM	1	0	0	0	1	0	2	1	0	3	0	0	0	0	0	1	6	0	0	7	0	11	11
08:45 AM	0	0	1	1	1	0	3	0	0	3	0	0	0	0	0	2	5	0	0	7	1	11	12
Total	3	0	4	2	7	0	13	3	0	16	1	0	0	0	1	4	17	3	0	24	2	48	50
Grand Total	6	2	7	2	15	0	22	4	1	26	1	0	0	0	1	7	33	4	1	44	4	86	90
Apprch %	40	13.3	46.7			0	84.6	15.4			100	0	0			15.9	75	9.1					
Total %	7	2.3	8.1		17.4	0	25.6	4.7		30.2	1.2	0	0		1.2	8.1	38.4	4.7		51.2	4.4	95.6	

	Elsworth Street Southbound				Cactus Avenue Westbound				Elsworth Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	**1**	**6**	0	**7**	8
07:15 AM	0	0	**2**	2	0	2	**1**	3	0	0	0	0	1	3	0	4	9
07:30 AM	**2**	**2**	0	**4**	0	2	0	2	0	0	0	0	0	6	0	6	**12**
07:45 AM	1	0	1	2	0	**4**	0	**4**	0	0	0	0	1	1	**1**	3	9
Total Volume	3	2	3	8	0	9	1	10	0	0	0	0	3	16	1	20	38
% App. Total	37.5	25	37.5		0	90	10		0	0	0		15	80	5		
PHF	.375	.250	.375	.500	.000	.563	.250	.625	.000	.000	.000	.000	.750	.667	.250	.714	.792

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City of Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVELCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVELCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

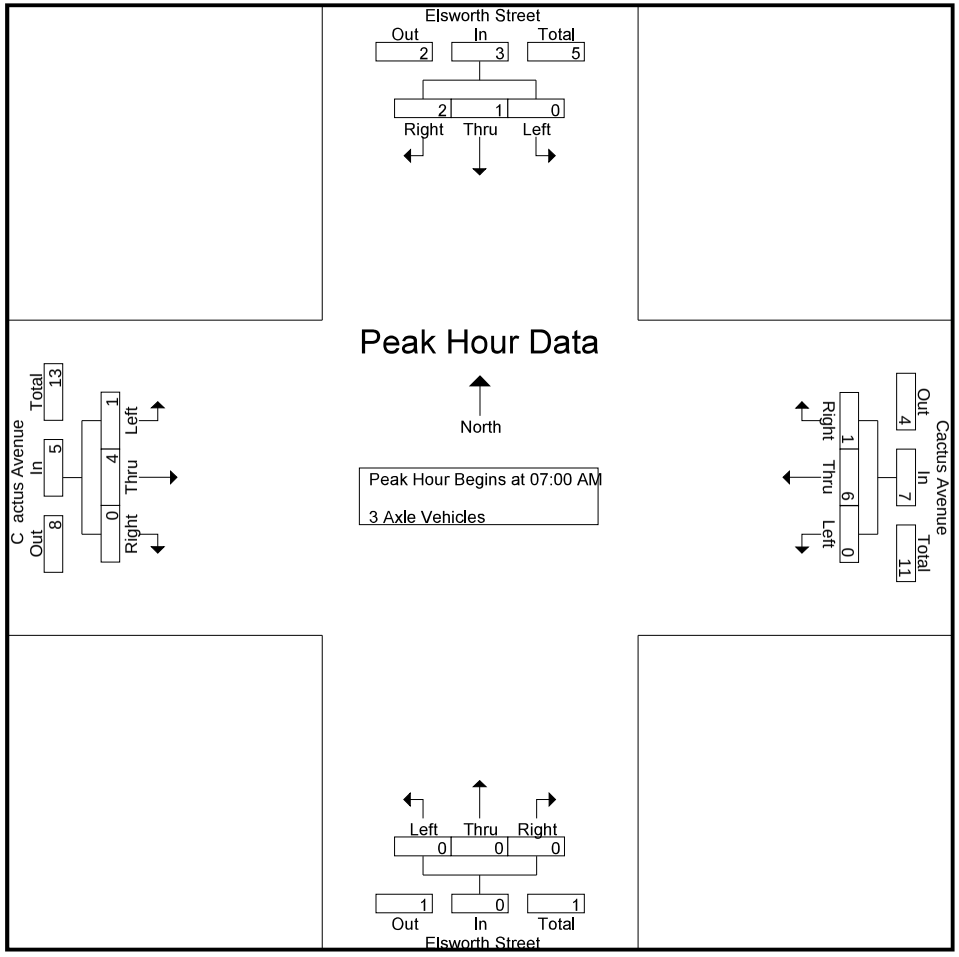
	Elsworth Street Southbound					Cactus Avenue Westbound					Elsworth Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	0	3	3
07:15 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3	3
07:30 AM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	1	0	0	1	0	6	6
07:45 AM	0	0	1	1	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	1	3	4
Total	0	1	2	1	3	0	6	1	0	7	0	0	0	0	0	1	4	0	0	5	1	15	16
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	3
08:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	4	4
08:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
08:45 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	1	0	0	0	1	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	0	11	11
Grand Total	1	1	2	1	4	0	11	1	0	12	0	0	0	0	0	1	9	0	0	10	1	26	27
Apprch %	25	25	50			0	91.7	8.3			0	0	0			10	90	0					
Total %	3.8	3.8	7.7		15.4	0	42.3	3.8		46.2	0	0	0		0	3.8	34.6	0		38.5	3.7	96.3	

	Elsworth Street Southbound				Cactus Avenue Westbound				Elsworth Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	**1**	**1**	0	**2**	3
07:15 AM	0	**1**	**1**	**2**	0	0	0	0	0	0	0	0	0	1	0	1	3
07:30 AM	0	0	0	0	0	**4**	**1**	**5**	0	0	0	0	0	1	0	1	**6**
07:45 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	1	0	1	3
Total Volume	0	1	2	3	0	6	1	7	0	0	0	0	1	4	0	5	15
% App. Total	0	33.3	66.7		0	85.7	14.3		0	0	0		20	80	0		
PHF	.000	.250	.500	.375	.000	.375	.250	.350	.000	.000	.000	.000	.250	1.00	.000	.625	.625

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City of Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVELCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Elsworth Street
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File Name : MRVELCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

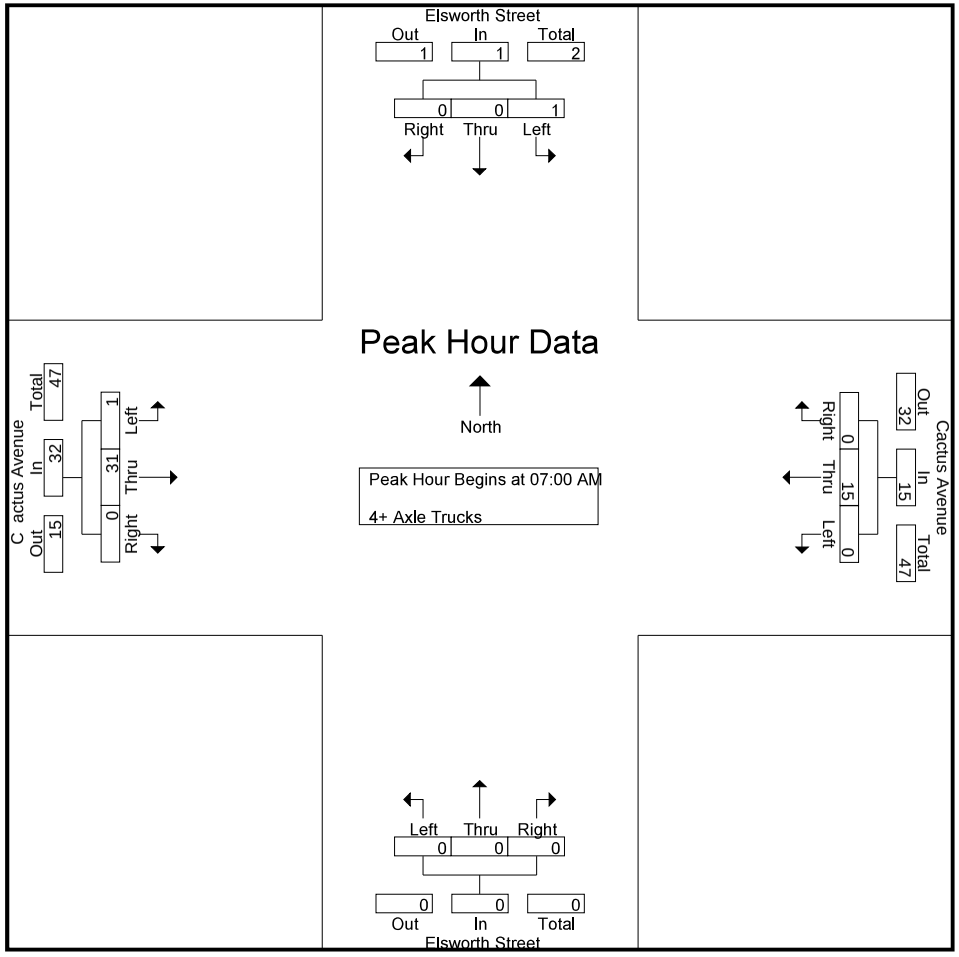
	Elsworth Street Southbound					Cactus Avenue Westbound					Elsworth Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	10	0	0	10	0	11	11
07:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	4	4
07:30 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	10	0	0	10	0	16	16
07:45 AM	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	1	9	0	0	10	0	17	17
Total	1	0	0	0	1	0	15	0	0	15	0	0	0	0	0	1	31	0	0	32	0	48	48
08:00 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	6	0	0	6	0	14	14
08:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	12	0	0	12	0	15	15
08:30 AM	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	8	0	0	8	0	14	14
08:45 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	0	10	10
Total	0	0	0	0	0	0	20	1	0	21	0	0	0	0	0	0	32	0	0	32	0	53	53
Grand Total	1	0	0	0	1	0	35	1	0	36	0	0	0	0	0	1	63	0	0	64	0	101	101
Apprch %	100	0	0			0	97.2	2.8			0	0	0			1.6	98.4	0					
Total %	1	0	0		1	0	34.7	1		35.6	0	0	0		0	1	62.4	0		63.4	0	100	

	Elsworth Street Southbound				Cactus Avenue Westbound				Elsworth Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	**10**	0	**10**	11
07:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
07:30 AM	0	0	0	0	0	**6**	0	**6**	0	0	0	0	0	10	0	10	16
07:45 AM	**1**	0	0	**1**	0	6	0	6	0	0	0	0	**1**	9	0	10	**17**
Total Volume	1	0	0	1	0	15	0	15	0	0	0	0	1	31	0	32	48
% App. Total	100	0	0		0	100	0		0	0	0		3.1	96.9	0		
PHF	.250	.000	.000	.250	.000	.625	.000	.625	.000	.000	.000	.000	.250	.775	.000	.800	.706

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City of Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue
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File Name : MRVELCAAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Elsworth Street
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File Name : MRVELCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

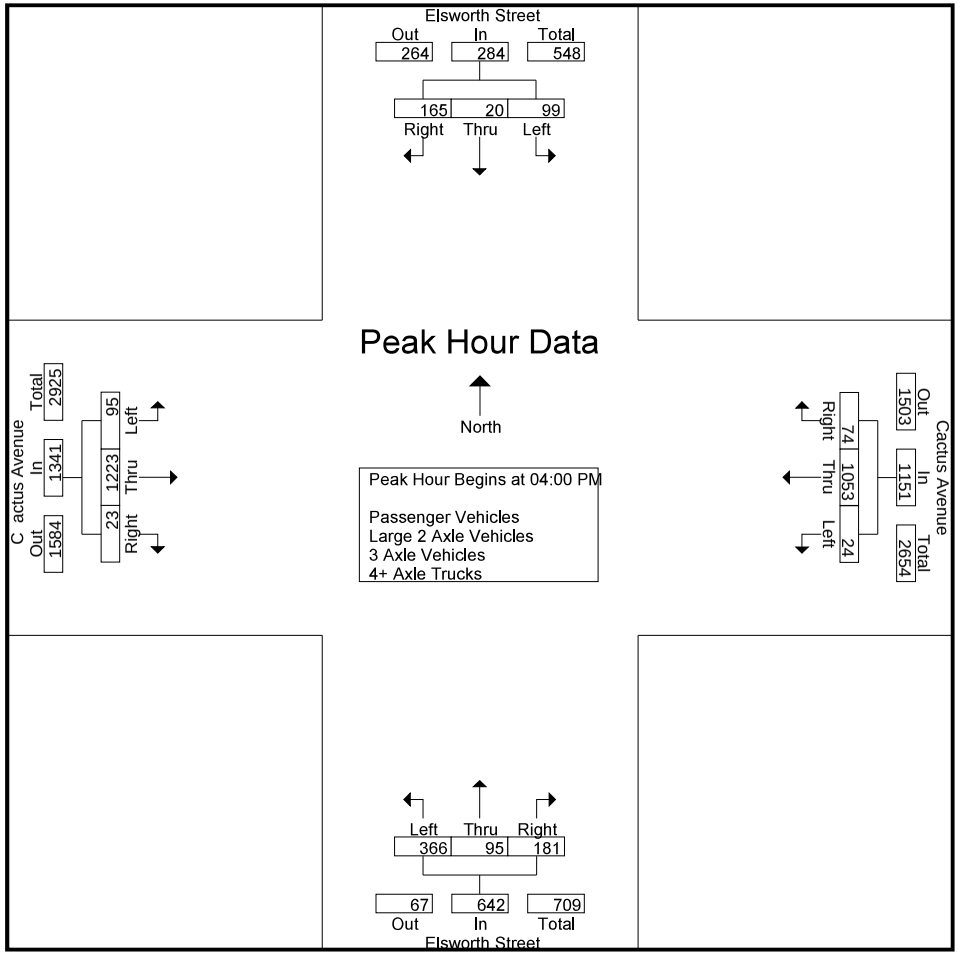
	Elsworth Street Southbound					Cactus Avenue Westbound					Elsworth Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	22	4	52	35	78	8	232	20	11	260	124	26	70	24	220	26	291	9	5	326	75	884	959
04:15 PM	33	7	38	19	78	9	253	20	12	282	110	24	30	6	164	35	313	5	3	353	40	877	917
04:30 PM	20	4	50	32	74	0	276	16	1	292	70	21	40	15	131	16	332	6	3	354	51	851	902
04:45 PM	24	5	25	18	54	7	292	18	6	317	62	24	41	7	127	18	287	3	2	308	33	806	839
Total	99	20	165	104	284	24	1053	74	30	1151	366	95	181	52	642	95	1223	23	13	1341	199	3418	3617
05:00 PM	44	6	41	30	91	5	250	21	6	276	39	17	30	15	86	32	369	0	0	401	51	854	905
05:15 PM	33	5	33	27	71	5	236	14	4	255	26	17	11	8	54	26	384	4	1	414	40	794	834
05:30 PM	40	4	37	26	81	5	251	13	4	269	28	7	22	14	57	29	401	4	2	434	46	841	887
05:45 PM	38	4	25	11	67	10	233	19	2	262	20	8	4	4	32	28	395	5	1	428	18	789	807
Total	155	19	136	94	310	25	970	67	16	1062	113	49	67	41	229	115	1549	13	4	1677	155	3278	3433
Grand Total	254	39	301	198	594	49	2023	141	46	2213	479	144	248	93	871	210	2772	36	17	3018	354	6696	7050
Apprch %	42.8	6.6	50.7			2.2	91.4	6.4			55	16.5	28.5			7	91.8	1.2					
Total %	3.8	0.6	4.5		8.9	0.7	30.2	2.1		33	7.2	2.2	3.7		13	3.1	41.4	0.5		45.1	5	95	
Passenger Vehicles	251	38	294		777	46	1971	140		2202	479	143	247		961	206	2719	36		2978	0	0	6918
% Passenger Vehicles	98.8	97.4	97.7	98	98.1	93.9	97.4	99.3	97.8	97.5	100	99.3	99.6	98.9	99.7	98.1	98.1	100	100	98.1	0	0	98.1
Large 2 Axle Vehicles	2	0	7		13	3	18	1		23	0	1	1		3	1	16	0		17	0	0	56
% Large 2 Axle Vehicles	0.8	0	2.3	2	1.6	6.1	0.9	0.7	2.2	1	0	0.7	0.4	1.1	0.3	0.5	0.6	0	0	0.6	0	0	0.8
3 Axle Vehicles	0	0	0		0	0	5	0		5	0	0	0		0	0	1	0		1	0	0	6
% 3 Axle Vehicles	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.1
4+ Axle Trucks	1	1	0		2	0	29	0		29	0	0	0		0	3	36	0		39	0	0	70
% 4+ Axle Trucks	0.4	2.6	0	0	0.3	0	1.4	0	0	1.3	0	0	0	0	0	1.4	1.3	0	0	1.3	0	0	1

	Elsworth Street Southbound				Cactus Avenue Westbound				Elsworth Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	22	**4**	**52**	**78**	8	232	**20**	260	**124**	**26**	**70**	**220**	26	291	**9**	326	**884**
04:15 PM	**33**	**7**	38	78	**9**	253	20	282	110	24	30	164	**35**	313	5	353	877
04:30 PM	20	4	50	74	0	276	16	292	70	21	40	131	16	**332**	6	**354**	851
04:45 PM	24	5	25	54	7	**292**	18	**317**	62	24	41	127	18	287	3	308	806
Total Volume	99	20	165	284	24	1053	74	1151	366	95	181	642	95	1223	23	1341	3418
% App. Total	34.9	7	58.1		2.1	91.5	6.4		57	14.8	28.2		7.1	91.2	1.7		
PHF	.750	.714	.793	.910	.667	.902	.925	.908	.738	.913	.646	.730	.679	.921	.639	.947	.967

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City of Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVELCAPM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVELCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

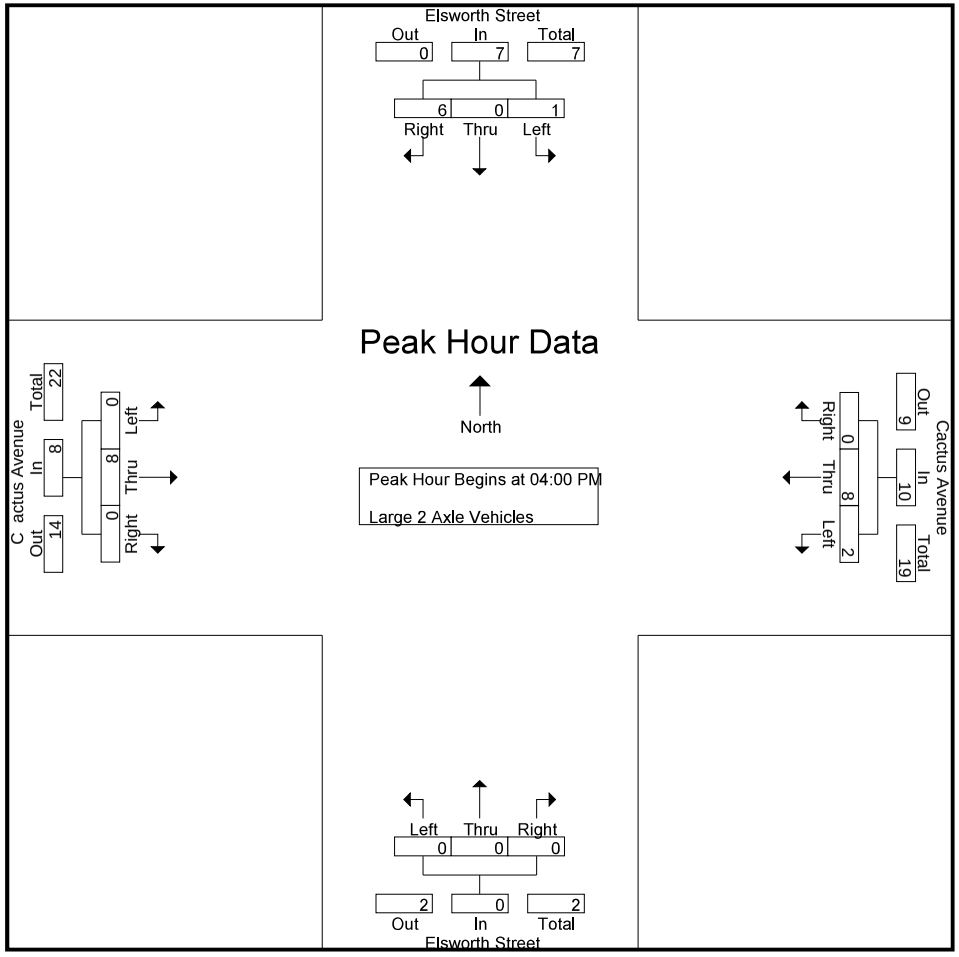
	Elsworth Street Southbound					Cactus Avenue Westbound					Elsworth Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	1	0	1	2	4	0	0	6	0	0	0	0	0	0	4	0	0	4	0	11	11
04:15 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	3	3
04:30 PM	1	0	3	3	4	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	3	8	11
04:45 PM	0	0	1	1	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	1	3	4
Total	1	0	6	4	7	2	8	0	0	10	0	0	0	0	0	0	8	0	0	8	4	25	29
05:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	0	5	5
05:15 PM	0	0	0	0	0	0	1	1	1	2	0	1	0	0	1	0	5	0	0	5	1	8	9
05:30 PM	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	1	0	0	1	0	6	6
05:45 PM	1	0	1	0	2	0	1	0	0	1	0	0	1	1	1	1	1	0	0	2	1	6	7
Total	1	0	1	0	2	1	10	1	1	12	0	1	1	1	2	1	8	0	0	9	2	25	27
Grand Total	2	0	7	4	9	3	18	1	1	22	0	1	1	1	2	1	16	0	0	17	6	50	56
Apprch %	22.2	0	77.8			13.6	81.8	4.5			0	50	50			5.9	94.1	0					
Total %	4	0	14		18	6	36	2		44	0	2	2		4	2	32	0		34	10.7	89.3	

	Elsworth Street Southbound				Cactus Avenue Westbound				Elsworth Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	1	1	**2**	**4**	0	**6**	0	0	0	0	0	**4**	0	**4**	**11**
04:15 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	1	0	1	3
04:30 PM	**1**	0	**3**	**4**	0	2	0	2	0	0	0	0	0	2	0	2	8
04:45 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	1	0	1	3
Total Volume	1	0	6	7	2	8	0	10	0	0	0	0	0	8	0	8	25
% App. Total	14.3	0	85.7		20	80	0		0	0	0		0	100	0		
PHF	.250	.000	.500	.438	.250	.500	.000	.417	.000	.000	.000	.000	.000	.500	.000	.500	.568

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City of Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVELCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVELCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

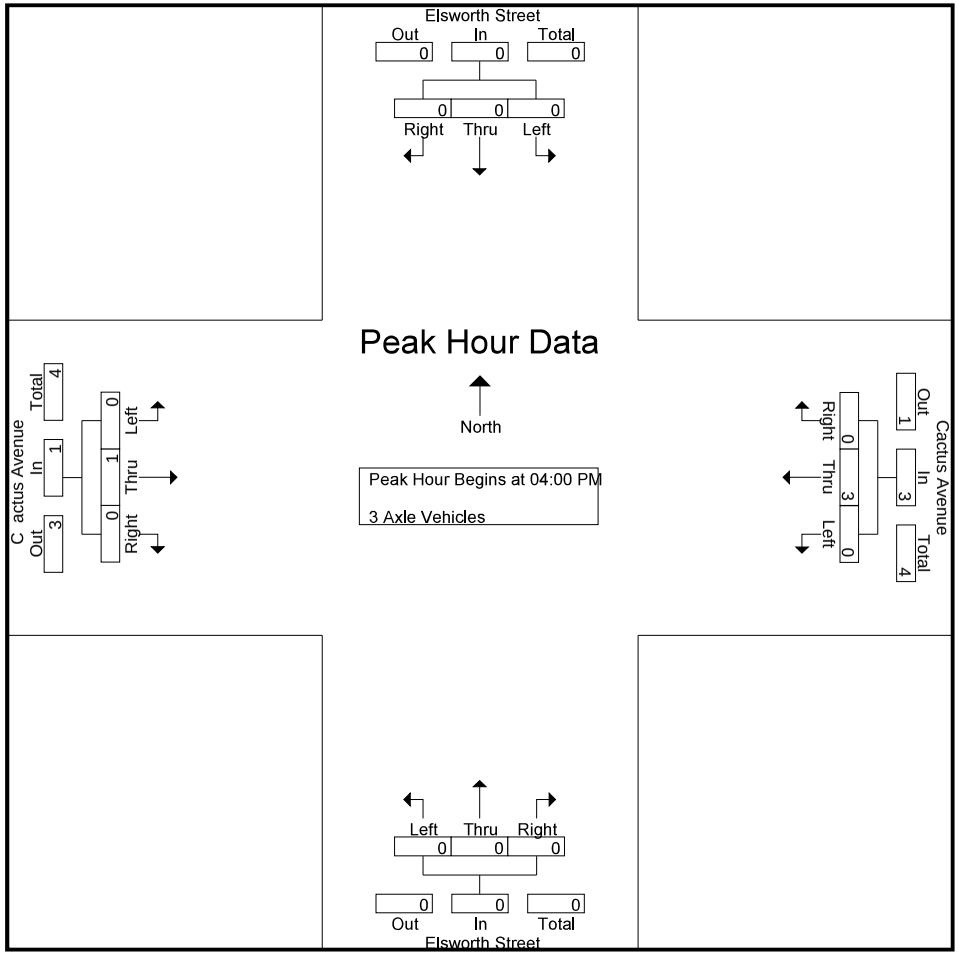
	Elsworth Street Southbound					Cactus Avenue Westbound					Elsworth Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	4	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
Grand Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	0	6	6
Apprch %	0	0	0			0	100	0			0	0	0			0	100	0					
Total %	0	0	0		0	0	83.3	0		83.3	0	0	0		0	0	16.7	0		16.7	0	100	

	Elsworth Street Southbound				Cactus Avenue Westbound				Elsworth Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	**1**	0	**1**	**2**
Total Volume	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1	4
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.000	.250	.000	.250	.500

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City of Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVELCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVELCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

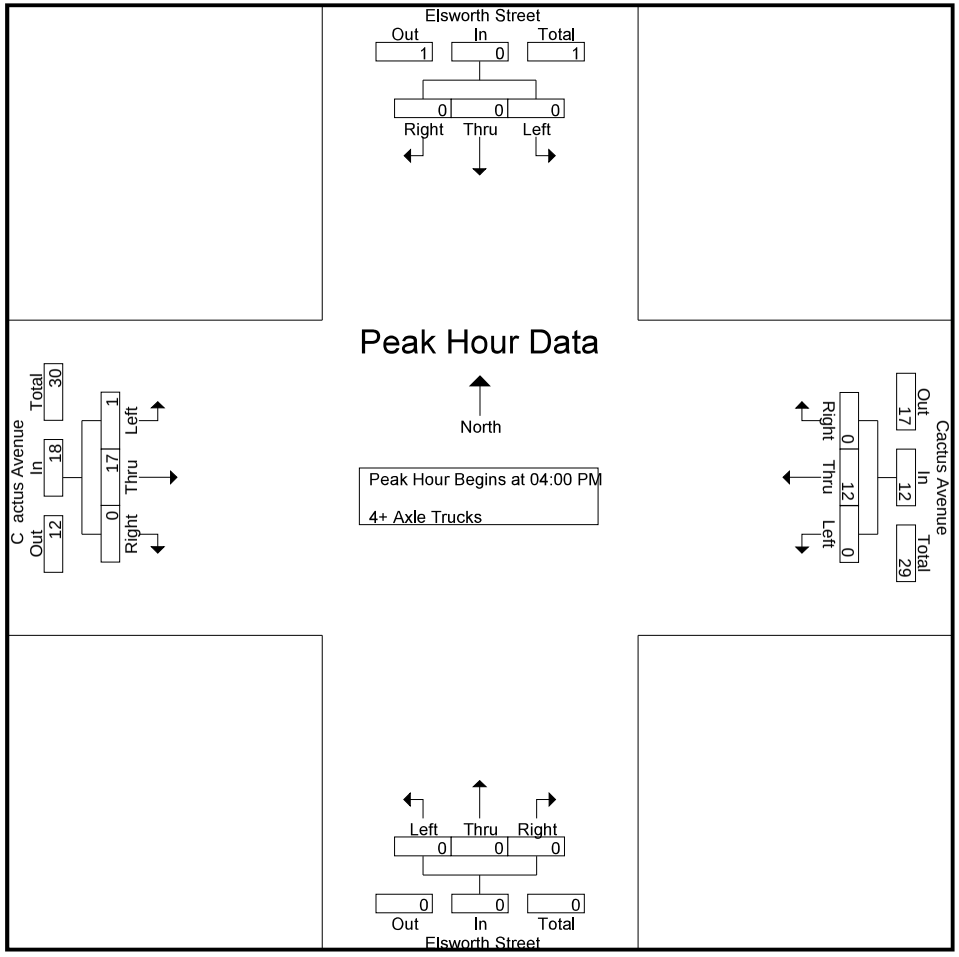
	Elsworth Street Southbound					Cactus Avenue Westbound					Elsworth Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	6	6
04:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	5	0	0	6	0	10	10
04:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	0	9	9
04:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	5	5
Total	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	1	17	0	0	18	0	30	30
05:00 PM	0	1	0	0	1	0	5	0	0	5	0	0	0	0	0	2	4	0	0	6	0	12	12
05:15 PM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	6	0	0	6	0	9	9
05:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	0	9	9
05:45 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	0	10	10
Total	1	1	0	0	2	0	17	0	0	17	0	0	0	0	0	2	19	0	0	21	0	40	40
Grand Total	1	1	0	0	2	0	29	0	0	29	0	0	0	0	0	3	36	0	0	39	0	70	70
Apprch %	50	50	0			0	100	0			0	0	0			7.7	92.3	0					
Total %	1.4	1.4	0		2.9	0	41.4	0		41.4	0	0	0		0	4.3	51.4	0		55.7	0	100	

	Elsworth Street Southbound				Cactus Avenue Westbound				Elsworth Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0	4	6
04:15 PM	0	0	0	0	0	**4**	0	**4**	0	0	0	0	**1**	5	0	**6**	**10**
04:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	**6**	0	6	9
04:45 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
Total Volume	0	0	0	0	0	12	0	12	0	0	0	0	1	17	0	18	30
% App. Total	0	0	0		0	100	0		0	0	0		5.6	94.4	0		
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.250	.708	.000	.750	.750

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City of Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVELCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



Location: Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Elsworth Street	East Leg Cactus Avenue	South Leg Elsworth Street	West Leg Cactus Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	1	1	0	2
8:15 AM	0	0	0	0	0
8:30 AM	1	0	0	1	2
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	1	1	1	1	4

	North Leg Elsworth Street	East Leg Cactus Avenue	South Leg Elsworth Street	West Leg Cactus Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	1	0	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1

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Location: Moreno Valley
N/S: Elsworth Street
E/W: Cactus Avenue

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Elsworth Street	East Leg Cactus Avenue	South Leg Elsworth Street	West Leg Cactus Avenue	TOTAL
7:00 AM	0	0	2	0	2
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	1	0	0	0	1
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	1	0	2	0	3

	North Leg Elsworth Street	East Leg Cactus Avenue	South Leg Elsworth Street	West Leg Cactus Avenue	TOTAL
4:00 PM	0	0	1	0	1
4:15 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	0	1	0	2

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City of Moreno Valley
N/S: Frederick Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVFRCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

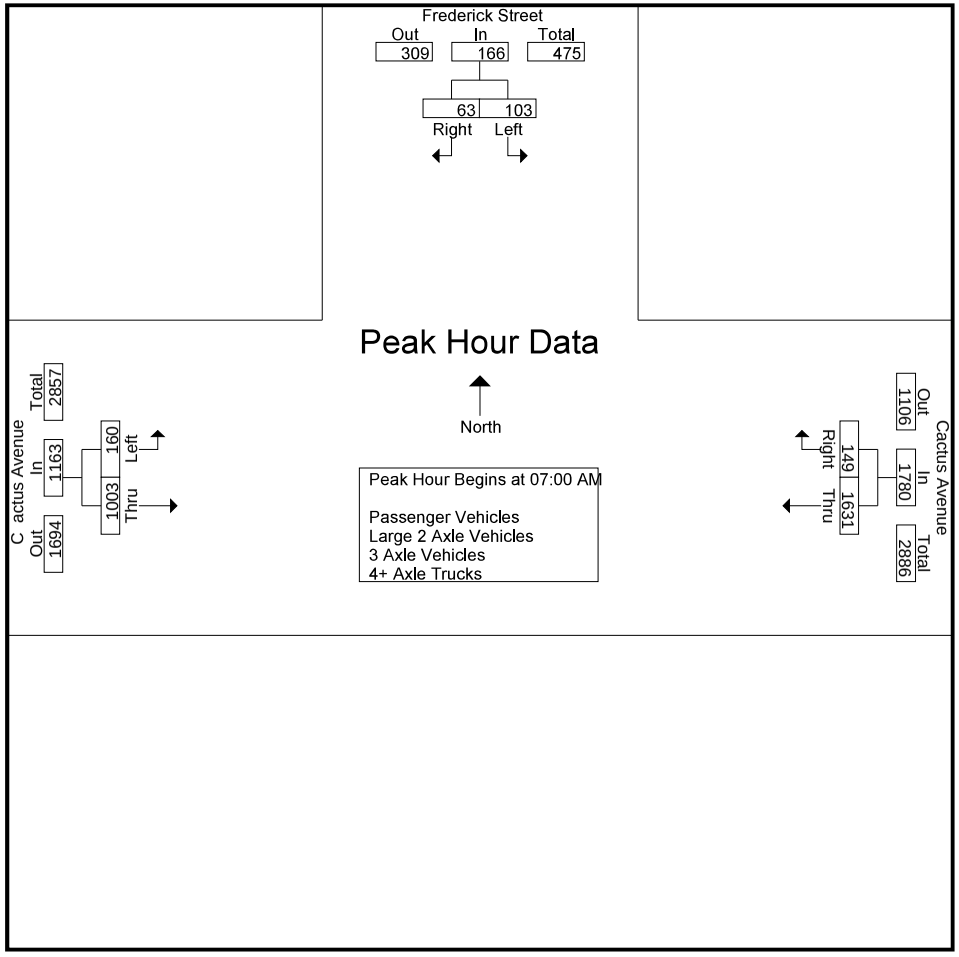
	Frederick Street Southbound				Cactus Avenue Westbound				Cactus Avenue Eastbound						
Start Time	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	28	5	2	33	401	17	0	418	38	216	0	254	2	705	707
07:15 AM	26	15	13	41	428	38	5	466	43	245	0	288	18	795	813
07:30 AM	36	21	16	57	426	46	2	472	44	280	0	324	18	853	871
07:45 AM	13	22	20	35	376	48	2	424	35	262	0	297	22	756	778
Total	103	63	51	166	1631	149	9	1780	160	1003	0	1163	60	3109	3169
08:00 AM	31	9	8	40	295	37	5	332	27	185	0	212	13	584	597
08:15 AM	32	17	15	49	267	30	2	297	32	216	0	248	17	594	611
08:30 AM	30	10	7	40	239	33	3	272	27	188	0	215	10	527	537
08:45 AM	21	10	10	31	219	38	0	257	19	156	0	175	10	463	473
Total	114	46	40	160	1020	138	10	1158	105	745	0	850	50	2168	2218
Grand Total	217	109	91	326	2651	287	19	2938	265	1748	0	2013	110	5277	5387
Apprch %	66.6	33.4			90.2	9.8			13.2	86.8					
Total %	4.1	2.1		6.2	50.2	5.4		55.7	5	33.1		38.1	2	98	
Passenger Vehicles	206	102		394	2597	277		2893	251	1669		1920	0	0	5207
% Passenger Vehicles	94.9	93.6	94.5	94.5	98	96.5	100	97.8	94.7	95.5	0	95.4	0	0	96.7
Large 2 Axle Vehicles	8	2		10	18	5		23	4	22		26	0	0	59
% Large 2 Axle Vehicles	3.7	1.8	0	2.4	0.7	1.7	0	0.8	1.5	1.3	0	1.3	0	0	1.1
3 Axle Vehicles	2	1		4	7	1		8	1	8		9	0	0	21
% 3 Axle Vehicles	0.9	0.9	1.1	1	0.3	0.3	0	0.3	0.4	0.5	0	0.4	0	0	0.4
4+ Axle Trucks	1	4		9	29	4		33	9	49		58	0	0	100
% 4+ Axle Trucks	0.5	3.7	4.4	2.2	1.1	1.4	0	1.1	3.4	2.8	0	2.9	0	0	1.9

	Frederick Street Southbound			Cactus Avenue Westbound			Cactus Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	28	5	33	401	17	418	38	216	254	705
07:15 AM	26	15	41	**428**	38	466	43	245	288	795
07:30 AM	**36**	21	**57**	426	46	**472**	**44**	**280**	**324**	**853**
07:45 AM	13	**22**	35	376	**48**	424	35	262	297	756
Total Volume	103	63	166	1631	149	1780	160	1003	1163	3109
% App. Total	62	38		91.6	8.4		13.8	86.2		
PHF	.715	.716	.728	.953	.776	.943	.909	.896	.897	.911

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City of Moreno Valley
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Groups Printed- Large 2 Axle Vehicles

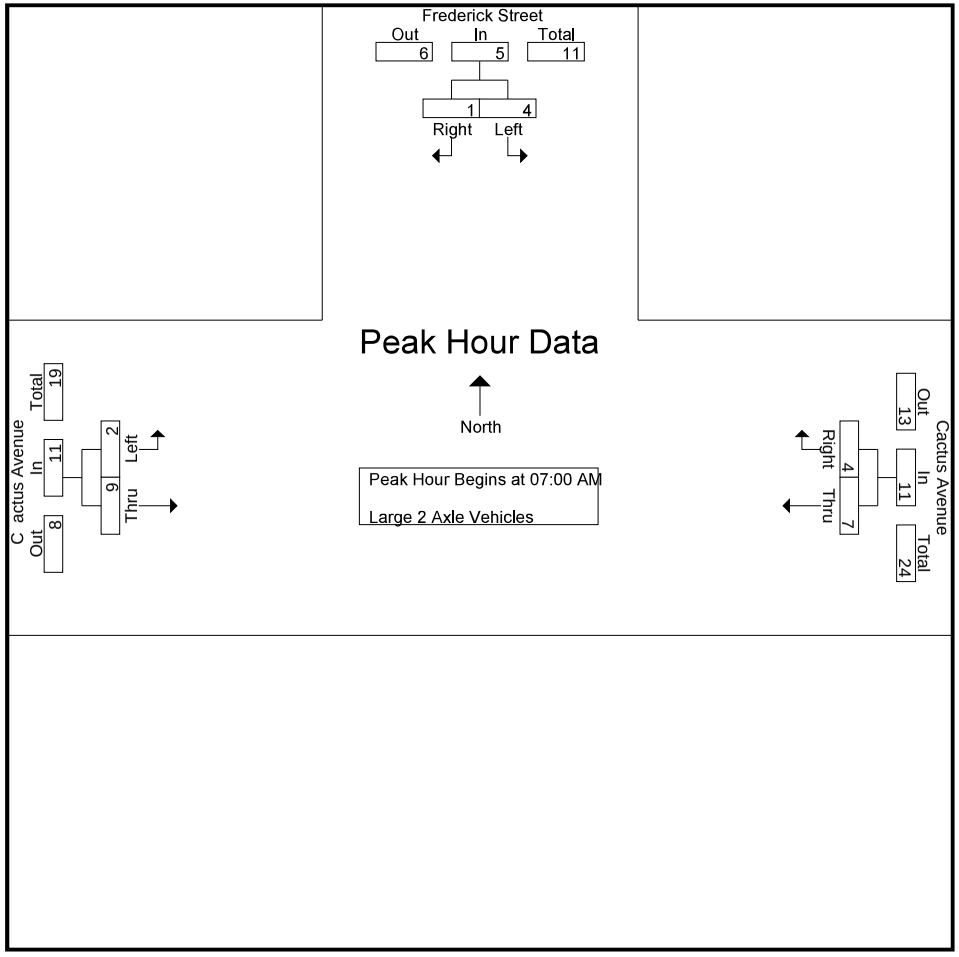
	Frederick Street Southbound				Cactus Avenue Westbound				Cactus Avenue Eastbound						
Start Time	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	1	0	2	2	1	0	3	2	3	0	5	0	10	10
07:15 AM	3	0	0	3	1	1	0	2	0	1	0	1	0	6	6
07:30 AM	0	0	0	0	1	1	0	2	0	4	0	4	0	6	6
07:45 AM	0	0	0	0	3	1	0	4	0	1	0	1	0	5	5
Total	4	1	0	5	7	4	0	11	2	9	0	11	0	27	27
08:00 AM	2	0	0	2	3	0	0	3	0	2	0	2	0	7	7
08:15 AM	1	1	0	2	2	1	0	3	0	3	0	3	0	8	8
08:30 AM	1	0	0	1	3	0	0	3	1	3	0	4	0	8	8
08:45 AM	0	0	0	0	3	0	0	3	1	5	0	6	0	9	9
Total	4	1	0	5	11	1	0	12	2	13	0	15	0	32	32
Grand Total	8	2	0	10	18	5	0	23	4	22	0	26	0	59	59
Apprch %	80	20			78.3	21.7			15.4	84.6					
Total %	13.6	3.4		16.9	30.5	8.5		39	6.8	37.3		44.1	0	100	

	Frederick Street Southbound			Cactus Avenue Westbound			Cactus Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	1	**1**	2	2	**1**	3	**2**	3	**5**	**10**
07:15 AM	**3**	0	**3**	1	1	2	0	1	1	6
07:30 AM	0	0	0	1	1	2	0	**4**	**4**	6
07:45 AM	0	0	0	**3**	1	**4**	0	1	1	5
Total Volume	4	1	5	7	4	11	2	9	11	27
% App. Total	80	20		63.6	36.4		18.2	81.8		
PHF	.333	.250	.417	.583	1.00	.688	.250	.563	.550	.675

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Groups Printed- 3 Axle Vehicles

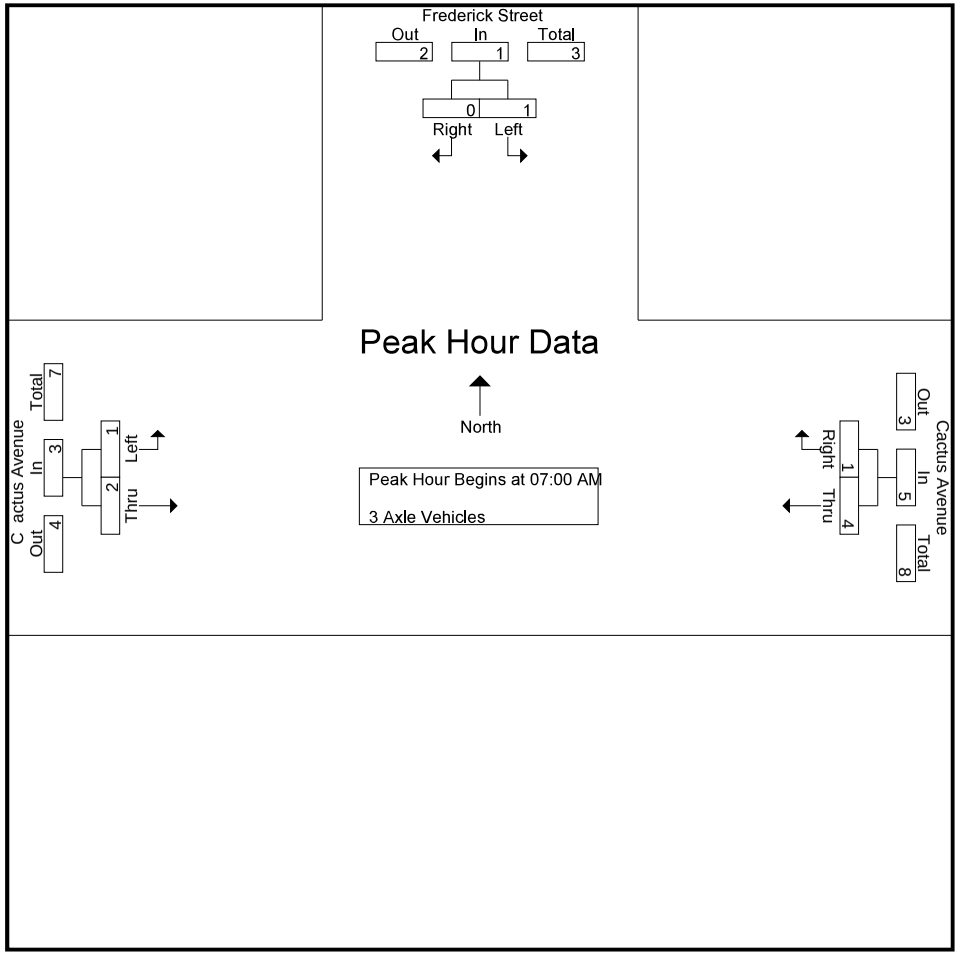
	Frederick Street Southbound				Cactus Avenue Westbound				Cactus Avenue Eastbound						
Start Time	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	0	0	1	1	0	0	1	1	0	0	1	0	3	3
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	2	1	0	3	0	1	0	1	0	4	4
07:45 AM	0	0	0	0	1	0	0	1	0	1	0	1	0	2	2
Total	1	0	0	1	4	1	0	5	1	2	0	3	0	9	9
08:00 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	3	3
08:15 AM	0	1	1	1	1	0	0	1	0	1	0	1	1	3	4
08:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1
08:45 AM	1	0	0	1	1	0	0	1	0	2	0	2	0	4	4
Total	1	1	1	2	3	0	0	3	0	6	0	6	1	11	12
Grand Total	2	1	1	3	7	1	0	8	1	8	0	9	1	20	21
Apprch %	66.7	33.3			87.5	12.5			11.1	88.9					
Total %	10	5		15	35	5		40	5	40		45	4.8	95.2	

	Frederick Street Southbound			Cactus Avenue Westbound			Cactus Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**1**	0	**1**	1	0	1	**1**	0	**1**	3
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	**2**	**1**	**3**	0	**1**	1	**4**
07:45 AM	0	0	0	1	0	1	0	1	1	2
Total Volume	1	0	1	4	1	5	1	2	3	9
% App. Total	100	0		80	20		33.3	66.7		
PHF	.250	.000	.250	.500	.250	.417	.250	.500	.750	.563

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Groups Printed- 4+ Axle Trucks

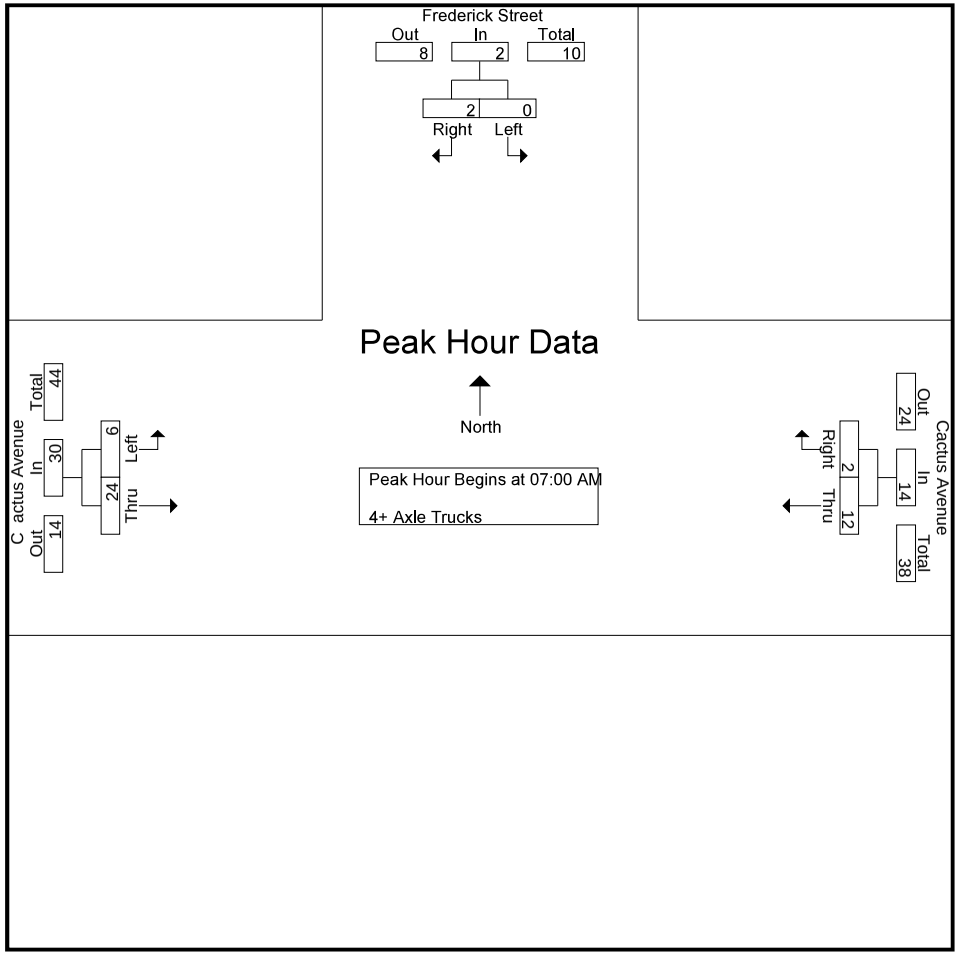
	Frederick Street Southbound				Cactus Avenue Westbound				Cactus Avenue Eastbound						
Start Time	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	1	0	0	1	3	5	0	8	0	9	9
07:15 AM	0	1	1	1	2	1	0	3	0	3	0	3	1	7	8
07:30 AM	0	0	0	0	5	1	0	6	2	8	0	10	0	16	16
07:45 AM	0	1	1	1	4	0	0	4	1	8	0	9	1	14	15
Total	0	2	2	2	12	2	0	14	6	24	0	30	2	46	48
08:00 AM	0	0	0	0	8	1	0	9	0	5	0	5	0	14	14
08:15 AM	0	1	1	1	1	1	0	2	2	10	0	12	1	15	16
08:30 AM	1	1	1	2	4	0	0	4	1	6	0	7	1	13	14
08:45 AM	0	0	0	0	4	0	0	4	0	4	0	4	0	8	8
Total	1	2	2	3	17	2	0	19	3	25	0	28	2	50	52
Grand Total	1	4	4	5	29	4	0	33	9	49	0	58	4	96	100
Apprch %	20	80			87.9	12.1			15.5	84.5					
Total %	1	4.2		5.2	30.2	4.2		34.4	9.4	51		60.4	4	96	

	Frederick Street Southbound			Cactus Avenue Westbound			Cactus Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	1	0	1	**3**	5	8	9
07:15 AM	0	**1**	**1**	2	**1**	3	0	3	3	7
07:30 AM	0	0	0	**5**	1	**6**	2	**8**	**10**	**16**
07:45 AM	0	1	1	4	0	4	1	8	9	14
Total Volume	0	2	2	12	2	14	6	24	30	46
% App. Total	0	100		85.7	14.3		20	80		
PHF	.000	.500	.500	.600	.500	.583	.500	.750	.750	.719

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

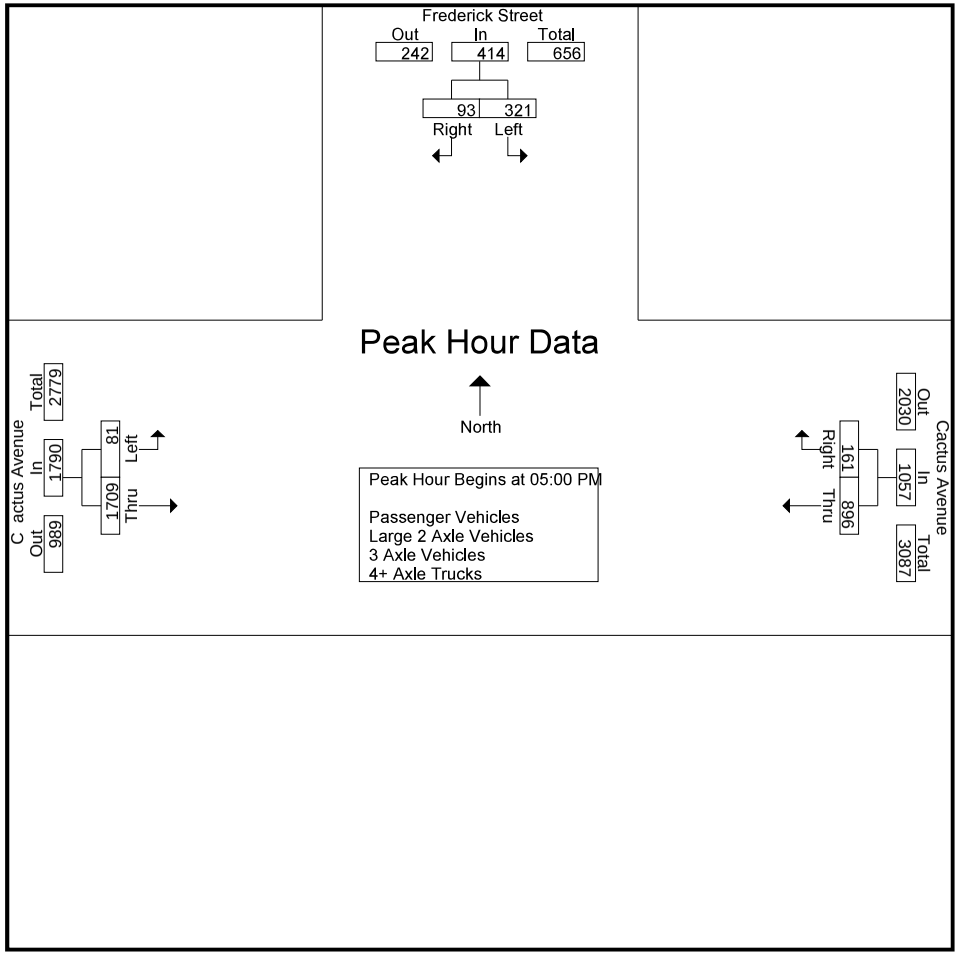
	Frederick Street Southbound				Cactus Avenue Westbound				Cactus Avenue Eastbound						
Start Time	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	60	14	7	74	248	40	4	288	11	367	0	378	11	740	751
04:15 PM	56	17	13	73	245	35	2	280	14	358	0	372	15	725	740
04:30 PM	79	34	27	113	226	34	1	260	17	354	0	371	28	744	772
04:45 PM	59	18	10	77	285	30	1	315	20	374	0	394	11	786	797
Total	254	83	57	337	1004	139	8	1143	62	1453	0	1515	65	2995	3060
05:00 PM	88	36	23	124	229	55	6	284	14	410	0	424	29	832	861
05:15 PM	73	17	12	90	227	31	1	258	19	426	0	445	13	793	806
05:30 PM	85	16	11	101	218	40	1	258	22	418	0	440	12	799	811
05:45 PM	75	24	20	99	222	35	0	257	26	455	0	481	20	837	857
Total	321	93	66	414	896	161	8	1057	81	1709	0	1790	74	3261	3335
Grand Total	575	176	123	751	1900	300	16	2200	143	3162	0	3305	139	6256	6395
Apprch %	76.6	23.4			86.4	13.6			4.3	95.7					
Total %	9.2	2.8		12	30.4	4.8		35.2	2.3	50.5		52.8	2.2	97.8	
Passenger Vehicles	561	164		845	1858	291		2165	132	3124		3256	0	0	6266
% Passenger Vehicles	97.6	93.2	97.6	96.7	97.8	97	100	97.7	92.3	98.8	0	98.5	0	0	98
Large 2 Axle Vehicles	6	4		11	16	6		22	2	10		12	0	0	45
% Large 2 Axle Vehicles	1	2.3	0.8	1.3	0.8	2	0	1	1.4	0.3	0	0.4	0	0	0.7
3 Axle Vehicles	2	2		5	4	0		4	0	1		1	0	0	10
% 3 Axle Vehicles	0.3	1.1	0.8	0.6	0.2	0	0	0.2	0	0	0	0	0	0	0.2
4+ Axle Trucks	6	6		13	22	3		25	9	27		36	0	0	74
% 4+ Axle Trucks	1	3.4	0.8	1.5	1.2	1	0	1.1	6.3	0.9	0	1.1	0	0	1.2

	Frederick Street Southbound			Cactus Avenue Westbound			Cactus Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**88**	**36**	**124**	**229**	**55**	**284**	14	410	424	832
05:15 PM	73	17	90	227	31	258	19	426	445	793
05:30 PM	85	16	101	218	40	258	22	418	440	799
05:45 PM	75	24	99	222	35	257	**26**	**455**	**481**	**837**
Total Volume	321	93	414	896	161	1057	81	1709	1790	3261
% App. Total	77.5	22.5		84.8	15.2		4.5	95.5		
PHF	.912	.646	.835	.978	.732	.930	.779	.939	.930	.974

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Groups Printed- Large 2 Axle Vehicles

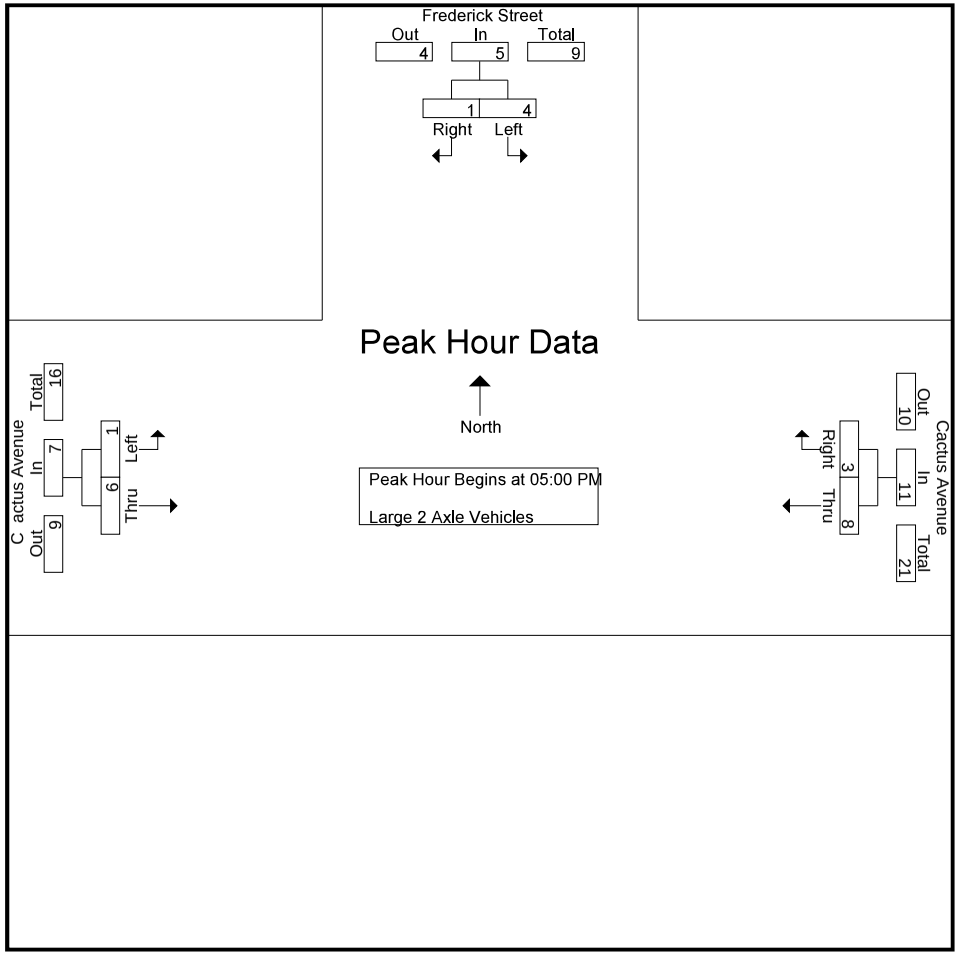
	Frederick Street Southbound				Cactus Avenue Westbound				Cactus Avenue Eastbound						
Start Time	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	1	0	2	5	2	0	7	0	2	0	2	0	11	11
04:15 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	2	2
04:30 PM	1	0	0	1	0	0	0	0	1	2	0	3	0	4	4
04:45 PM	0	1	1	1	3	0	0	3	0	0	0	0	1	4	5
Total	2	3	1	5	8	3	0	11	1	4	0	5	1	21	22
05:00 PM	1	0	0	1	2	3	0	5	1	0	0	1	0	7	7
05:15 PM	2	1	0	3	1	0	0	1	0	4	0	4	0	8	8
05:30 PM	0	0	0	0	4	0	0	4	0	1	0	1	0	5	5
05:45 PM	1	0	0	1	1	0	0	1	0	1	0	1	0	3	3
Total	4	1	0	5	8	3	0	11	1	6	0	7	0	23	23
Grand Total	6	4	1	10	16	6	0	22	2	10	0	12	1	44	45
Apprch %	60	40			72.7	27.3			16.7	83.3					
Total %	13.6	9.1		22.7	36.4	13.6		50	4.5	22.7		27.3	2.2	97.8	

	Frederick Street Southbound			Cactus Avenue Westbound			Cactus Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	1	0	1	2	**3**	**5**	**1**	0	1	7
05:15 PM	**2**	**1**	**3**	1	0	1	0	**4**	**4**	**8**
05:30 PM	0	0	0	**4**	0	4	0	1	1	5
05:45 PM	1	0	1	1	0	1	0	1	1	3
Total Volume	4	1	5	8	3	11	1	6	7	23
% App. Total	80	20		72.7	27.3		14.3	85.7		
PHF	.500	.250	.417	.500	.250	.550	.250	.375	.438	.719

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Groups Printed- 3 Axle Vehicles

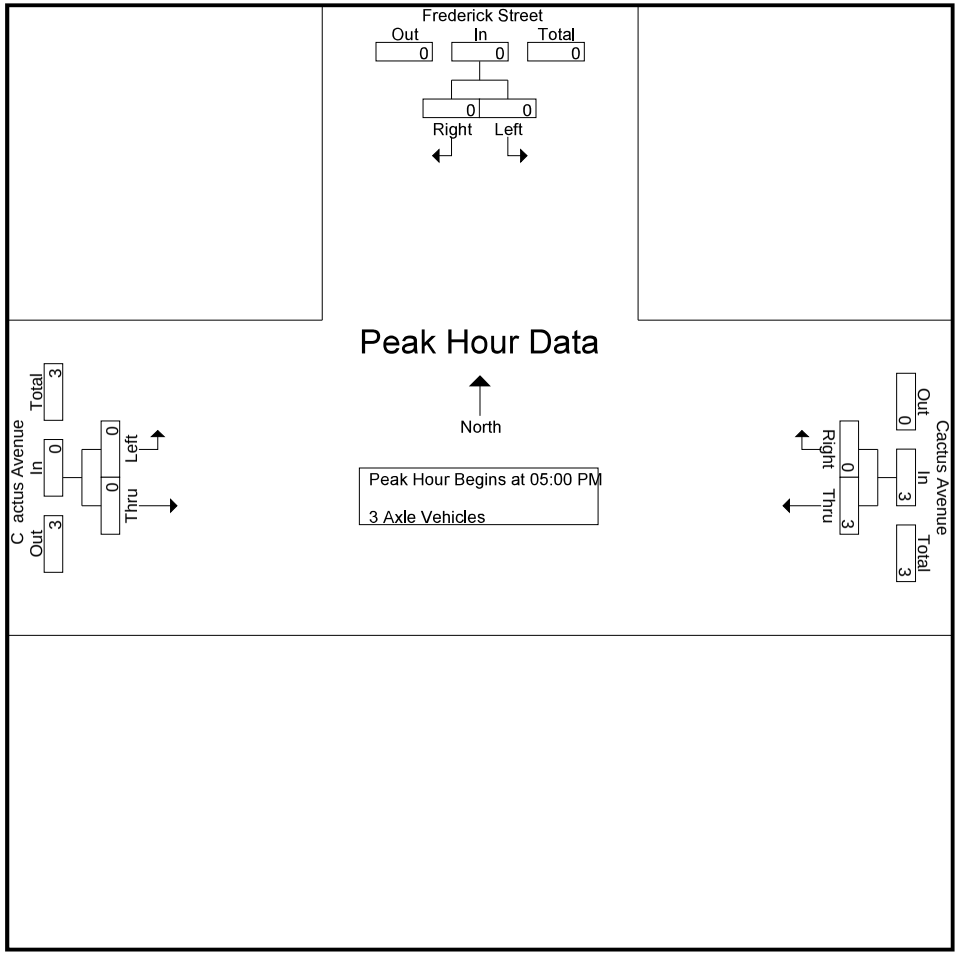
	Frederick Street Southbound				Cactus Avenue Westbound				Cactus Avenue Eastbound						
Start Time	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	1	1	2	0	0	0	0	0	0	0	0	1	2	3
04:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1
04:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1
04:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	2	2
Total	2	2	1	4	1	0	0	1	0	1	0	1	1	6	7
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1
05:30 PM	0	0	0	0	2	0	0	2	0	0	0	0	0	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	3	0	0	3	0	0	0	0	0	3	3
Grand Total	2	2	1	4	4	0	0	4	0	1	0	1	1	9	10
Apprch %	50	50			100	0			0	100					
Total %	22.2	22.2		44.4	44.4	0		44.4	0	11.1		11.1	10	90	

	Frederick Street Southbound			Cactus Avenue Westbound			Cactus Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	1	0	1	0	0	0	1
05:30 PM	0	0	0	**2**	0	**2**	0	0	0	**2**
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	3	0	3	0	0	0	3
% App. Total	0	0		100	0		0	0		
PHF	.000	.000	.000	.375	.000	.375	.000	.000	.000	.375

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City of Moreno Valley
N/S: Frederick Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVFRCAPM
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City of Moreno Valley
N/S: Frederick Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVFRCAPM
Site Code : 05115223
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Groups Printed- 4+ Axle Trucks

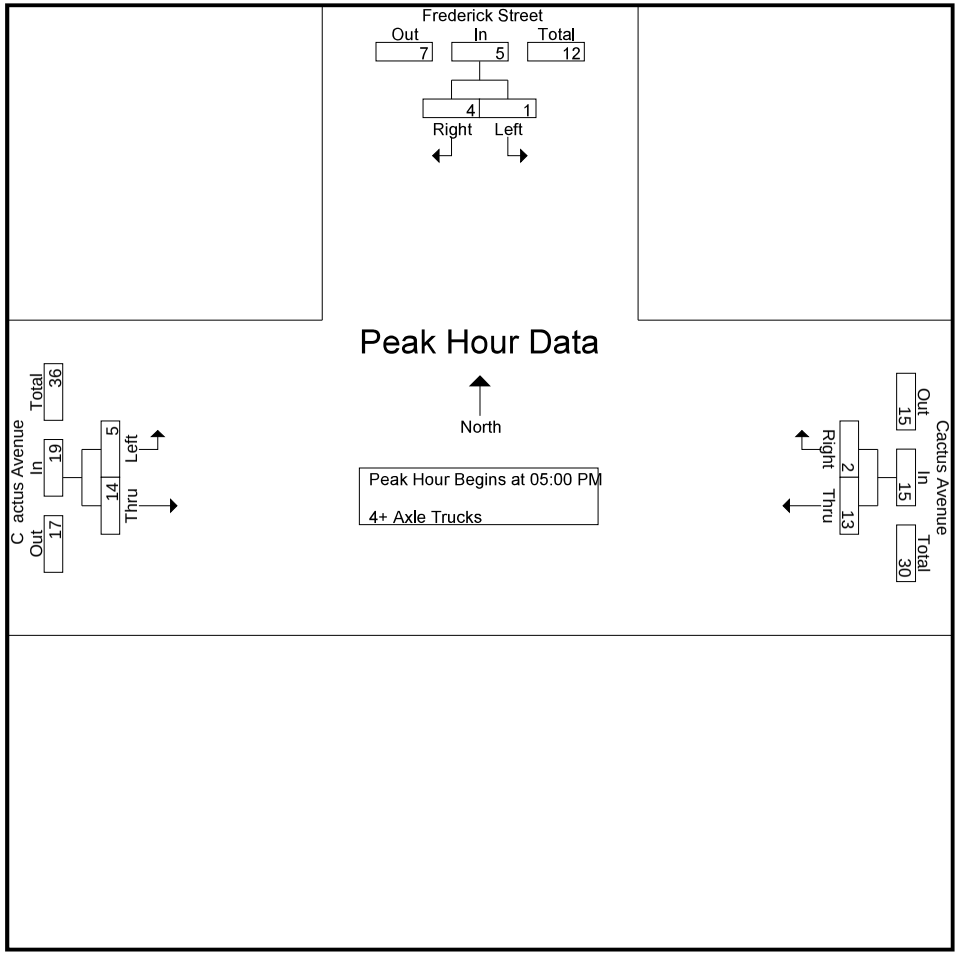
	Frederick Street Southbound				Cactus Avenue Westbound				Cactus Avenue Eastbound						
Start Time	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	0	0	1	3	0	0	3	1	3	0	4	0	8	8
04:15 PM	2	1	1	3	2	0	0	2	1	3	0	4	1	9	10
04:30 PM	0	0	0	0	3	1	0	4	1	5	0	6	0	10	10
04:45 PM	2	1	0	3	1	0	0	1	1	2	0	3	0	7	7
Total	5	2	1	7	9	1	0	10	4	13	0	17	1	34	35
05:00 PM	0	1	0	1	4	0	0	4	0	3	0	3	0	8	8
05:15 PM	0	1	0	1	2	0	0	2	4	4	0	8	0	11	11
05:30 PM	0	1	0	1	3	1	0	4	1	4	0	5	0	10	10
05:45 PM	1	1	0	2	4	1	0	5	0	3	0	3	0	10	10
Total	1	4	0	5	13	2	0	15	5	14	0	19	0	39	39
Grand Total	6	6	1	12	22	3	0	25	9	27	0	36	1	73	74
Apprch %	50	50			88	12			25	75					
Total %	8.2	8.2		16.4	30.1	4.1		34.2	12.3	37		49.3	1.4	98.6	

	Frederick Street Southbound			Cactus Avenue Westbound			Cactus Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	**1**	1	**4**	0	4	0	3	3	8
05:15 PM	0	1	1	2	0	2	**4**	**4**	**8**	**11**
05:30 PM	0	1	1	3	**1**	4	1	4	5	10
05:45 PM	**1**	1	**2**	4	1	**5**	0	3	3	10
Total Volume	1	4	5	13	2	15	5	14	19	39
% App. Total	20	80		86.7	13.3		26.3	73.7		
PHF	.250	1.00	.625	.813	.500	.750	.313	.875	.594	.886

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City of Moreno Valley
N/S: Frederick Street
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Weather: Clear

File Name : MRVFRCAPM
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Location: Moreno Valley
N/S: Frederick Street
E/W: Cactus Avenue

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Frederick Street	East Leg Cactus Avenue	South Leg Frederick Street	West Leg Cactus Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Frederick Street	East Leg Cactus Avenue	South Leg Frederick Street	West Leg Cactus Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	1	0	0	0	1
4:30 PM	1	0	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	2	0	0	0	2

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Location: Moreno Valley
N/S: Frederick Street
E/W: Cactus Avenue

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Frederick Street	East Leg Cactus Avenue	South Leg Frederick Street	West Leg Cactus Avenue	TOTAL
7:00 AM	0	0	2	0	2
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	2	0	2

	North Leg Frederick Street	East Leg Cactus Avenue	South Leg Frederick Street	West Leg Cactus Avenue	TOTAL
4:00 PM	2	0	0	0	2
4:15 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	3	0	0	0	3

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City of Moreno Valley
N/S: Western Way
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVWEHKAM
Site Code : 05115223
Start Date : 4/28/2015

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

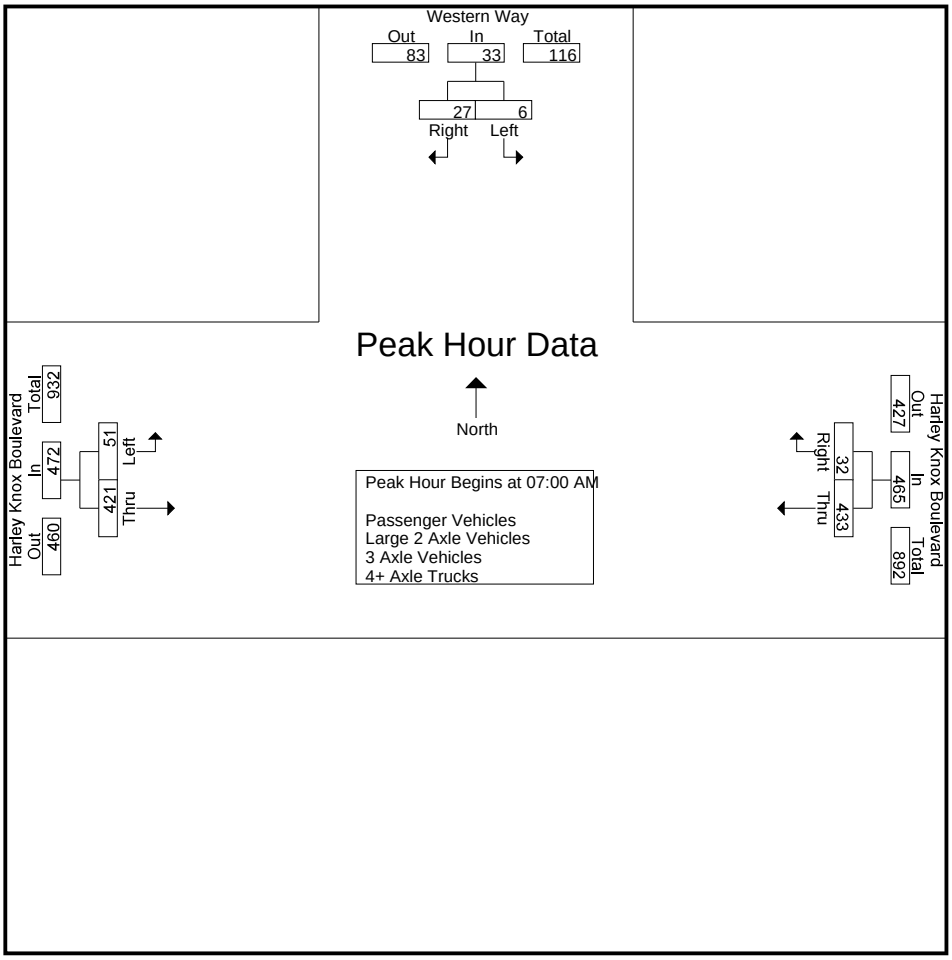
	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	5	5	138	2	140	5	95	100	245
07:15 AM	1	8	9	117	5	122	7	131	138	269
07:30 AM	3	6	9	103	5	108	14	101	115	232
07:45 AM	2	8	10	75	20	95	25	94	119	224
Total	6	27	33	433	32	465	51	421	472	970
08:00 AM	4	14	18	72	9	81	19	69	88	187
08:15 AM	4	7	11	50	7	57	12	39	51	119
08:30 AM	2	11	13	66	10	76	17	38	55	144
08:45 AM	4	25	29	28	10	38	28	51	79	146
Total	14	57	71	216	36	252	76	197	273	596
Grand Total	20	84	104	649	68	717	127	618	745	1566
Apprch %	19.2	80.8		90.5	9.5		17	83		
Total %	1.3	5.4	6.6	41.4	4.3	45.8	8.1	39.5	47.6	
Passenger Vehicles	18	64	82	508	58	566	110	511	621	1269
% Passenger Vehicles	90	76.2	78.8	78.3	85.3	78.9	86.6	82.7	83.4	81
Large 2 Axle Vehicles	1	9	10	57	7	64	12	35	47	121
% Large 2 Axle Vehicles	5	10.7	9.6	8.8	10.3	8.9	9.4	5.7	6.3	7.7
3 Axle Vehicles	0	3	3	23	0	23	0	18	18	44
% 3 Axle Vehicles	0	3.6	2.9	3.5	0	3.2	0	2.9	2.4	2.8
4+ Axle Trucks	1	8	9	61	3	64	5	54	59	132
% 4+ Axle Trucks	5	9.5	8.7	9.4	4.4	8.9	3.9	8.7	7.9	8.4

	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	5	5	138	2	140	5	95	100	245
07:15 AM	1	8	9	117	5	122	7	131	138	269
07:30 AM	3	6	9	103	5	108	14	101	115	232
07:45 AM	2	8	10	75	20	95	25	94	119	224
Total Volume	6	27	33	433	32	465	51	421	472	970
% App. Total	18.2	81.8		93.1	6.9		10.8	89.2		
PHF	.500	.844	.825	.784	.400	.830	.510	.803	.855	.901

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

	08:00 AM			07:00 AM			07:00 AM		
+0 mins.	4	14	18	138	2	140	5	95	100
+15 mins.	4	7	11	117	5	122	7	131	138
+30 mins.	2	11	13	103	5	108	14	101	115
+45 mins.	4	25	29	75	20	95	25	94	119
Total Volume	14	57	71	433	32	465	51	421	472
% App. Total	19.7	80.3		93.1	6.9		10.8	89.2	
PHF	.875	.570	.612	.784	.400	.830	.510	.803	.855

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City of Moreno Valley
N/S: Western Way
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVWEHKAM
Site Code : 05115223
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Groups Printed- Large 2 Axle Vehicles

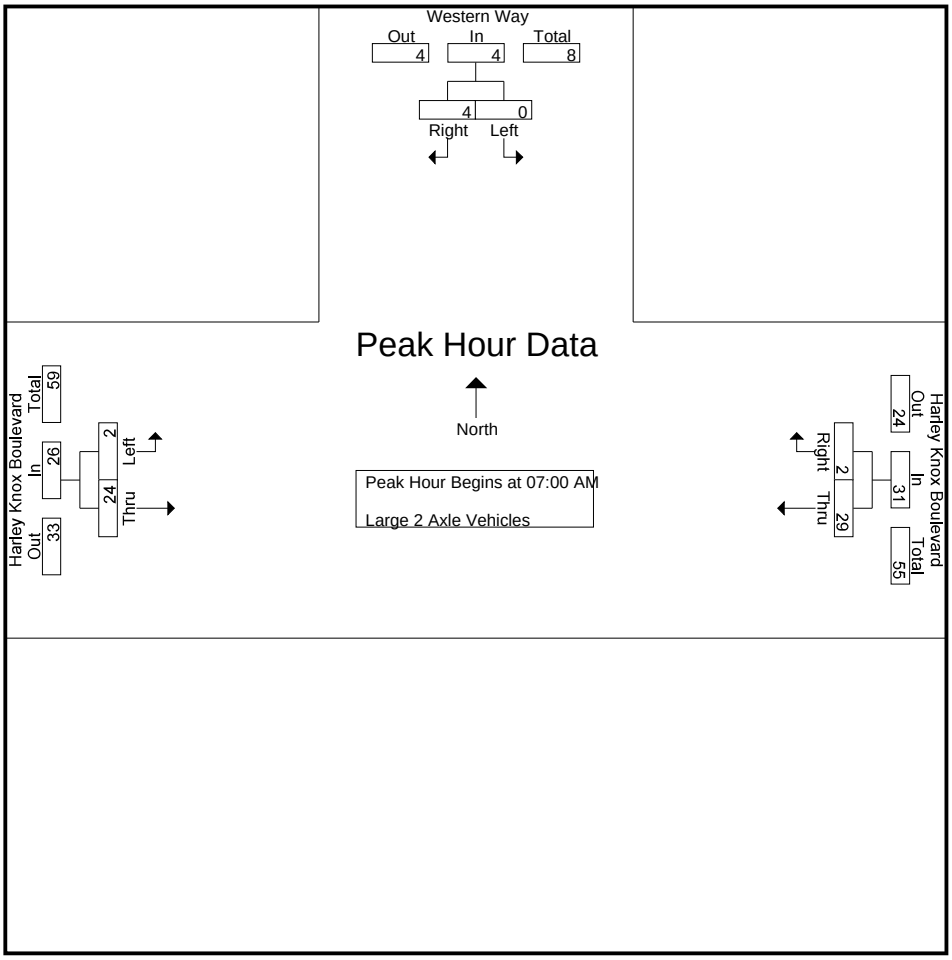
	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	1	1	4	0	4	0	7	7	12
07:15 AM	0	1	1	9	1	10	0	9	9	20
07:30 AM	0	1	1	10	0	10	1	2	3	14
07:45 AM	0	1	1	6	1	7	1	6	7	15
Total	0	4	4	29	2	31	2	24	26	61
08:00 AM	0	2	2	9	1	10	3	4	7	19
08:15 AM	1	0	1	6	1	7	1	2	3	11
08:30 AM	0	1	1	9	1	10	1	1	2	13
08:45 AM	0	2	2	4	2	6	5	4	9	17
Total	1	5	6	28	5	33	10	11	21	60
Grand Total	1	9	10	57	7	64	12	35	47	121
Apprch %	10	90		89.1	10.9		25.5	74.5		
Total %	0.8	7.4	8.3	47.1	5.8	52.9	9.9	28.9	38.8	

	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	1	1	4	0	4	0	7	7	12
07:15 AM	0	1	1	9	1	10	0	9	9	20
07:30 AM	0	1	1	10	0	10	1	2	3	14
07:45 AM	0	1	1	6	1	7	1	6	7	15
Total Volume	0	4	4	29	2	31	2	24	26	61
% App. Total	0	100		93.5	6.5		7.7	92.3		
PHF	.000	1.00	1.00	.725	.500	.775	.500	.667	.722	.763

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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	1	1	4	0	4	0	7	7
+15 mins.	0	1	1	9	1	10	0	9	9
+30 mins.	0	1	1	10	0	10	1	2	3
+45 mins.	0	1	1	6	1	7	1	6	7
Total Volume	0	4	4	29	2	31	2	24	26
% App. Total	0	100		93.5	6.5		7.7	92.3	
PHF	.000	1.000	1.000	.725	.500	.775	.500	.667	.722

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E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVWEHKAM
Site Code : 05115223
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Groups Printed- 3 Axle Vehicles

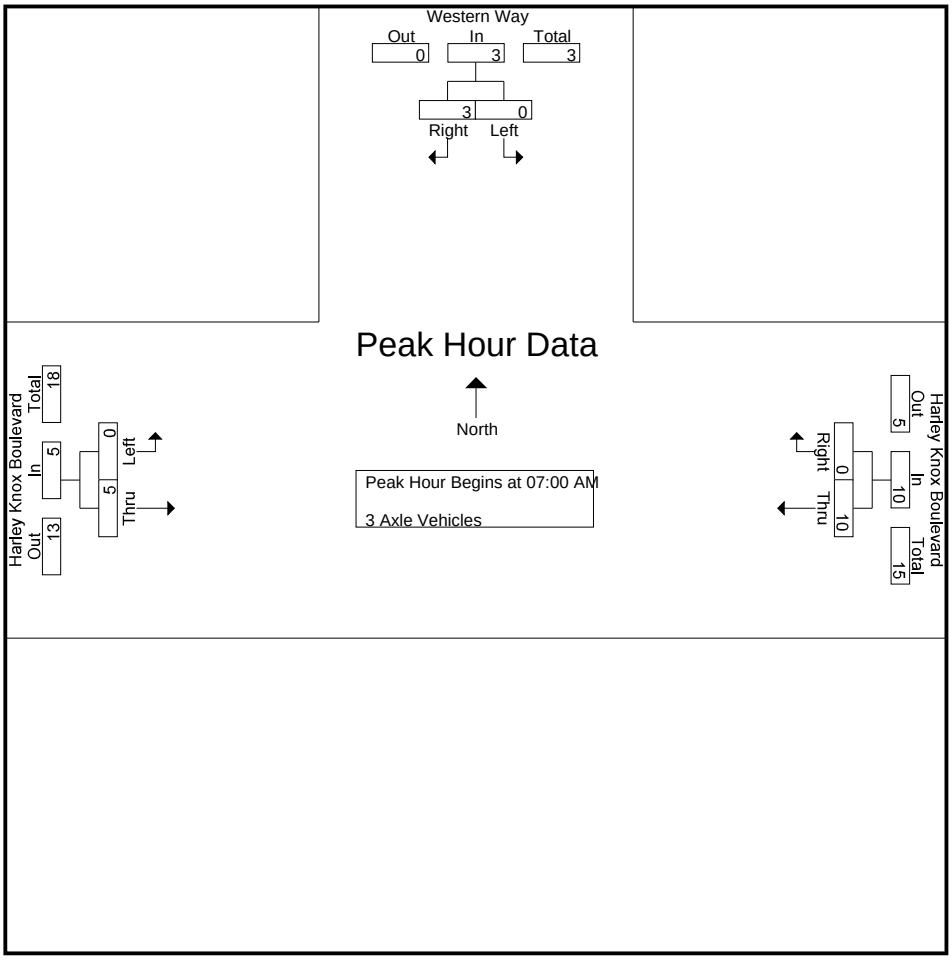
	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	4	0	4	0	4	4	8
07:15 AM	0	2	2	2	0	2	0	1	1	5
07:30 AM	0	0	0	2	0	2	0	0	0	2
07:45 AM	0	1	1	2	0	2	0	0	0	3
Total	0	3	3	10	0	10	0	5	5	18
08:00 AM	0	0	0	1	0	1	0	3	3	4
08:15 AM	0	0	0	2	0	2	0	2	2	4
08:30 AM	0	0	0	7	0	7	0	3	3	10
08:45 AM	0	0	0	3	0	3	0	5	5	8
Total	0	0	0	13	0	13	0	13	13	26
Grand Total	0	3	3	23	0	23	0	18	18	44
Apprch %	0	100		100	0		0	100		
Total %	0	6.8	6.8	52.3	0	52.3	0	40.9	40.9	

	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	4	0	4	0	4	4	8
07:15 AM	0	2	2	2	0	2	0	1	1	5
07:30 AM	0	0	0	2	0	2	0	0	0	2
07:45 AM	0	1	1	2	0	2	0	0	0	3
Total Volume	0	3	3	10	0	10	0	5	5	18
% App. Total	0	100		100	0		0	100		
PHF	.000	.375	.375	.625	.000	.625	.000	.313	.313	.563

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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	4	0	4	0	4	4
+15 mins.	0	2	2	2	0	2	0	1	1
+30 mins.	0	0	0	2	0	2	0	0	0
+45 mins.	0	1	1	2	0	2	0	0	0
Total Volume	0	3	3	10	0	10	0	5	5
% App. Total	0	100		100	0		0	100	
PHF	.000	.375	.375	.625	.000	.625	.000	.313	.313

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City of Moreno Valley
N/S: Western Way
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVWEHKAM
Site Code : 05115223
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Groups Printed- 4+ Axle Trucks

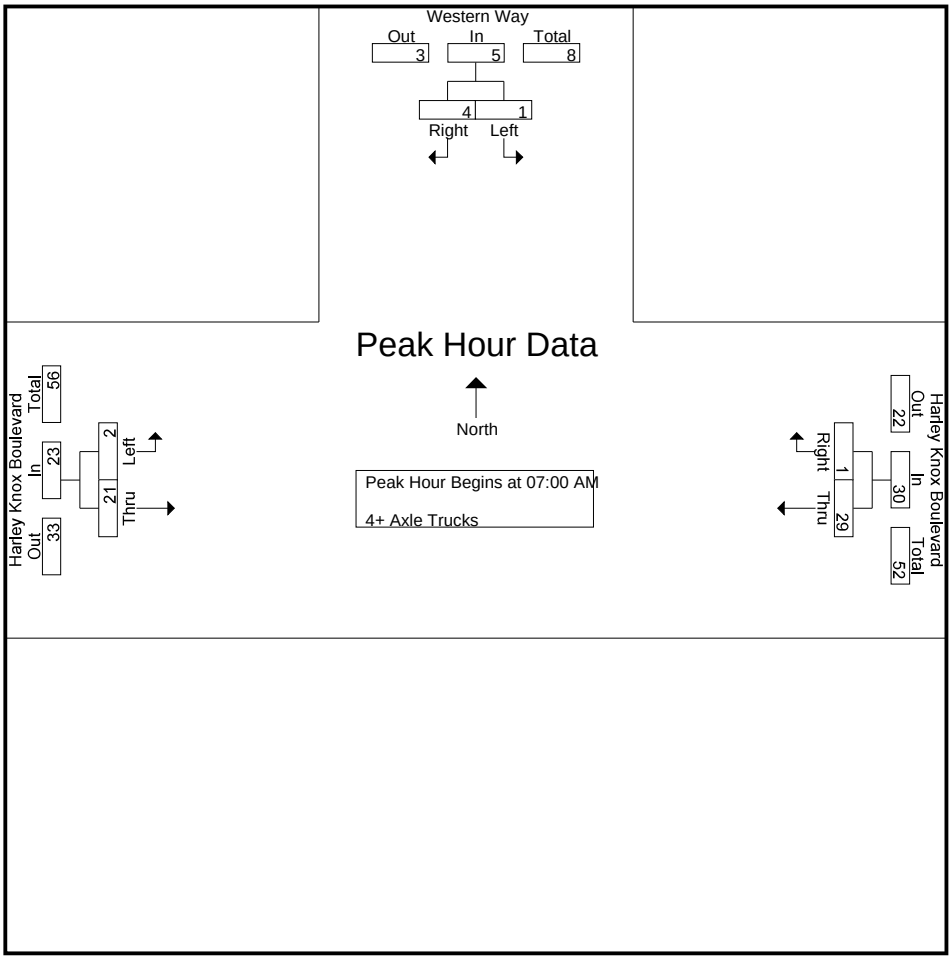
	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	1	1	7	0	7	0	4	4	12
07:15 AM	0	2	2	7	0	7	0	6	6	15
07:30 AM	0	1	1	6	0	6	1	5	6	13
07:45 AM	1	0	1	9	1	10	1	6	7	18
Total	1	4	5	29	1	30	2	21	23	58
08:00 AM	0	2	2	6	1	7	0	12	12	21
08:15 AM	0	1	1	9	0	9	0	10	10	20
08:30 AM	0	1	1	10	1	11	1	4	5	17
08:45 AM	0	0	0	7	0	7	2	7	9	16
Total	0	4	4	32	2	34	3	33	36	74
Grand Total	1	8	9	61	3	64	5	54	59	132
Apprch %	11.1	88.9		95.3	4.7		8.5	91.5		
Total %	0.8	6.1	6.8	46.2	2.3	48.5	3.8	40.9	44.7	

	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	1	1	7	0	7	0	4	4	12
07:15 AM	0	2	2	7	0	7	0	6	6	15
07:30 AM	0	1	1	6	0	6	1	5	6	13
07:45 AM	1	0	1	9	1	10	1	6	7	18
Total Volume	1	4	5	29	1	30	2	21	23	58
% App. Total	20	80		96.7	3.3		8.7	91.3		
PHF	.250	.500	.625	.806	.250	.750	.500	.875	.821	.806

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City of Moreno Valley
N/S: Western Way
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVWEHKAM
Site Code : 05115223
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	1	1	7	0	7	0	4	4
+15 mins.	0	2	2	7	0	7	0	6	6
+30 mins.	0	1	1	6	0	6	1	5	6
+45 mins.	1	0	1	9	1	10	1	6	7
Total Volume	1	4	5	29	1	30	2	21	23
% App. Total	20	80		96.7	3.3		8.7	91.3	
PHF	.250	.500	.625	.806	.250	.750	.500	.875	.821

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City of Moreno Valley
N/S: Western Way
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVWEHKPM
Site Code : 05115223
Start Date : 4/28/2015

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

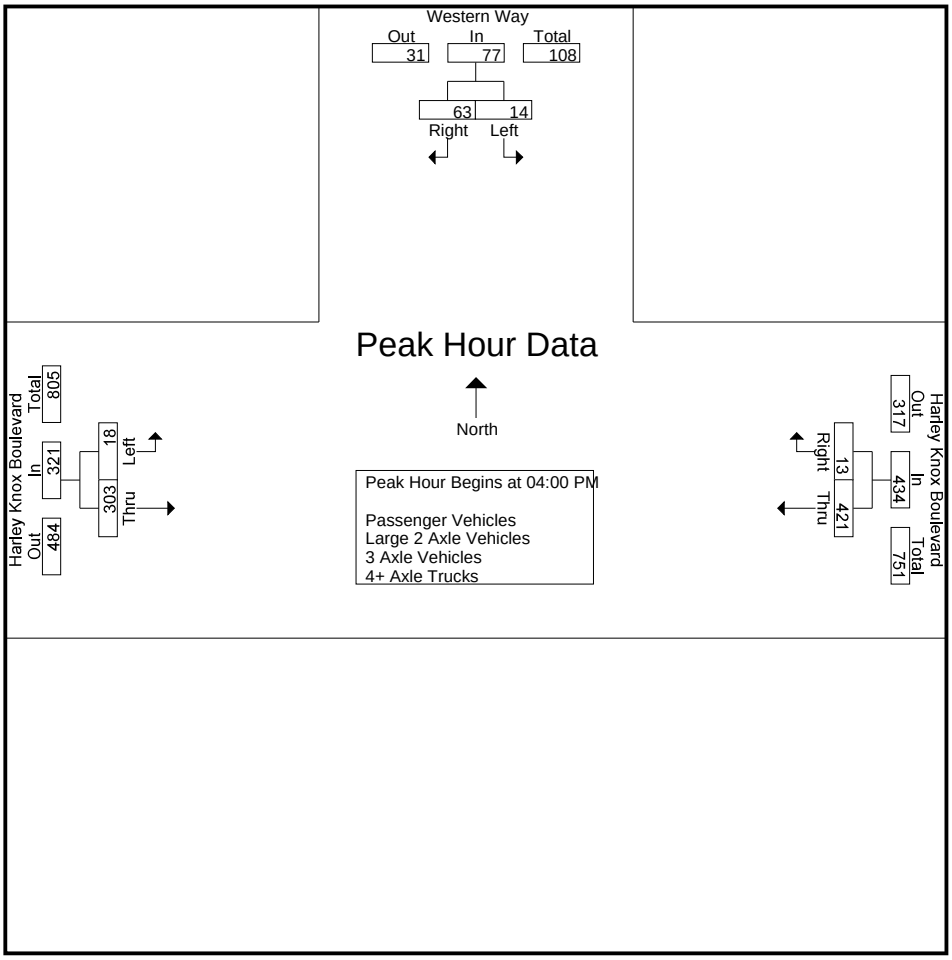
	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	3	16	19	103	4	107	6	66	72	198
04:15 PM	8	13	21	95	3	98	4	83	87	206
04:30 PM	0	5	5	110	1	111	3	82	85	201
04:45 PM	3	29	32	113	5	118	5	72	77	227
Total	14	63	77	421	13	434	18	303	321	832
05:00 PM	4	12	16	91	0	91	4	72	76	183
05:15 PM	4	11	15	70	2	72	0	58	58	145
05:30 PM	5	17	22	79	2	81	0	75	75	178
05:45 PM	2	4	6	77	1	78	5	79	84	168
Total	15	44	59	317	5	322	9	284	293	674
Grand Total	29	107	136	738	18	756	27	587	614	1506
Apprch %	21.3	78.7		97.6	2.4		4.4	95.6		
Total %	1.9	7.1	9	49	1.2	50.2	1.8	39	40.8	
Passenger Vehicles	28	100	128	648	15	663	15	503	518	1309
% Passenger Vehicles	96.6	93.5	94.1	87.8	83.3	87.7	55.6	85.7	84.4	86.9
Large 2 Axle Vehicles	0	1	1	25	1	26	7	26	33	60
% Large 2 Axle Vehicles	0	0.9	0.7	3.4	5.6	3.4	25.9	4.4	5.4	4
3 Axle Vehicles	0	0	0	14	1	15	3	19	22	37
% 3 Axle Vehicles	0	0	0	1.9	5.6	2	11.1	3.2	3.6	2.5
4+ Axle Trucks	1	6	7	51	1	52	2	39	41	100
% 4+ Axle Trucks	3.4	5.6	5.1	6.9	5.6	6.9	7.4	6.6	6.7	6.6

	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	3	16	19	103	4	107	6	66	72	198
04:15 PM	8	13	21	95	3	98	4	83	87	206
04:30 PM	0	5	5	110	1	111	3	82	85	201
04:45 PM	3	29	32	113	5	118	5	72	77	227
Total Volume	14	63	77	421	13	434	18	303	321	832
% App. Total	18.2	81.8		97	3		5.6	94.4		
PHF	.438	.543	.602	.931	.650	.919	.750	.913	.922	.916

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City of Moreno Valley
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E/W: Harley Knox Boulevard
Weather: Clear

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

	04:45 PM			04:00 PM			04:15 PM		
+0 mins.	3	29	32	103	4	107	4	83	87
+15 mins.	4	12	16	95	3	98	3	82	85
+30 mins.	4	11	15	110	1	111	5	72	77
+45 mins.	5	17	22	113	5	118	4	72	76
Total Volume	16	69	85	421	13	434	16	309	325
% App. Total	18.8	81.2		97	3		4.9	95.1	
PHF	.800	.595	.664	.931	.650	.919	.800	.931	.934

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City of Moreno Valley
N/S: Western Way
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVWEHKPM
Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- Large 2 Axle Vehicles

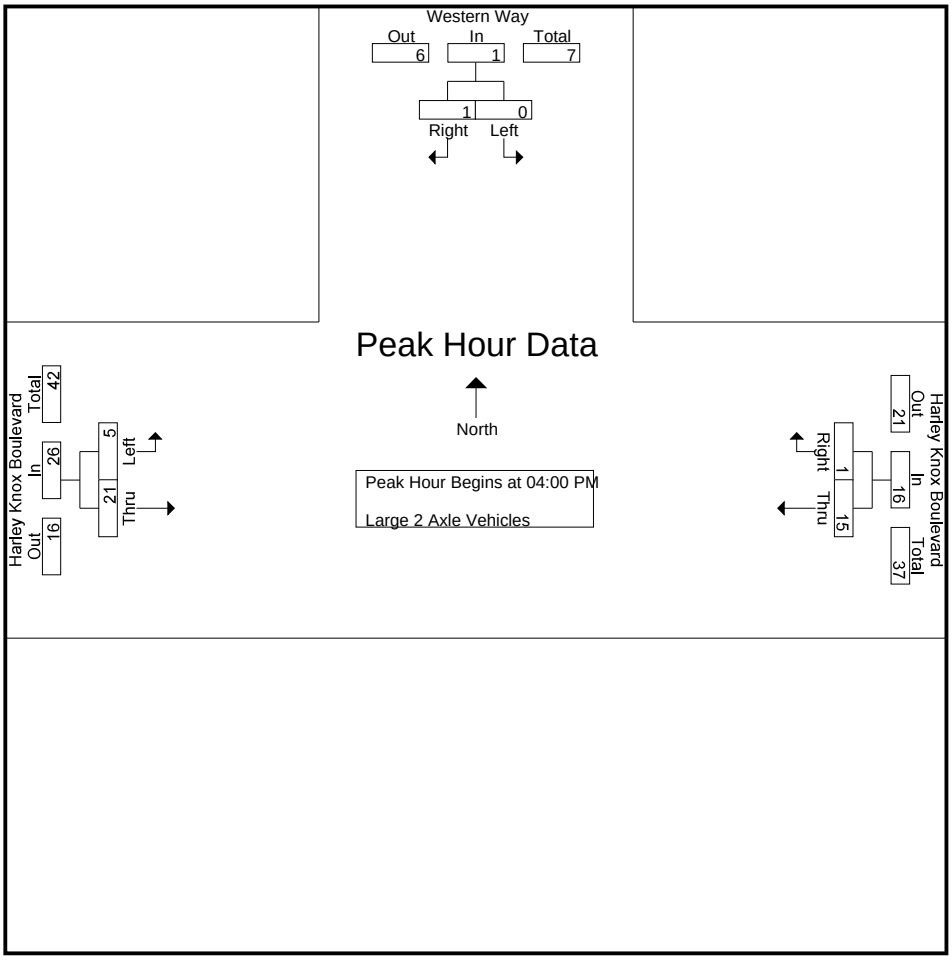
	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	6	1	7	2	4	6	13
04:15 PM	0	1	1	0	0	0	0	5	5	6
04:30 PM	0	0	0	4	0	4	0	4	4	8
04:45 PM	0	0	0	5	0	5	3	8	11	16
Total	0	1	1	15	1	16	5	21	26	43
05:00 PM	0	0	0	4	0	4	1	4	5	9
05:15 PM	0	0	0	6	0	6	0	1	1	7
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	10	0	10	2	5	7	17
Grand Total	0	1	1	25	1	26	7	26	33	60
Apprch %	0	100		96.2	3.8		21.2	78.8		
Total %	0	1.7	1.7	41.7	1.7	43.3	11.7	43.3	55	

	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	6	1	7	2	4	6	13
04:15 PM	0	1	1	0	0	0	0	5	5	6
04:30 PM	0	0	0	4	0	4	0	4	4	8
04:45 PM	0	0	0	5	0	5	3	8	11	16
Total Volume	0	1	1	15	1	16	5	21	26	43
% App. Total	0	100		93.8	6.2		19.2	80.8		
PHF	.000	.250	.250	.625	.250	.571	.417	.656	.591	.672

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

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	6	1	7	2	4	6
+15 mins.	0	1	1	0	0	0	0	5	5
+30 mins.	0	0	0	4	0	4	0	4	4
+45 mins.	0	0	0	5	0	5	3	8	11
Total Volume	0	1	1	15	1	16	5	21	26
% App. Total	0	100		93.8	6.2		19.2	80.8	
PHF	.000	.250	.250	.625	.250	.571	.417	.656	.591

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City of Moreno Valley
N/S: Western Way
E/W: Harley Knox Boulevard
Weather: Clear

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Groups Printed- 3 Axle Vehicles

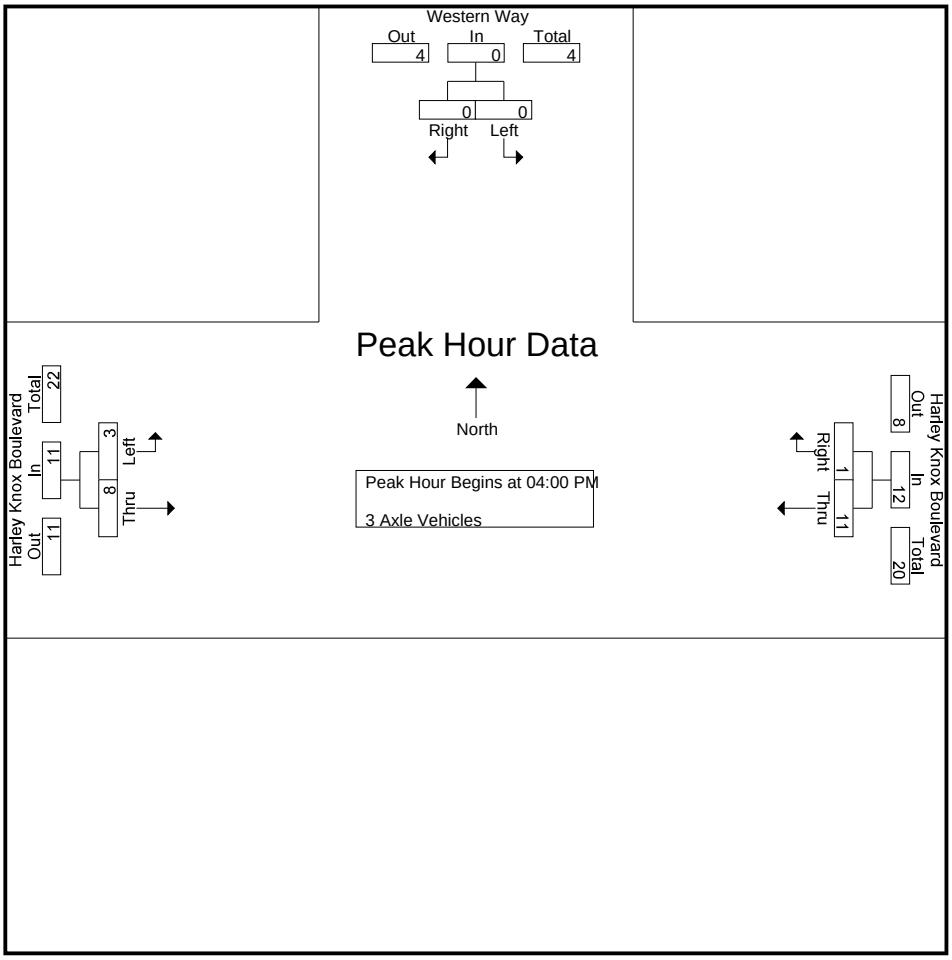
	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	4	1	5	0	1	1	6
04:15 PM	0	0	0	2	0	2	1	0	1	3
04:30 PM	0	0	0	4	0	4	2	1	3	7
04:45 PM	0	0	0	1	0	1	0	6	6	7
Total	0	0	0	11	1	12	3	8	11	23
05:00 PM	0	0	0	1	0	1	0	6	6	7
05:15 PM	0	0	0	0	0	0	0	3	3	3
05:30 PM	0	0	0	1	0	1	0	1	1	2
05:45 PM	0	0	0	1	0	1	0	1	1	2
Total	0	0	0	3	0	3	0	11	11	14
Grand Total	0	0	0	14	1	15	3	19	22	37
Apprch %	0	0		93.3	6.7		13.6	86.4		
Total %	0	0	0	37.8	2.7	40.5	8.1	51.4	59.5	

	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	4	1	5	0	1	1	6
04:15 PM	0	0	0	2	0	2	1	0	1	3
04:30 PM	0	0	0	4	0	4	2	1	3	7
04:45 PM	0	0	0	1	0	1	0	6	6	7
Total Volume	0	0	0	11	1	12	3	8	11	23
% App. Total	0	0		91.7	8.3		27.3	72.7		
PHF	.000	.000	.000	.688	.250	.600	.375	.333	.458	.821

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

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	4	1	5	0	1	1
+15 mins.	0	0	0	2	0	2	1	0	1
+30 mins.	0	0	0	4	0	4	2	1	3
+45 mins.	0	0	0	1	0	1	0	6	6
Total Volume	0	0	0	11	1	12	3	8	11
% App. Total	0	0		91.7	8.3		27.3	72.7	
PHF	.000	.000	.000	.688	.250	.600	.375	.333	.458

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City of Moreno Valley
N/S: Western Way
E/W: Harley Knox Boulevard
Weather: Clear

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Groups Printed- 4+ Axle Trucks

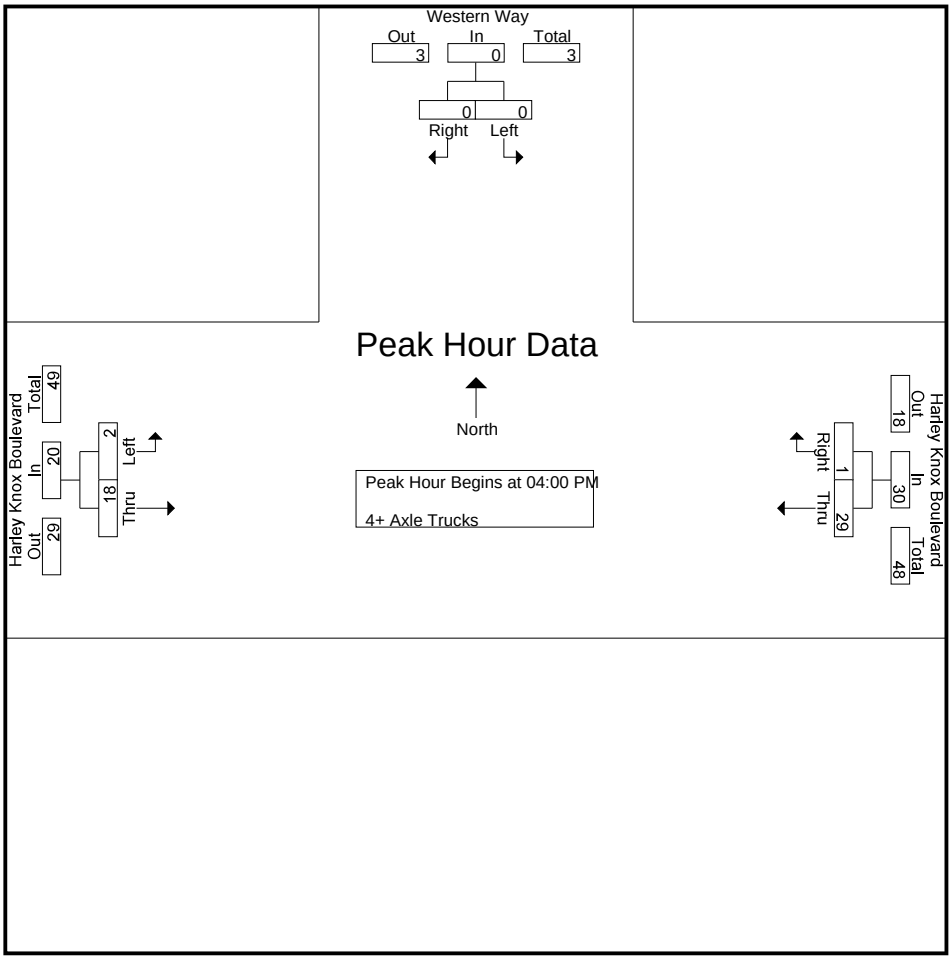
	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	9	0	9	1	5	6	15
04:15 PM	0	0	0	4	0	4	0	4	4	8
04:30 PM	0	0	0	7	1	8	0	5	5	13
04:45 PM	0	0	0	9	0	9	1	4	5	14
Total	0	0	0	29	1	30	2	18	20	50
05:00 PM	0	0	0	4	0	4	0	3	3	7
05:15 PM	1	3	4	6	0	6	0	5	5	15
05:30 PM	0	3	3	5	0	5	0	3	3	11
05:45 PM	0	0	0	7	0	7	0	10	10	17
Total	1	6	7	22	0	22	0	21	21	50
Grand Total	1	6	7	51	1	52	2	39	41	100
Apprch %	14.3	85.7		98.1	1.9		4.9	95.1		
Total %	1	6	7	51	1	52	2	39	41	

	Western Way Southbound			Harley Knox Boulevard Westbound			Harley Knox Boulevard Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	9	0	9	1	5	6	15
04:15 PM	0	0	0	4	0	4	0	4	4	8
04:30 PM	0	0	0	7	1	8	0	5	5	13
04:45 PM	0	0	0	9	0	9	1	4	5	14
Total Volume	0	0	0	29	1	30	2	18	20	50
% App. Total	0	0		96.7	3.3		10	90		
PHF	.000	.000	.000	.806	.250	.833	.500	.900	.833	.833

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Weather: Clear

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

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	9	0	9	1	5	6
+15 mins.	0	0	0	4	0	4	0	4	4
+30 mins.	0	0	0	7	1	8	0	5	5
+45 mins.	0	0	0	9	0	9	1	4	5
Total Volume	0	0	0	29	1	30	2	18	20
% App. Total	0	0		96.7	3.3		10	90	
PHF	.000	.000	.000	.806	.250	.833	.500	.900	.833

Location: Moreno Valley
N/S: Western Way
E/W: Harley Knox Boulevard

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Western Way	East Leg Harley Knox Boulevard	South Leg Western Way	West Leg Harley Knox Boulevard	TOTAL
7:00 AM	3	0		0	3
7:15 AM	6	0		0	6
7:30 AM	0	0		0	0
7:45 AM	0	0		0	0
8:00 AM	1	0		0	1
8:15 AM	3	0		0	3
8:30 AM	0	0		0	0
8:45 AM	0	0		0	0
TOTAL VOLUMES:	13	0	0	0	13

	North Leg Western Way	East Leg Harley Knox Boulevard	South Leg Western Way	West Leg Harley Knox Boulevard	TOTAL
4:00 PM	0	0		0	0
4:15 PM	0	0		0	0
4:30 PM	0	0		0	0
4:45 PM	0	0		0	0
5:00 PM	0	0		0	0
5:15 PM	0	0		0	0
5:30 PM	0	0		0	0
5:45 PM	0	0		0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Moreno Valley
N/S: Western Way
E/W: Harley Knox Boulevard

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Western Way	East Leg Harley Knox Boulevard	South Leg Western Way	West Leg Harley Knox Boulevard	TOTAL
7:00 AM	0	0		0	0
7:15 AM	0	0		0	0
7:30 AM	0	0		0	0
7:45 AM	0	0		0	0
8:00 AM	1	0		0	1
8:15 AM	0	0		0	0
8:30 AM	0	0		0	0
8:45 AM	0	0		0	0
TOTAL VOLUMES:	1	0	0	0	1

	North Leg Western Way	East Leg Harley Knox Boulevard	South Leg Western Way	West Leg Harley Knox Boulevard	TOTAL
4:00 PM	0	0		0	0
4:15 PM	0	0		0	0
4:30 PM	0	0		0	0
4:45 PM	0	0		0	0
5:00 PM	0	0		0	0
5:15 PM	0	0		0	0
5:30 PM	0	0		0	0
5:45 PM	0	0		0	0
TOTAL VOLUMES:	0	0	0	0	0

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City of Moreno Valley
N/S: Graham Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVGRCAAM
Site Code : 05115223
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

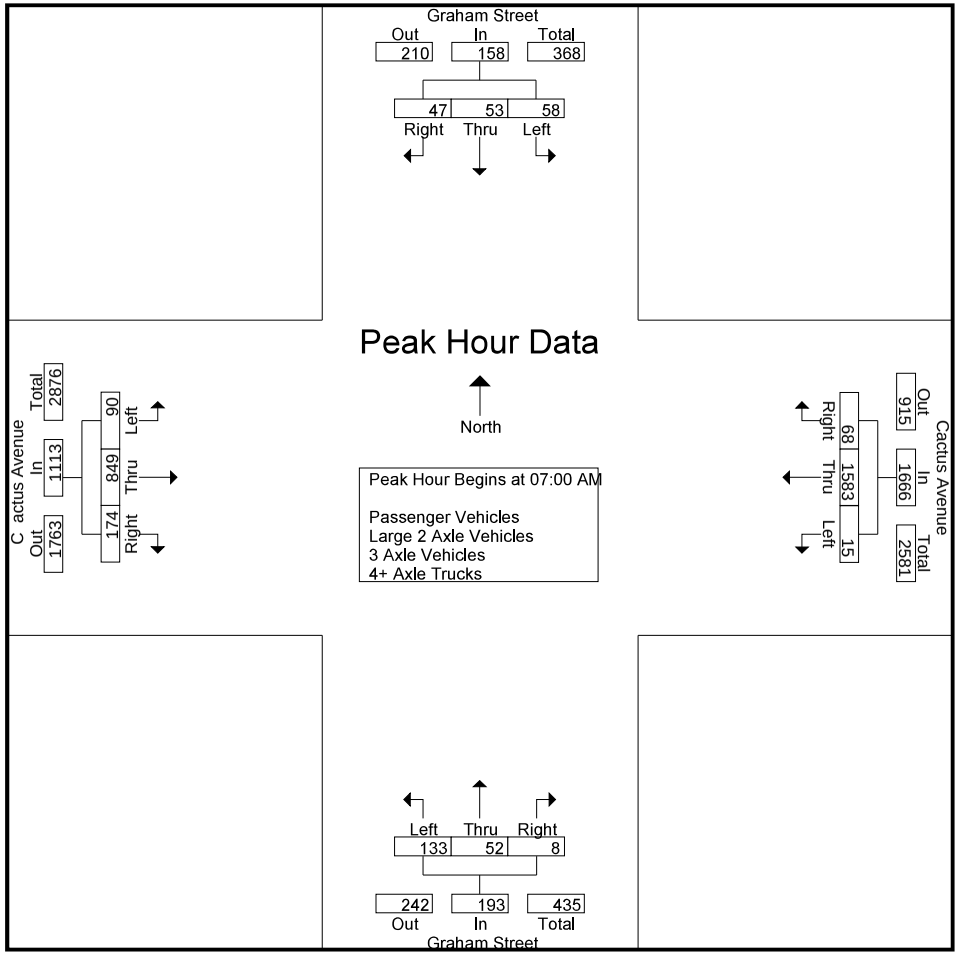
	Graham Street Southbound					Cactus Avenue Westbound					Graham Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	8	13	13	11	34	1	409	5	0	415	35	9	2	2	46	15	200	39	2	254	15	749	764
07:15 AM	10	12	10	6	32	6	423	22	1	451	22	13	2	0	37	19	215	51	0	285	7	805	812
07:30 AM	21	21	15	10	57	5	391	14	1	410	45	20	3	1	68	23	233	48	9	304	21	839	860
07:45 AM	19	7	9	6	35	3	360	27	0	390	31	10	1	0	42	33	201	36	1	270	7	737	744
Total	58	53	47	33	158	15	1583	68	2	1666	133	52	8	3	193	90	849	174	12	1113	50	3130	3180
08:00 AM	30	10	12	7	52	4	263	18	1	285	30	12	1	1	43	28	147	35	2	210	11	590	601
08:15 AM	14	6	14	10	34	2	265	28	3	295	31	5	0	0	36	24	203	36	1	263	14	628	642
08:30 AM	29	8	12	8	49	2	222	22	2	246	17	10	1	0	28	18	151	42	2	211	12	534	546
08:45 AM	8	12	17	13	37	2	218	20	3	240	29	8	0	0	37	11	118	36	4	165	20	479	499
Total	81	36	55	38	172	10	968	88	9	1066	107	35	2	1	144	81	619	149	9	849	57	2231	2288
Grand Total	139	89	102	71	330	25	2551	156	11	2732	240	87	10	4	337	171	1468	323	21	1962	107	5361	5468
Apprch %	42.1	27	30.9			0.9	93.4	5.7			71.2	25.8	3			8.7	74.8	16.5					
Total %	2.6	1.7	1.9		6.2	0.5	47.6	2.9		51	4.5	1.6	0.2		6.3	3.2	27.4	6		36.6	2	98	
Passenger Vehicles	135	89	97		390	25	2480	152		2668	235	86	8		333	160	1371	312		1863	0	0	5254
% Passenger Vehicles	97.1	100	95.1	97.2	97.3	100	97.2	97.4	100	97.3	97.9	98.9	80	100	97.7	93.6	93.4	96.6	95.2	93.9	0	0	96.1
Large 2 Axle Vehicles	4	0	2		7	0	34	4		38	3	0	1		4	3	43	11		58	0	0	107
% Large 2 Axle Vehicles	2.9	0	2	1.4	1.7	0	1.3	2.6	0	1.4	1.2	0	10	0	1.2	1.8	2.9	3.4	4.8	2.9	0	0	2
3 Axle Vehicles	0	0	0		0	0	8	0		8	0	1	1		2	0	10	0		10	0	0	20
% 3 Axle Vehicles	0	0	0	0	0	0	0.3	0	0	0.3	0	1.1	10	0	0.6	0	0.7	0	0	0.5	0	0	0.4
4+ Axle Trucks	0	0	3		4	0	29	0		29	2	0	0		2	8	44	0		52	0	0	87
% 4+ Axle Trucks	0	0	2.9	1.4	1	0	1.1	0	0	1.1	0.8	0	0	0	0.6	4.7	3	0	0	2.6	0	0	1.6

	Graham Street Southbound				Cactus Avenue Westbound				Graham Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	8	13	13	34	1	409	5	415	35	9	2	46	15	200	39	254	749
07:15 AM	10	12	10	32	**6**	**423**	22	**451**	22	13	2	37	19	215	**51**	285	805
07:30 AM	**21**	**21**	**15**	**57**	5	391	14	410	**45**	**20**	**3**	**68**	23	**233**	48	**304**	**839**
07:45 AM	19	7	9	35	3	360	**27**	390	31	10	1	42	**33**	201	36	270	737
Total Volume	58	53	47	158	15	1583	68	1666	133	52	8	193	90	849	174	1113	3130
% App. Total	36.7	33.5	29.7		0.9	95	4.1		68.9	26.9	4.1		8.1	76.3	15.6		
PHF	.690	.631	.783	.693	.625	.936	.630	.924	.739	.650	.667	.710	.682	.911	.853	.915	.933

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City of Moreno Valley
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E/W: Cactus Avenue
Weather: Clear

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City of Moreno Valley
N/S: Graham Street
E/W: Cactus Avenue
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File Name : MRVGRCAAM
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Groups Printed- Large 2 Axle Vehicles

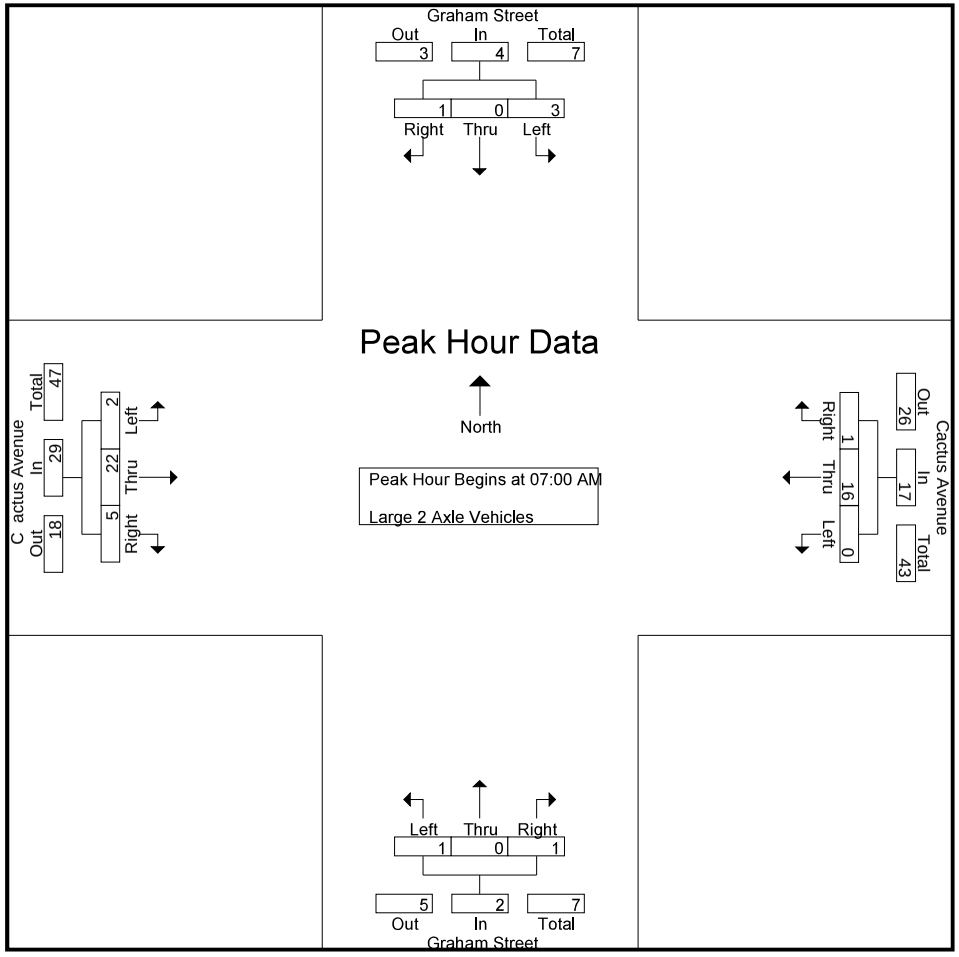
	Graham Street Southbound					Cactus Avenue Westbound					Graham Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	3	3	1	6	1	8	9
07:15 AM	2	0	0	0	2	0	8	1	0	9	0	0	1	0	1	0	7	1	0	8	0	20	20
07:30 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	9	0	0	9	0	15	15
07:45 AM	0	0	1	1	1	0	1	0	0	1	1	0	0	0	1	2	3	1	0	6	1	9	10
Total	3	0	1	1	4	0	16	1	0	17	1	0	1	0	2	2	22	5	1	29	2	52	54
08:00 AM	1	0	0	0	1	0	7	3	0	10	2	0	0	0	2	0	5	0	0	5	0	18	18
08:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	1	5	1	0	7	0	12	12
08:30 AM	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	6	3	0	9	0	13	13
08:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	2	0	7	0	10	10
Total	1	0	1	0	2	0	18	3	0	21	2	0	0	0	2	1	21	6	0	28	0	53	53
Grand Total	4	0	2	1	6	0	34	4	0	38	3	0	1	0	4	3	43	11	1	57	2	105	107
Apprch %	66.7	0	33.3			0	89.5	10.5			75	0	25			5.3	75.4	19.3					
Total %	3.8	0	1.9		5.7	0	32.4	3.8		36.2	2.9	0	1		3.8	2.9	41	10.5		54.3	1.9	98.1	

	Graham Street Southbound				Cactus Avenue Westbound				Graham Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	0	0	1	0	1	0	1	0	0	0	0	0	3	**3**	6	8
07:15 AM	**2**	0	0	**2**	0	**8**	**1**	**9**	0	0	**1**	**1**	0	7	1	8	**20**
07:30 AM	0	0	0	0	0	6	0	6	0	0	0	0	0	**9**	0	**9**	15
07:45 AM	0	0	**1**	1	0	1	0	1	**1**	0	0	1	**2**	3	1	6	9
Total Volume	3	0	1	4	0	16	1	17	1	0	1	2	2	22	5	29	52
% App. Total	75	0	25		0	94.1	5.9		50	0	50		6.9	75.9	17.2		
PHF	.375	.000	.250	.500	.000	.500	.250	.472	.250	.000	.250	.500	.250	.611	.417	.806	.650

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City of Moreno Valley
N/S: Graham Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVGRCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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Weather: Clear

File Name : MRVGRCAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

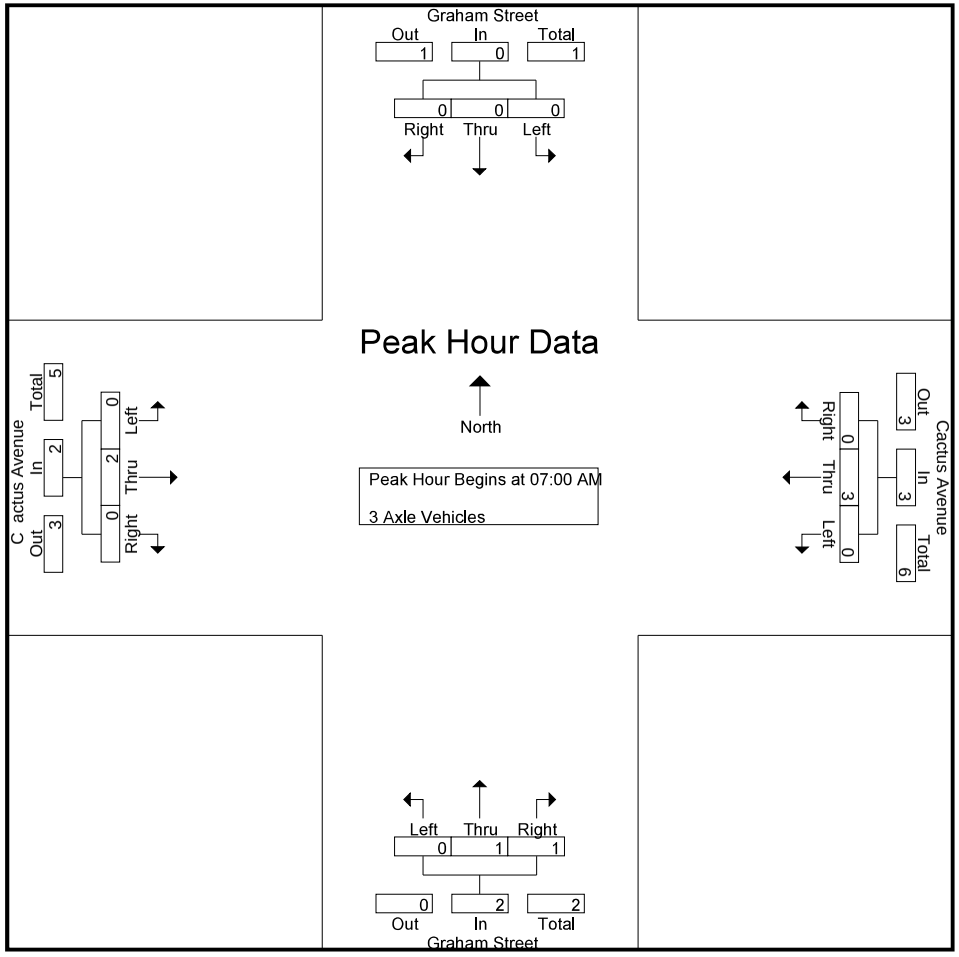
	Graham Street Southbound					Cactus Avenue Westbound					Graham Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	2	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1
07:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	4	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	3	0	0	3	0	1	1	0	2	0	2	0	0	2	0	7	7
08:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	4	4
08:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	3	3
08:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
08:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	5	5
Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	8	0	0	8	0	13	13
Grand Total	0	0	0	0	0	0	8	0	0	8	0	1	1	0	2	0	10	0	0	10	0	20	20
Apprch %	0	0	0			0	100	0			0	50	50			0	100	0					
Total %	0	0	0		0	0	40	0		40	0	5	5		10	0	50	0		50	0	100	

	Graham Street Southbound				Cactus Avenue Westbound				Graham Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	**1**	0	**1**	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	**1**	1	0	0	0	0	1
07:30 AM	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	1	0	1	**4**
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	3	0	3	0	1	1	2	0	2	0	2	7
% App. Total	0	0	0		0	100	0		0	50	50		0	100	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.250	.250	.500	.000	.500	.000	.500	.438

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City of Moreno Valley
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Page No : 1

Groups Printed- 4+ Axle Trucks

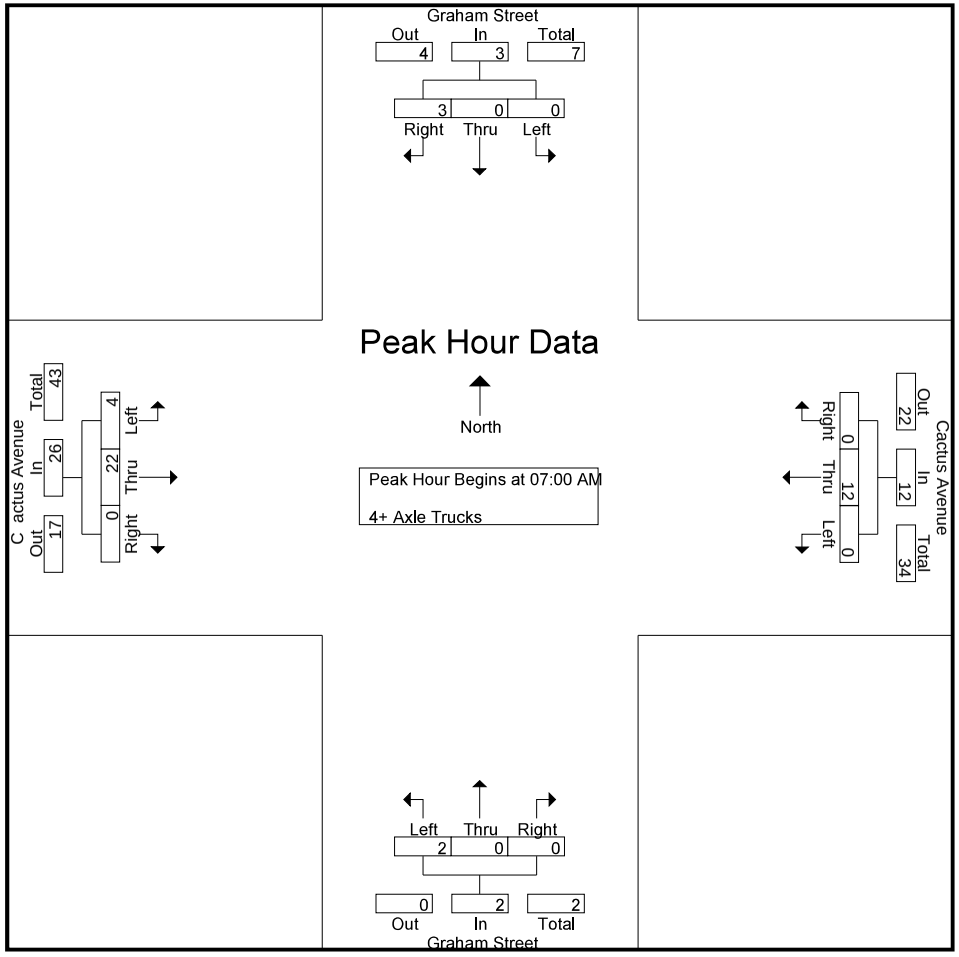
	Graham Street Southbound					Cactus Avenue Westbound					Graham Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	5	0	0	7	0	9	9
07:15 AM	0	0	1	1	1	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	1	6	7
07:30 AM	0	0	2	0	2	0	3	0	0	3	1	0	0	0	1	2	4	0	0	6	0	12	12
07:45 AM	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	0	11	0	0	11	0	16	16
Total	0	0	3	1	3	0	12	0	0	12	2	0	0	0	2	4	22	0	0	26	1	43	44
08:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	6	0	0	6	0	11	11
08:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	9	0	0	10	0	12	12
08:30 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	2	4	0	0	6	0	12	12
08:45 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	3	0	0	4	0	8	8
Total	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	4	22	0	0	26	0	43	43
Grand Total	0	0	3	1	3	0	29	0	0	29	2	0	0	0	2	8	44	0	0	52	1	86	87
Apprch %	0	0	100			0	100	0			100	0	0			15.4	84.6	0					
Total %	0	0	3.5		3.5	0	33.7	0		33.7	2.3	0	0		2.3	9.3	51.2	0		60.5	1.1	98.9	

	Graham Street Southbound				Cactus Avenue Westbound				Graham Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	**2**	5	0	7	9
07:15 AM	0	0	1	1	0	3	0	3	0	0	0	0	0	2	0	2	6
07:30 AM	0	0	**2**	**2**	0	3	0	3	**1**	0	0	**1**	2	4	0	6	12
07:45 AM	0	0	0	0	0	**4**	0	**4**	1	0	0	1	0	**11**	0	**11**	**16**
Total Volume	0	0	3	3	0	12	0	12	2	0	0	2	4	22	0	26	43
% App. Total	0	0	100		0	100	0		100	0	0		15.4	84.6	0		
PHF	.000	.000	.375	.375	.000	.750	.000	.750	.500	.000	.000	.500	.500	.500	.000	.591	.672

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File Name : MRVGRCAAM
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E/W: Cactus Avenue
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File Name : MRVGRCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

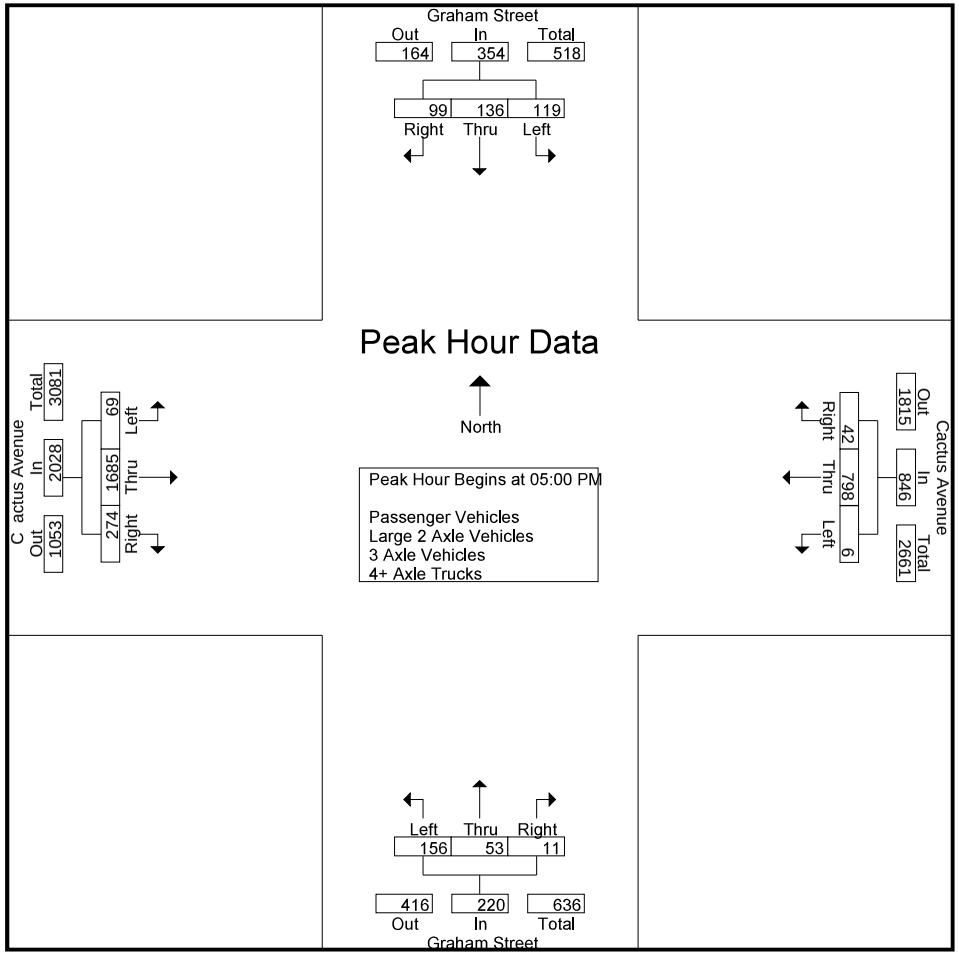
	Graham Street Southbound					Cactus Avenue Westbound					Graham Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	32	23	8	8	63	4	201	14	1	219	55	17	5	2	77	17	346	77	11	440	22	799	821
04:15 PM	32	25	20	16	77	2	194	12	2	208	67	13	10	5	90	12	338	64	7	414	30	789	819
04:30 PM	32	23	26	13	81	6	222	16	1	244	49	28	8	3	85	17	347	61	3	425	20	835	855
04:45 PM	23	25	17	13	65	3	227	17	1	247	45	17	3	2	65	13	337	65	5	415	21	792	813
Total	119	96	71	50	286	15	844	59	5	918	216	75	26	12	317	59	1368	267	26	1694	93	3215	3308
05:00 PM	30	39	31	23	100	1	228	15	1	244	47	18	4	2	69	19	428	76	0	523	26	936	962
05:15 PM	28	38	22	18	88	2	183	12	1	197	30	12	1	0	43	12	428	54	4	494	23	822	845
05:30 PM	27	34	31	22	92	1	200	11	0	212	40	11	3	2	54	17	425	79	2	521	26	879	905
05:45 PM	34	25	15	9	74	2	187	4	2	193	39	12	3	1	54	21	404	65	2	490	14	811	825
Total	119	136	99	72	354	6	798	42	4	846	156	53	11	5	220	69	1685	274	8	2028	89	3448	3537
Grand Total	238	232	170	122	640	21	1642	101	9	1764	372	128	37	17	537	128	3053	541	34	3722	182	6663	6845
Apprch %	37.2	36.2	26.6			1.2	93.1	5.7			69.3	23.8	6.9			3.4	82	14.5					
Total %	3.6	3.5	2.6		9.6	0.3	24.6	1.5		26.5	5.6	1.9	0.6		8.1	1.9	45.8	8.1		55.9	2.7	97.3	
Passenger Vehicles	238	230	163		746	21	1596	100		1726	367	128	37		549	122	2987	531		3672	0	0	6693
% Passenger Vehicles	100	99.1	95.9	94.3	97.9	100	97.2	99	100	97.3	98.7	100	100	100	99.1	95.3	97.8	98.2	94.1	97.8	0	0	97.8
Large 2 Axle Vehicles	0	1	3		7	0	22	1		23	4	0	0		4	2	35	10		49	0	0	83
% Large 2 Axle Vehicles	0	0.4	1.8	2.5	0.9	0	1.3	1	0	1.3	1.1	0	0	0	0.7	1.6	1.1	1.8	5.9	1.3	0	0	1.2
3 Axle Vehicles	0	1	1		3	0	3	0		3	1	0	0		1	0	5	0		5	0	0	12
% 3 Axle Vehicles	0	0.4	0.6	0.8	0.4	0	0.2	0	0	0.2	0.3	0	0	0	0.2	0	0.2	0	0	0.1	0	0	0.2
4+ Axle Trucks	0	0	3		6	0	21	0		21	0	0	0		0	4	26	0		30	0	0	57
% 4+ Axle Trucks	0	0	1.8	2.5	0.8	0	1.3	0	0	1.2	0	0	0	0	0	3.1	0.9	0	0	0.8	0	0	0.8

	Graham Street Southbound				Cactus Avenue Westbound				Graham Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	30	**39**	**31**	**100**	1	**228**	**15**	**244**	**47**	**18**	**4**	**69**	19	**428**	76	**523**	**936**
05:15 PM	28	38	22	88	**2**	183	12	197	30	12	1	43	12	428	54	494	822
05:30 PM	27	34	31	92	1	200	11	212	40	11	3	54	17	425	**79**	521	879
05:45 PM	**34**	25	15	74	2	187	4	193	39	12	3	54	**21**	404	65	490	811
Total Volume	119	136	99	354	6	798	42	846	156	53	11	220	69	1685	274	2028	3448
% App. Total	33.6	38.4	28		0.7	94.3	5		70.9	24.1	5		3.4	83.1	13.5		
PHF	.875	.872	.798	.885	.750	.875	.700	.867	.830	.736	.688	.797	.821	.984	.867	.969	.921

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File Name : MRVGRCAPM
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Groups Printed- Large 2 Axle Vehicles

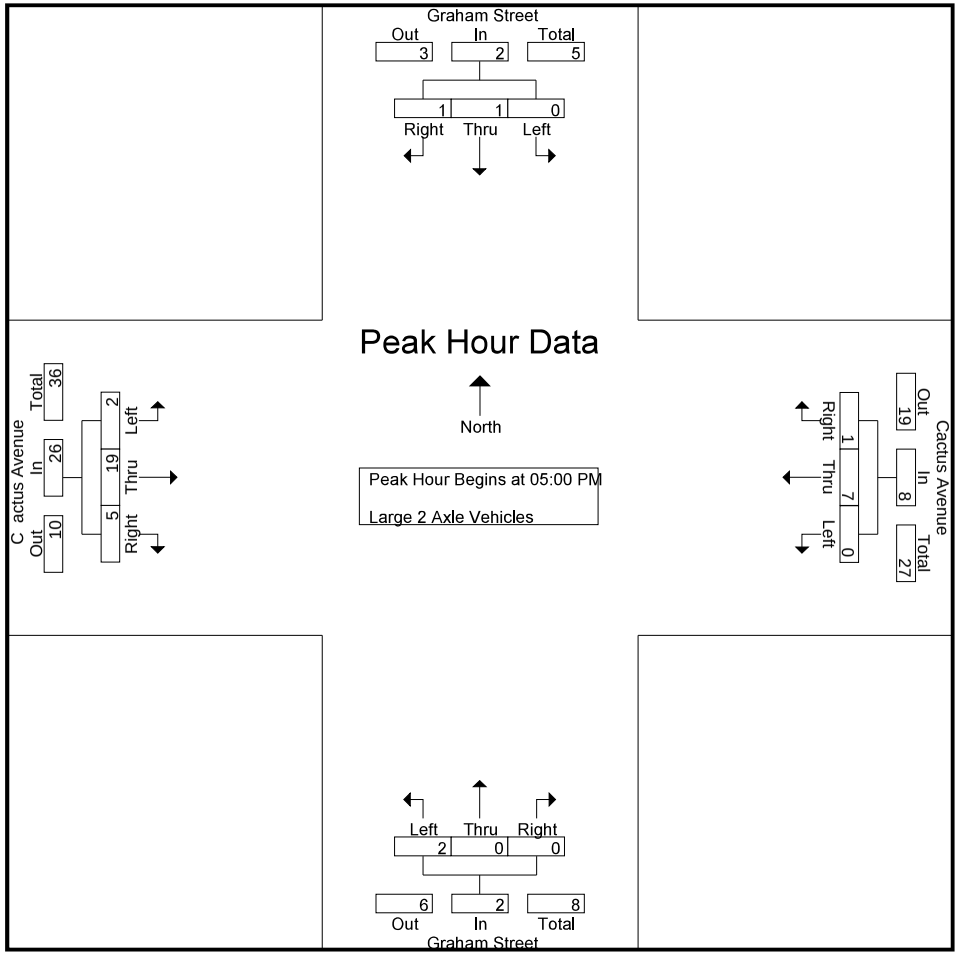
	Graham Street Southbound					Cactus Avenue Westbound					Graham Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	9	0	0	9	2	0	0	0	2	0	7	3	1	10	1	21	22
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	1	0	3	0	4	4
04:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	5	5
04:45 PM	0	0	2	2	2	0	3	0	0	3	0	0	0	0	0	0	4	1	1	5	3	10	13
Total	0	0	2	2	2	0	15	0	0	15	2	0	0	0	2	0	16	5	2	21	4	40	44
05:00 PM	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	0	3	1	0	4	0	8	8
05:15 PM	0	1	1	1	2	0	1	0	0	1	1	0	0	0	1	0	6	3	0	9	1	13	14
05:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	3	0	0	5	0	7	7
05:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	7	1	0	8	0	10	10
Total	0	1	1	1	2	0	7	1	0	8	2	0	0	0	2	2	19	5	0	26	1	38	39
Grand Total	0	1	3	3	4	0	22	1	0	23	4	0	0	0	4	2	35	10	2	47	5	78	83
Apprch %	0	25	75			0	95.7	4.3			100	0	0			4.3	74.5	21.3					
Total %	0	1.3	3.8		5.1	0	28.2	1.3		29.5	5.1	0	0		5.1	2.6	44.9	12.8		60.3	6	94	

	Graham Street Southbound				Cactus Avenue Westbound				Graham Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	**2**	**1**	**3**	**1**	0	0	**1**	0	3	1	**4**	8
05:15 PM	0	**1**	**1**	**2**	0	1	0	1	1	0	0	1	0	6	**3**	**9**	**13**
05:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	**2**	3	0	5	7
05:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	**7**	1	8	10
Total Volume	0	1	1	2	0	7	1	8	2	0	0	2	2	19	5	26	38
% App. Total	0	50	50		0	87.5	12.5		100	0	0		7.7	73.1	19.2		
PHF	.000	.250	.250	.250	.000	.875	.250	.667	.500	.000	.000	.500	.250	.679	.417	.722	.731

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(951) 268-6268

City of Moreno Valley
N/S: Graham Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVGRCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Graham Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVGRCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

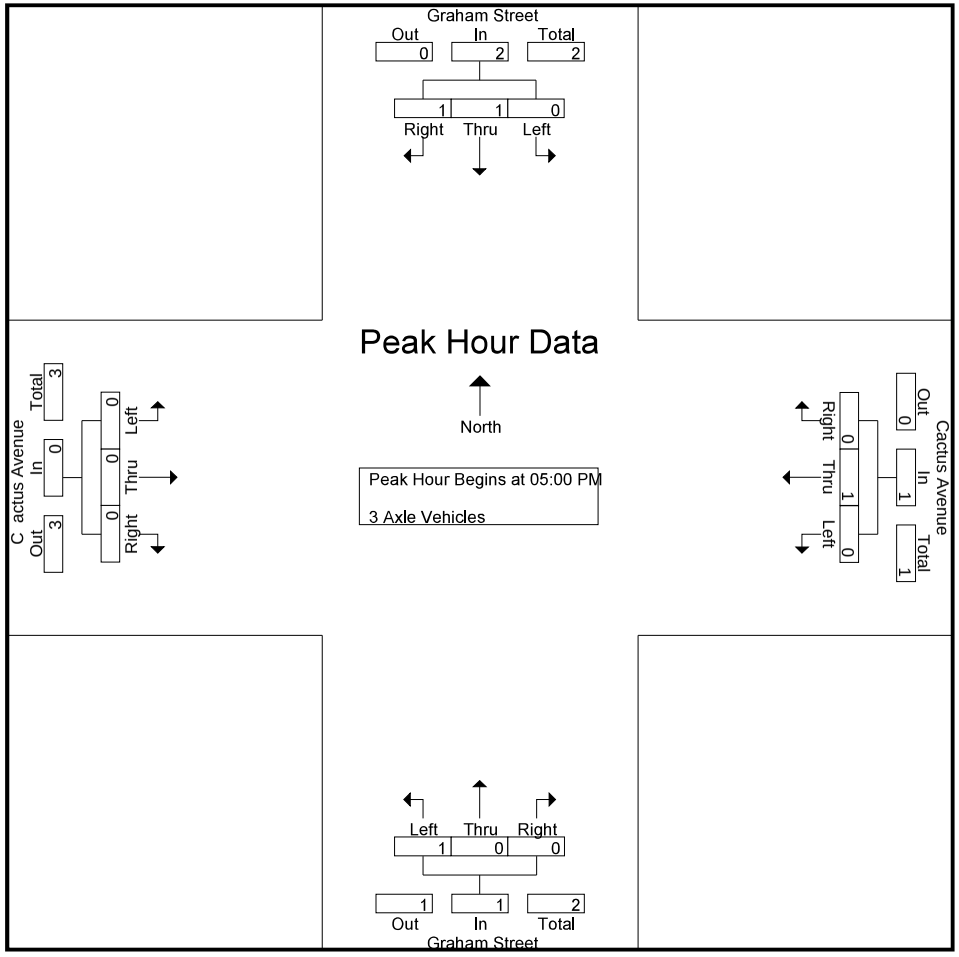
	Graham Street Southbound					Cactus Avenue Westbound					Graham Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	4	4
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	3	3
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	0	7	7
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
05:15 PM	0	1	1	1	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	3	4
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	1	2	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	1	4	5
Grand Total	0	1	1	1	2	0	3	0	0	3	1	0	0	0	1	0	5	0	0	5	1	11	12
Apprch %	0	50	50			0	100	0			100	0	0			0	100	0					
Total %	0	9.1	9.1		18.2	0	27.3	0		27.3	9.1	0	0		9.1	0	45.5	0		45.5	8.3	91.7	

	Graham Street Southbound				Cactus Avenue Westbound				Graham Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	1
05:15 PM	0	**1**	**1**	**2**	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**3**
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	2	0	1	0	1	1	0	0	1	0	0	0	0	4
% App. Total	0	50	50		0	100	0		100	0	0		0	0	0		
PHF	.000	.250	.250	.250	.000	.250	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000	.333

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City of Moreno Valley
N/S: Graham Street
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File Name : MRVGRCAPM
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City of Moreno Valley
N/S: Graham Street
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File Name : MRVGRCAPM
Site Code : 05115223
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Page No : 1

Groups Printed- 4+ Axle Trucks

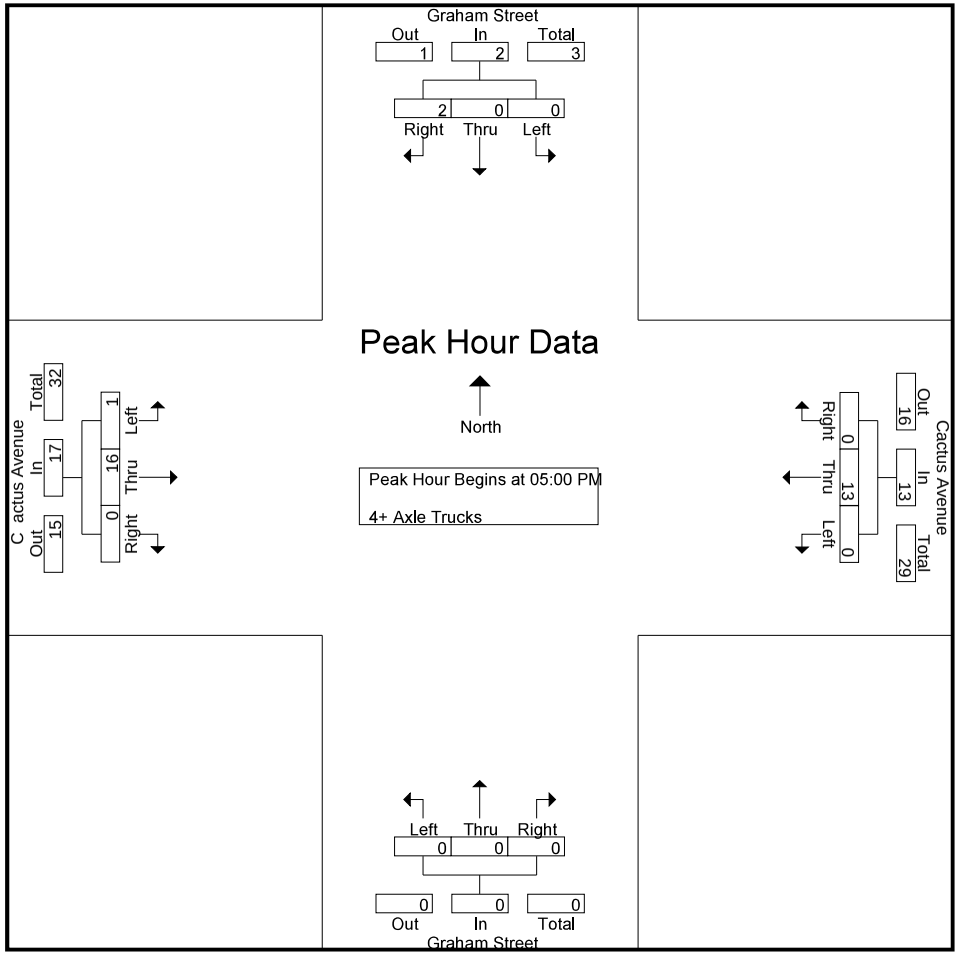
	Graham Street Southbound					Cactus Avenue Westbound					Graham Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	5	5
04:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	2	2	0	0	4	0	7	7
04:30 PM	0	0	1	1	1	0	2	0	0	2	0	0	0	0	0	1	3	0	0	4	1	7	8
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	3	3
Total	0	0	1	1	1	0	8	0	0	8	0	0	0	0	0	3	10	0	0	13	1	22	23
05:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	0	10	10
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	5	5
05:30 PM	0	0	1	1	1	0	3	0	0	3	0	0	0	0	0	1	3	0	0	4	1	8	9
05:45 PM	0	0	1	1	1	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	1	9	10
Total	0	0	2	2	2	0	13	0	0	13	0	0	0	0	0	1	16	0	0	17	2	32	34
Grand Total	0	0	3	3	3	0	21	0	0	21	0	0	0	0	0	4	26	0	0	30	3	54	57
Apprch %	0	0	100			0	100	0			0	0	0			13.3	86.7	0					
Total %	0	0	5.6		5.6	0	38.9	0		38.9	0	0	0		0	7.4	48.1	0		55.6	5.3	94.7	

	Graham Street Southbound				Cactus Avenue Westbound				Graham Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	**6**	0	**6**	0	0	0	0	0	4	0	4	**10**
05:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	4	0	4	5
05:30 PM	0	0	**1**	**1**	0	3	0	3	0	0	0	0	**1**	3	0	4	8
05:45 PM	0	0	1	1	0	3	0	3	0	0	0	0	0	**5**	0	**5**	9
Total Volume	0	0	2	2	0	13	0	13	0	0	0	0	1	16	0	17	32
% App. Total	0	0	100		0	100	0		0	0	0		5.9	94.1	0		
PHF	.000	.000	.500	.500	.000	.542	.000	.542	.000	.000	.000	.000	.250	.800	.000	.850	.800

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City of Moreno Valley
N/S: Graham Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVGRCAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



Location: Moreno Valley
N/S: Graham Street
E/W: Cactus Avenue

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Graham Street	East Leg Cactus Avenue	South Leg Graham Street	West Leg Cactus Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	1	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	0	1	0	0	1
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	1	0	0	1
8:45 AM	0	0	0	1	1
TOTAL VOLUMES:	0	3	0	1	4

	North Leg Graham Street	East Leg Cactus Avenue	South Leg Graham Street	West Leg Cactus Avenue	TOTAL
4:00 PM	1	0	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	1	0	0	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	1	0	0	0	1
TOTAL VOLUMES:	4	0	0	0	4

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Location: Moreno Valley
N/S: Graham Street
E/W: Cactus Avenue

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Graham Street	East Leg Cactus Avenue	South Leg Graham Street	West Leg Cactus Avenue	TOTAL
7:00 AM	0	0	0	2	2
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	2	2

	North Leg Graham Street	East Leg Cactus Avenue	South Leg Graham Street	West Leg Cactus Avenue	TOTAL
4:00 PM	1	0	1	0	2
4:15 PM	0	0	0	1	1
4:30 PM	0	1	0	0	1
4:45 PM	0	1	0	1	2
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	1	0	0	1	2
TOTAL VOLUMES:	2	2	1	3	8

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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC tel: 951 249 3226 pacific@aimtd.com

DATE: Tue, Feb 4, 14

LOCATION: Perris
NORTH & SOUTH: Patterson
EAST & WEST: Harley Knox

PROJECT #: SC0297
LOCATION #: 10
CONTROL: SIGNAL

NOTES:

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

		NORTHBOUND Patterson			SOUTHBOUND Patterson			EASTBOUND Harley Knox			WESTBOUND Harley Knox				U-TURNS				
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 1	ER 1	WL 1	WT 1	WR 0	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	12	0	0	0	1	3	1	88	6	0	114	0	225	0	0	0	0	0
	7:15 AM	32	0	3	0	0	0	0	115	3	0	105	0	258	0	0	0	0	0
	7:30 AM	19	0	1	0	0	1	1	126	5	0	91	1	245	0	0	0	0	0
	7:45 AM	33	0	1	0	0	1	2	114	2	0	97	0	250	0	0	0	0	0
	8:00 AM	15	0	3	1	0	2	3	119	4	0	120	1	268	0	0	0	0	0
	8:15 AM	9	0	0	0	0	0	1	90	8	2	73	3	186	0	0	0	0	0
	8:30 AM	6	1	1	0	0	0	3	88	5	0	68	0	172	0	0	0	0	0
	8:45 AM	3	1	1	0	0	3	1	79	4	0	52	0	144	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	129	2	10	1	1	10	12	819	37	2	720	5	1,748	0	0	0	0	0
	APPROACH %	91%	1%	7%	8%	8%	83%	1%	94%	4%	0%	99%	1%						
	APP/DEPART	141	/	19	12	/	40	868	/	830	727	/	859	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	96	0	5	0	1	5	4	443	16	0	407	1	978					
	APPROACH %	95%	0%	5%	0%	17%	83%	1%	96%	3%	0%	100%	0%						
	PEAK HR FACTOR		0.721			0.375			0.877			0.895		0.948					
	APP/DEPART	101	/	5	6	/	17	463	/	448	408	/	508	0					
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	10	0	1	2	2	1	2	118	17	0	121	0	274	0	0	0	0	0
	4:15 PM	7	1	1	2	1	3	0	113	5	1	98	3	235	0	0	0	0	0
	4:30 PM	10	1	1	0	0	6	1	99	10	1	134	1	264	0	0	0	0	0
	4:45 PM	7	2	2	3	1	0	2	65	10	1	98	0	191	0	0	0	0	0
	5:00 PM	9	0	1	1	0	4	1	85	9	0	81	0	191	0	0	1	0	1
	5:15 PM	6	0	3	1	0	2	1	95	6	1	63	1	179	0	0	0	0	0
	5:30 PM	6	0	1	0	0	2	1	78	11	0	65	0	164	0	0	0	0	0
	5:45 PM	0	0	2	0	0	2	0	73	10	0	53	1	141	0	0	0	0	0
	VOLUMES	55	4	12	9	4	20	8	726	78	4	713	6	1,639	0	0	1	0	1
	APPROACH %	77%	6%	17%	27%	12%	61%	1%	89%	10%	1%	99%	1%						
	APP/DEPART	71	/	18	33	/	86	812	/	747	723	/	788	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	34	4	5	7	4	10	5	395	42	3	451	4	964					
	APPROACH %	79%	9%	12%	33%	19%	48%	1%	89%	10%	1%	98%	1%						
	PEAK HR FACTOR		0.896			0.875			0.807			0.842		0.880					
	APP/DEPART	43	/	13	21	/	49	442	/	407	458	/	495	0					

Patterson — NORTH SIDE

Harley Knox — WEST SIDE — EAST SIDE — **Harley Knox**

SOUTH SIDE — **Patterson**

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TRAFFIC DATA SERVICES

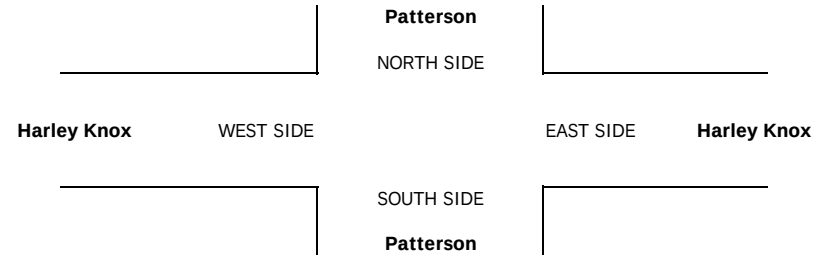
DATE:	LOCATION:	Perris	PROJECT #:	SC0297
2/4/14	NORTH & SOUTH:	Patterson	LOCATION #:	10
TUESDAY	EAST & WEST:	Harley Knox	CONTROL:	SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS

NOTES:

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

		NORTHBOUND Patterson			SOUTHBOUND Patterson			EASTBOUND Harley Knox			WESTBOUND Harley Knox				U-TURNS				
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 1	ER 1	WL 1	WT 1	WR 0	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	1	0	0	0	0	2	0	9	0	0	7	0	19					0
	7:15 AM	4	0	0	0	0	0	0	5	0	0	1	0	10					0
	7:30 AM	0	0	0	0	0	0	0	9	2	0	6	1	18					0
	7:45 AM	6	0	1	0	0	0	0	6	0	0	0	0	13					0
	8:00 AM	2	0	0	0	0	0	0	4	2	0	1	0	9					0
	8:15 AM	2	0	0	0	0	0	0	0	0	0	0	1	3					0
	8:30 AM	1	0	0	0	0	0	0	2	1	0	1	0	5					0
	8:45 AM	0	0	0	0	0	2	0	2	1	0	1	0	6					0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	VOLUMES	16	0	1	0	0	4	0	37	6	0	17	2	83	0	0	0	0	0
	APPROACH %	94%	0%	6%	0%	0%	100%	0%	86%	14%	0%	89%	11%						
	APP/DEPART	17	/	2	4	/	6	43	/	38	19	/	37	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	11	0	1	0	0	2	0	29	2	0	14	1	60					
	APPROACH %	92%	0%	8%	0%	0%	100%	0%	94%	6%	0%	93%	7%						
	PEAK HR FACTOR		0.429			0.250			0.705			0.536		0.789					
	APP/DEPART	12	/	1	2	/	2	31	/	30	15	/	27	0					
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	4:00 PM	0	0	0	1	0	1	0	2	2	0	1	0	7					0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1					0
	4:30 PM	1	0	0	0	0	0	0	1	1	0	1	0	4					0
	4:45 PM	0	0	1	0	0	0	0	1	1	0	0	0	3					0
	5:00 PM	1	0	1	1	0	0	0	4	1	0	0	0	8					0
	5:15 PM	3	0	1	0	0	0	0	0	0	0	2	0	6					0
	5:30 PM	1	0	0	0	0	0	0	3	0	0	3	0	7					0
	5:45 PM	0	0	0	0	0	1	0	3	0	0	1	0	5					0
	VOLUMES	6	0	3	2	0	2	0	14	5	0	8	1	41	0	0	0	0	0
	APPROACH %	67%	0%	33%	50%	0%	50%	0%	74%	26%	0%	89%	11%						
	APP/DEPART	9	/	1	4	/	5	19	/	19	9	/	16	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	5	0	2	1	0	1	0	10	1	0	6	0	26					
	APPROACH %	71%	0%	29%	50%	0%	50%	0%	91%	9%	0%	100%	0%						
	PEAK HR FACTOR		0.438			0.500			0.550			0.500		0.813					
	APP/DEPART	7	/	0	2	/	1	11	/	13	6	/	12	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TRAFFIC DATA SERVICES

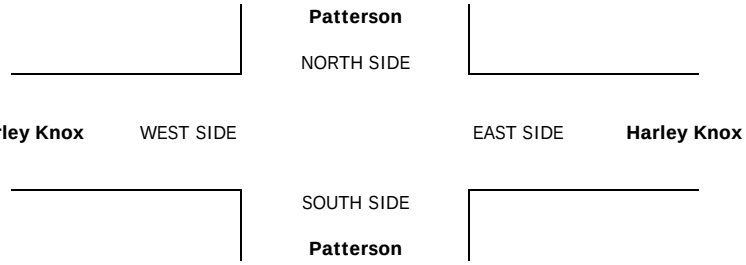
DATE:	LOCATION:	Perris	PROJECT #:	SC0297
2/4/14	NORTH & SOUTH:	Patterson	LOCATION #:	10
TUESDAY	EAST & WEST:	Harley Knox	CONTROL:	SIGNAL

CLASS 3: 3-AXLE TRUCKS

NOTES:

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

		NORTHBOUND Patterson			SOUTHBOUND Patterson			EASTBOUND Harley Knox			WESTBOUND Harley Knox				U-TURNS				
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 1	ER 1	WL 1	WT 1	WR 0	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	0	0	0	1	0	0	2	1	0	2	0	6					0
	7:15 AM	2	0	1	0	0	0	0	3	0	0	0	0	6					0
	7:30 AM	0	0	0	0	0	0	0	9	0	0	1	0	10					0
	7:45 AM	2	0	0	0	0	0	0	5	0	0	0	0	7					0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	8:15 AM	1	0	0	0	0	0	0	2	1	1	1	1	7					0
	8:30 AM	1	0	0	0	0	0	0	0	0	0	2	0	3					0
	8:45 AM	1	0	0	0	0	1	0	0	0	0	1	0	3					0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	VOLUMES	7	0	1	0	1	1	0	21	2	1	7	1	42	0	0	0	0	0
	APPROACH %	88%	0%	13%	0%	50%	50%	0%	91%	9%	11%	78%	11%						
	APP/DEPART	8	/	1	2	/	4	23	/	22	9	/	15	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	4	0	1	0	1	0	0	19	1	0	3	0	29					
	APPROACH %	80%	0%	20%	0%	100%	0%	0%	95%	5%	0%	100%	0%						
	PEAK HR FACTOR		0.417			0.250			0.556			0.375		0.725					
	APP/DEPART	5	/	0	1	/	2	20	/	20	3	/	7	0					
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	4:00 PM	0	0	0	0	1	0	0	3	3	0	0	0	7					0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	4:30 PM	1	0	0	0	0	0	0	0	0	0	1	0	2					0
	4:45 PM	0	0	0	0	0	0	0	4	0	0	1	0	5					0
	5:00 PM	1	0	0	0	0	1	1	1	0	0	1	0	5					0
	5:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	2					0
	5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1					0
	5:45 PM	0	0	0	0	0	0	0	1	4	0	0	1	6					0
	VOLUMES	2	0	0	0	1	1	1	12	7	0	3	1	28	0	0	0	0	0
	APPROACH %	100%	0%	0%	0%	50%	50%	5%	60%	35%	0%	75%	25%						
	APP/DEPART	2	/	2	2	/	8	20	/	12	4	/	6	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	1	0	0	0	0	1	1	5	4	0	1	1	14					
	APPROACH %	100%	0%	0%	0%	0%	100%	10%	50%	40%	0%	50%	50%						
	PEAK HR FACTOR		0.250			0.250			0.500			0.500		0.583					
	APP/DEPART	1	/	2	1	/	4	10	/	5	2	/	3	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TRAFFIC DATA SERVICES

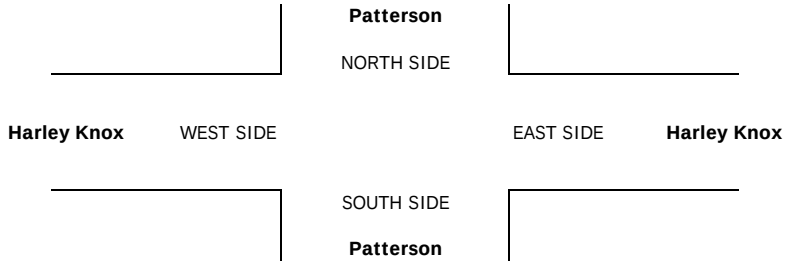
DATE:	LOCATION:	Perris	PROJECT #:	SC0297
2/4/14	NORTH & SOUTH:	Patterson	LOCATION #:	11
TUESDAY	EAST & WEST:	Harley Knox	CONTROL:	SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS

NOTES:

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

		NORTHBOUND Patterson			SOUTHBOUND Patterson			EASTBOUND Harley Knox			WESTBOUND Harley Knox				U-TURNS				
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 1	ER 1	WL 1	WT 1	WR 0	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	0	0	0	0	0	1	11	0	0	14	0	26					0
	7:15 AM	1	0	0	0	0	0	0	13	1	0	11	0	26					0
	7:30 AM	0	0	0	0	0	0	0	13	0	0	9	0	22					0
	7:45 AM	0	0	0	0	0	0	0	12	0	0	10	0	22					0
	8:00 AM	1	0	0	0	0	1	0	0	0	0	2	0	4					0
	8:15 AM	1	0	0	0	0	0	0	0	2	0	1	0	4					0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	8:45 AM	1	0	0	0	0	0	0	1	1	0	0	0	3					0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	VOLUMES	4	0	0	0	0	1	1	50	4	0	47	0	107	0	0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	100%	2%	91%	7%	0%	100%	0%						
	APP/DEPART	4	/	1	1	/	4	55	/	50	47	/	52	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	1	0	0	0	0	0	1	49	1	0	44	0	96					
	APPROACH %	100%	0%	0%	0%	0%	0%	2%	96%	2%	0%	100%	0%						
	PEAK HR FACTOR		0.250			0.000			0.911			0.786		0.923					
	APP/DEPART	1	/	1	0	/	1	51	/	49	44	/	45	0					
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	4:00 PM	1	0	0	0	0	0	0	2	2	0	1	0	6					0
	4:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	2					0
	4:30 PM	1	0	0	0	0	0	0	0	0	0	1	0	2					0
	4:45 PM	0	0	0	0	0	0	0	4	0	0	1	0	5					0
	5:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	2					0
	5:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	2					0
	5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1					0
	5:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	3					0
	VOLUMES	2	0	0	0	0	0	0	14	3	1	3	0	23	0	0	0	0	0
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	82%	18%	25%	75%	0%						
	APP/DEPART	2	/	0	0	/	4	17	/	14	4	/	5	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	1	0	0	0	0	0	0	8	0	0	2	0	11					
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.250			0.000			0.500			0.500		0.550					
	APP/DEPART	1	/	0	0	/	0	8	/	8	2	/	3	0					



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TRAFFIC DATA SERVICES

DATE:	LOCATION:	Perris	PROJECT #:	SC0297
2/4/14	NORTH & SOUTH:	Patterson	LOCATION #:	10
TUESDAY	EAST & WEST:	Harley Knox	CONTROL:	SIGNAL

CLASS 5: RECREATIONAL VEHICLES

NOTES:

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

	NORTHBOUND Patterson			SOUTHBOUND Patterson			EASTBOUND Harley Knox			WESTBOUND Harley Knox				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	0	1	0	0	1	0	1	1	1	1	1	0						
AM																		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
BEGIN PEAK HR		9:45 AM																
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
PM																		
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					
BEGIN PEAK HR		5:45 PM																
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0					
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%						
PEAK HR FACTOR		0.000			0.000			0.000			0.000		0.000					
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0					

Patterson

NORTH SIDE

Harley Knox WEST SIDE EAST SIDE **Harley Knox**

SOUTH SIDE

Patterson

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TRAFFIC DATA SERVICES

DATE:	LOCATION:	Perris	PROJECT #:	SC0297
2/4/14	NORTH & SOUTH:	Patterson	LOCATION #:	10
TUESDAY	EAST & WEST:	Harley Knox	CONTROL:	SIGNAL

CLASS 6: BUSSES

NOTES:

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

		NORTHBOUND (Patterson)			SOUTHBOUND (Patterson)			EASTBOUND (Harley Knox)			WESTBOUND (Harley Knox)				U-TURNS				
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 1	ER 1	WL 1	WT 1	WR 0	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	2					0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	7:30 AM	0	0	0	0	0	0	0	1	0	0	1	0	2					0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1					0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	VOLUMES	0	0	0	0	0	0	0	3	0	0	2	0	5	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	APP/DEPART	0	/	0	0	/	0	3	/	3	2	/	2	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	0	0	0	0	0	0	0	3	0	0	2	0	5					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%						
	PEAK HR FACTOR		0.000			0.000			0.375			0.500		0.625					
	APP/DEPART	0	/	0	0	/	0	3	/	3	2	/	2	0					
PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1					0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					0
	VOLUMES	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%						
	APP/DEPART	0	/	0	0	/	0	1	/	1	0	/	0	0					
	BEGIN PEAK HR		5:30 PM																
	VOLUMES	0	0	0	0	0	0	0	1	0	0	0	0	1					
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.000			0.000			0.250			0.000		0.250					
	APP/DEPART	0	/	0	0	/	0	1	/	1	0	/	0	0					

Patterson — NORTH SIDE

Harley Knox — WEST SIDE / EAST SIDE — **Harley Knox**

SOUTH SIDE — **Patterson**

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92787
(951) 268-6268

City of Moreno Valley
N/S: Heacock Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVHECAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

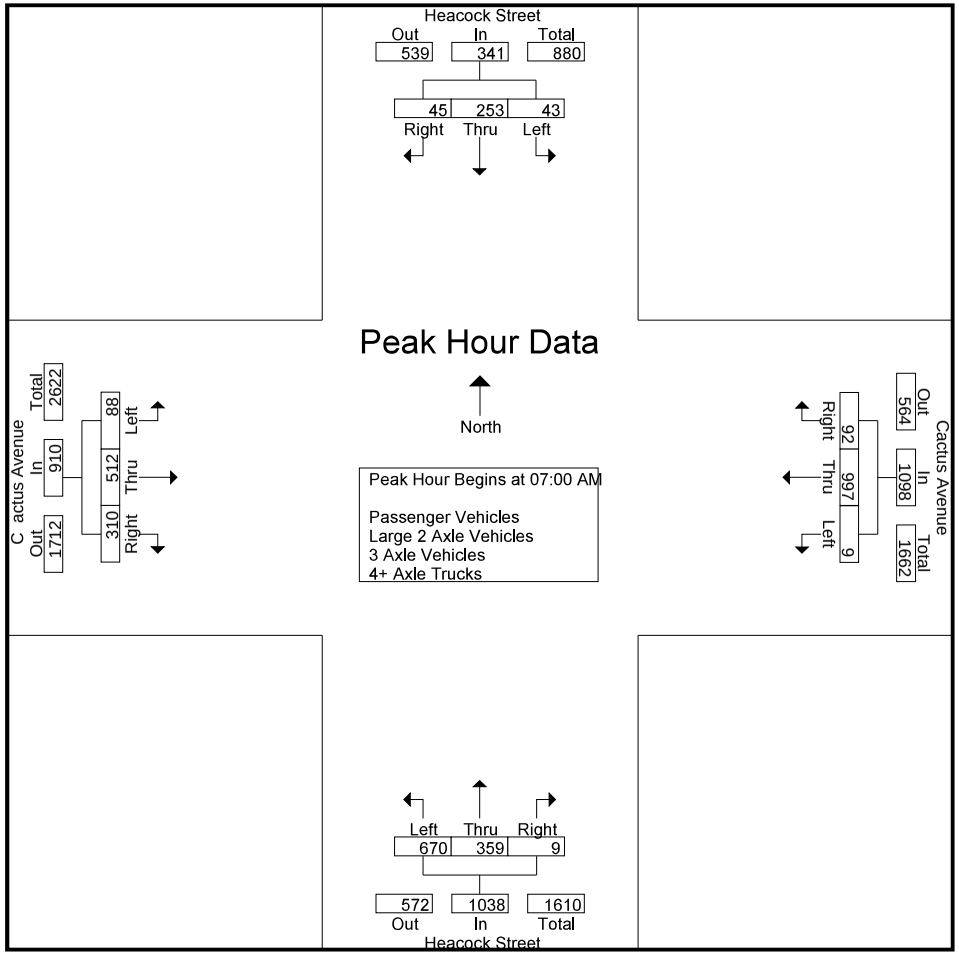
	Heacock Street Southbound					Cactus Avenue Westbound					Heacock Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	3	46	9	4	58	2	225	26	6	253	154	70	2	0	226	17	93	72	35	182	45	719	764
07:15 AM	8	72	9	2	89	3	284	20	0	307	169	87	2	2	258	18	139	77	11	234	15	888	903
07:30 AM	17	80	13	6	110	2	254	25	0	281	173	93	5	0	271	30	146	81	16	257	22	919	941
07:45 AM	15	55	14	3	84	2	234	21	2	257	174	109	0	0	283	23	134	80	9	237	14	861	875
Total	43	253	45	15	341	9	997	92	8	1098	670	359	9	2	1038	88	512	310	71	910	96	3387	3483
08:00 AM	14	43	7	2	64	3	197	23	5	223	124	91	1	0	216	28	123	61	13	212	20	715	735
08:15 AM	10	52	11	3	73	1	189	18	1	208	106	88	1	0	195	18	120	62	4	200	8	676	684
08:30 AM	20	44	8	2	72	2	143	17	1	162	113	83	1	0	197	13	112	66	2	191	5	622	627
08:45 AM	10	51	7	1	68	2	158	34	7	194	78	58	1	0	137	19	84	46	8	149	16	548	564
Total	54	190	33	8	277	8	687	92	14	787	421	320	4	0	745	78	439	235	27	752	49	2561	2610
Grand Total	97	443	78	23	618	17	1684	184	22	1885	1091	679	13	2	1783	166	951	545	98	1662	145	5948	6093
Apprch %	15.7	71.7	12.6			0.9	89.3	9.8			61.2	38.1	0.7			10	57.2	32.8					
Total %	1.6	7.4	1.3		10.4	0.3	28.3	3.1		31.7	18.3	11.4	0.2		30	2.8	16	9.2		27.9	2.4	97.6	
Passenger Vehicles	92	419	77		610	16	1646	176		1859	1043	659	12		1715	160	916	488		1650	0	0	5834
% Passenger Vehicles	94.8	94.6	98.7	95.7	95.2	94.1	97.7	95.7	95.5	97.5	95.6	97.1	92.3	50	96.1	96.4	96.3	89.5	87.8	93.8	0	0	95.7
Large 2 Axle Vehicles	4	9	0		13	1	27	6		35	27	13	0		40	4	26	22		55	0	0	143
% Large 2 Axle Vehicles	4.1	2	0	0	2	5.9	1.6	3.3	4.5	1.8	2.5	1.9	0	0	2.2	2.4	2.7	4	3.1	3.1	0	0	2.3
3 Axle Vehicles	0	2	0		2	0	5	0		5	2	1	0		3	0	4	5		11	0	0	21
% 3 Axle Vehicles	0	0.5	0	0	0.3	0	0.3	0	0	0.3	0.2	0.1	0	0	0.2	0	0.4	0.9	2	0.6	0	0	0.3
4+ Axle Trucks	1	13	1		16	0	6	2		8	19	6	1		27	2	5	30		44	0	0	95
% 4+ Axle Trucks	1	2.9	1.3	4.3	2.5	0	0.4	1.1	0	0.4	1.7	0.9	7.7	50	1.5	1.2	0.5	5.5	7.1	2.5	0	0	1.6

	Heacock Street Southbound				Cactus Avenue Westbound				Heacock Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	3	46	9	58	2	225	**26**	253	154	70	2	226	17	93	72	182	719
07:15 AM	8	72	9	89	**3**	**284**	20	**307**	169	87	2	258	18	139	77	234	888
07:30 AM	**17**	**80**	13	**110**	2	254	25	281	173	93	**5**	271	**30**	**146**	**81**	**257**	**919**
07:45 AM	15	55	**14**	84	2	234	21	257	**174**	**109**	0	**283**	23	134	80	237	861
Total Volume	43	253	45	341	9	997	92	1098	670	359	9	1038	88	512	310	910	3387
% App. Total	12.6	74.2	13.2		0.8	90.8	8.4		64.5	34.6	0.9		9.7	56.3	34.1		
PHF	.632	.791	.804	.775	.750	.878	.885	.894	.963	.823	.450	.917	.733	.877	.957	.885	.921

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City of Moreno Valley
N/S: Heacock Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVHECAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Heacock Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVHECAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

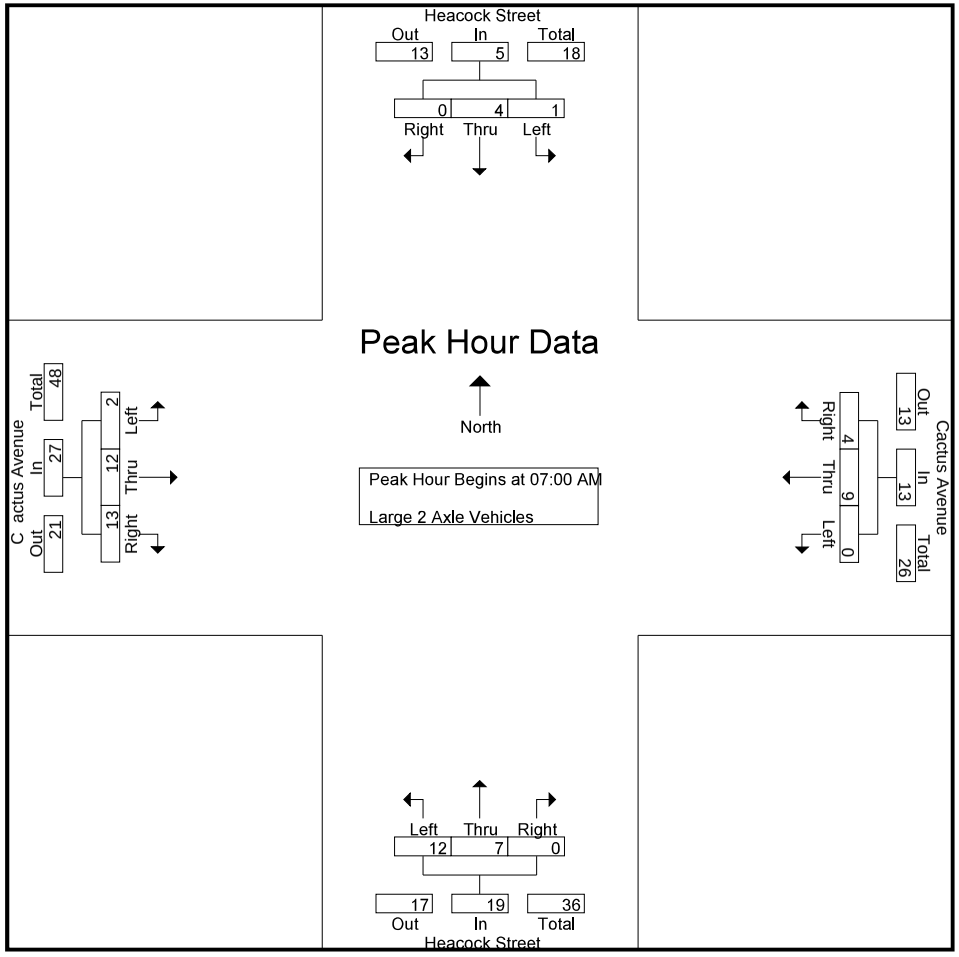
	Heacock Street Southbound					Cactus Avenue Westbound					Heacock Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	1	0	0	1	0	2	2	1	4	1	1	0	0	2	0	2	1	0	3	1	10	11
07:15 AM	1	1	0	0	2	0	5	1	0	6	4	2	0	0	6	2	2	4	1	8	1	22	23
07:30 AM	0	1	0	0	1	0	0	1	0	1	4	0	0	0	4	0	6	6	2	12	2	18	20
07:45 AM	0	1	0	0	1	0	2	0	0	2	3	4	0	0	7	0	2	2	0	4	0	14	14
Total	1	4	0	0	5	0	9	4	1	13	12	7	0	0	19	2	12	13	3	27	4	64	68
08:00 AM	0	1	0	0	1	1	6	0	0	7	6	1	0	0	7	2	4	3	0	9	0	24	24
08:15 AM	0	2	0	0	2	0	4	1	0	5	4	2	0	0	6	0	1	1	0	2	0	15	15
08:30 AM	3	1	0	0	4	0	4	0	0	4	2	2	0	0	4	0	7	2	0	9	0	21	21
08:45 AM	0	1	0	0	1	0	4	1	0	5	3	1	0	0	4	0	2	3	0	5	0	15	15
Total	3	5	0	0	8	1	18	2	0	21	15	6	0	0	21	2	14	9	0	25	0	75	75
Grand Total	4	9	0	0	13	1	27	6	1	34	27	13	0	0	40	4	26	22	3	52	4	139	143
Apprch %	30.8	69.2	0			2.9	79.4	17.6			67.5	32.5	0			7.7	50	42.3					
Total %	2.9	6.5	0		9.4	0.7	19.4	4.3		24.5	19.4	9.4	0		28.8	2.9	18.7	15.8		37.4	2.8	97.2	

	Heacock Street Southbound				Cactus Avenue Westbound				Heacock Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**1**	0	1	0	2	**2**	4	1	1	0	2	0	2	1	3	10
07:15 AM	**1**	1	0	**2**	0	**5**	1	**6**	**4**	2	0	6	**2**	2	4	8	**22**
07:30 AM	0	1	0	1	0	0	1	1	4	0	0	4	0	**6**	**6**	**12**	18
07:45 AM	0	1	0	1	0	2	0	2	3	**4**	0	**7**	0	2	2	4	14
Total Volume	1	4	0	5	0	9	4	13	12	7	0	19	2	12	13	27	64
% App. Total	20	80	0		0	69.2	30.8		63.2	36.8	0		7.4	44.4	48.1		
PHF	.250	1.00	.000	.625	.000	.450	.500	.542	.750	.438	.000	.679	.250	.500	.542	.563	.727

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City of Moreno Valley
N/S: Heacock Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVHECAAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Heacock Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVHECAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

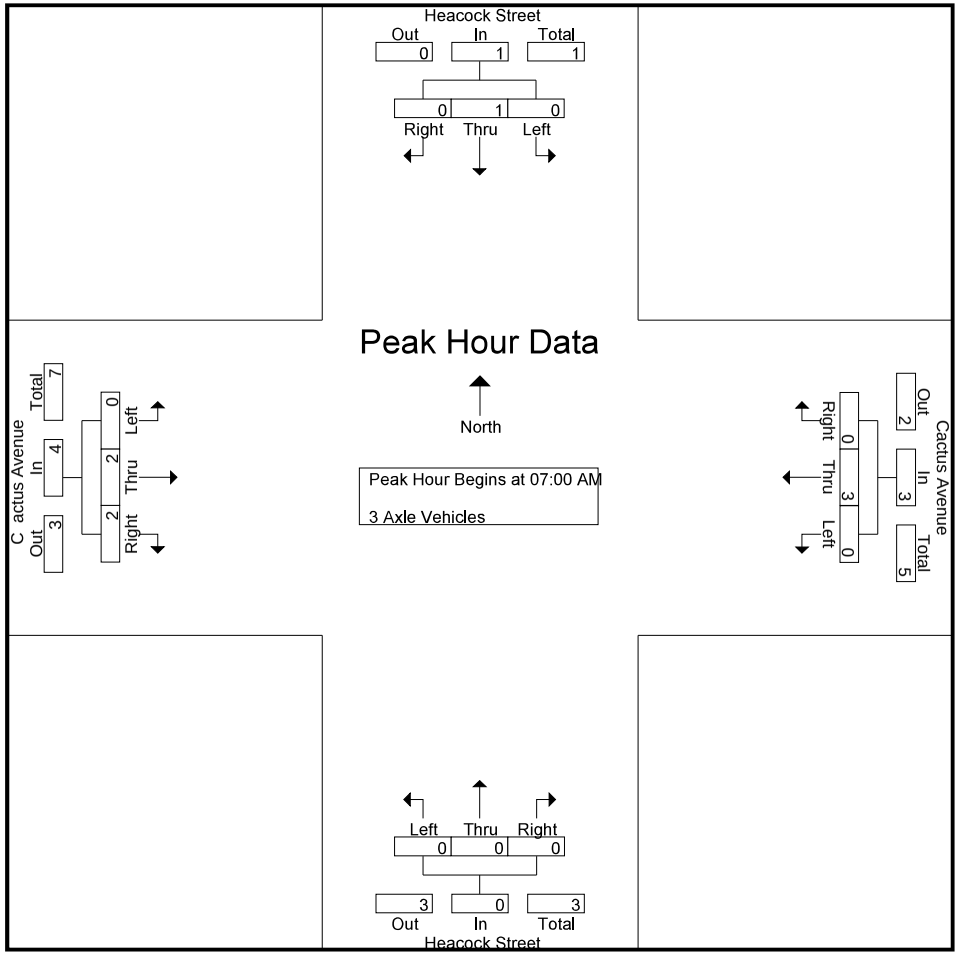
	Heacock Street Southbound					Cactus Avenue Westbound					Heacock Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2
07:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
07:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	1	0	2	0	5	5
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
Total	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	0	2	2	1	4	1	8	9
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	3	3
08:15 AM	0	1	0	0	1	0	1	0	0	1	1	0	0	0	1	0	0	1	1	1	1	4	5
08:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	2	2
08:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	2	2
Total	0	1	0	0	1	0	2	0	0	2	2	1	0	0	3	0	2	3	1	5	1	11	12
Grand Total	0	2	0	0	2	0	5	0	0	5	2	1	0	0	3	0	4	5	2	9	2	19	21
Apprch %	0	100	0			0	100	0			66.7	33.3	0			0	44.4	55.6					
Total %	0	10.5	0		10.5	0	26.3	0		26.3	10.5	5.3	0		15.8	0	21.1	26.3		47.4	9.5	90.5	

	Heacock Street Southbound				Cactus Avenue Westbound				Heacock Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	1	1
07:15 AM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	**1**	1	**2**	**5**
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	1	0	1	0	3	0	3	0	0	0	0	0	2	2	4	8
% App. Total	0	100	0		0	100	0		0	0	0		0	50	50		
PHF	.000	.250	.000	.250	.000	.250	.000	.250	.000	.000	.000	.000	.000	.500	.500	.500	.400

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City of Moreno Valley
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Weather: Clear

File Name : MRVHECAAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
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E/W: Cactus Avenue
Weather: Clear

File Name : MRVHECAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

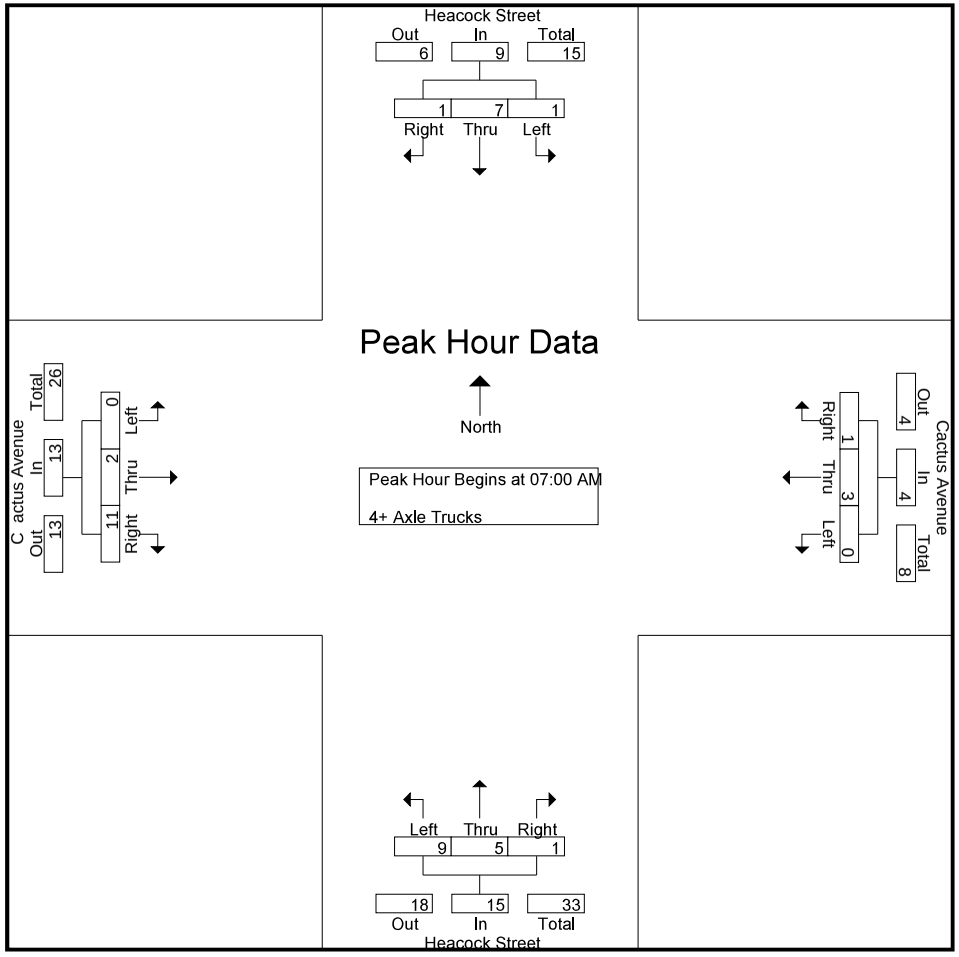
	Heacock Street Southbound					Cactus Avenue Westbound					Heacock Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	2	0	0	2	0	0	0	0	0	2	1	0	0	3	0	1	1	0	2	0	7	7
07:15 AM	1	1	0	0	2	0	0	0	0	0	1	0	1	1	2	0	1	1	0	2	1	6	7
07:30 AM	0	2	0	0	2	0	3	1	0	4	3	2	0	0	5	0	0	3	0	3	0	14	14
07:45 AM	0	2	1	1	3	0	0	0	0	0	3	2	0	0	5	0	0	6	4	6	5	14	19
Total	1	7	1	1	9	0	3	1	0	4	9	5	1	1	15	0	2	11	4	13	6	41	47
08:00 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	1	1	6	3	8	3	14	17
08:15 AM	0	2	0	0	2	0	0	0	0	0	1	1	0	0	2	0	2	5	0	7	0	11	11
08:30 AM	0	2	0	0	2	0	2	0	0	2	2	0	0	0	2	0	0	6	0	6	0	12	12
08:45 AM	0	2	0	0	2	0	1	1	0	2	1	0	0	0	1	1	0	2	0	3	0	8	8
Total	0	6	0	0	6	0	3	1	0	4	10	1	0	0	11	2	3	19	3	24	3	45	48
Grand Total	1	13	1	1	15	0	6	2	0	8	19	6	1	1	26	2	5	30	7	37	9	86	95
Apprch %	6.7	86.7	6.7			0	75	25			73.1	23.1	3.8			5.4	13.5	81.1					
Total %	1.2	15.1	1.2		17.4	0	7	2.3		9.3	22.1	7	1.2		30.2	2.3	5.8	34.9		43	9.5	90.5	

	Heacock Street Southbound				Cactus Avenue Westbound				Heacock Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**2**	0	2	0	0	0	0	2	1	0	3	0	**1**	1	2	7
07:15 AM	**1**	1	0	2	0	0	0	0	1	0	**1**	2	0	1	1	2	6
07:30 AM	0	2	0	2	0	**3**	**1**	**4**	**3**	**2**	0	**5**	0	0	3	3	**14**
07:45 AM	0	2	**1**	**3**	0	0	0	0	3	2	0	5	0	0	**6**	**6**	14
Total Volume	1	7	1	9	0	3	1	4	9	5	1	15	0	2	11	13	41
% App. Total	11.1	77.8	11.1		0	75	25		60	33.3	6.7		0	15.4	84.6		
PHF	.250	.875	.250	.750	.000	.250	.250	.250	.750	.625	.250	.750	.000	.500	.458	.542	.732

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City of Moreno Valley
N/S: Heacock Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVHECAAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Heacock Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVHECAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

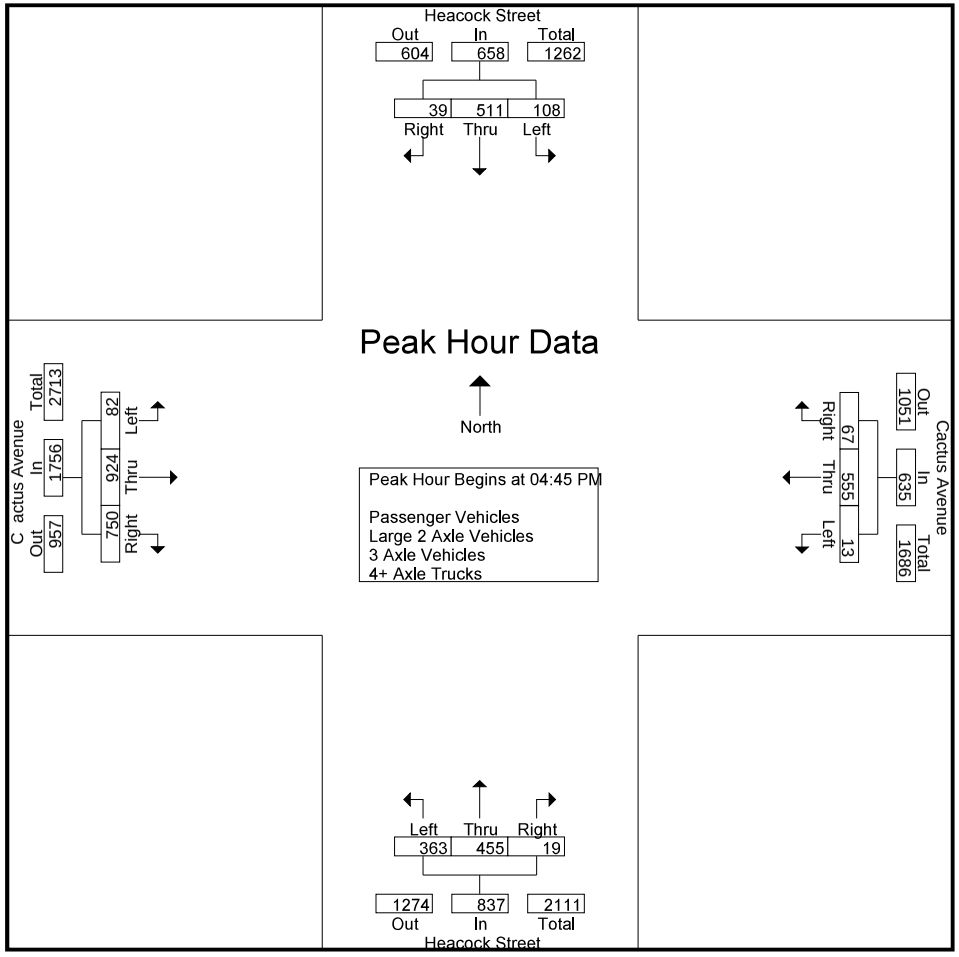
	Heacock Street Southbound					Cactus Avenue Westbound					Heacock Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	29	102	15	1	146	0	141	14	1	155	95	74	4	0	173	26	207	151	5	384	7	858	865
04:15 PM	17	126	13	4	156	2	145	18	2	165	97	89	3	0	189	22	194	156	13	372	19	882	901
04:30 PM	16	127	11	3	154	6	159	24	0	189	87	130	1	0	218	19	202	168	6	389	9	950	959
04:45 PM	17	134	10	1	161	2	182	10	2	194	102	153	3	0	258	20	229	171	5	420	8	1033	1041
Total	79	489	49	9	617	10	627	66	5	703	381	446	11	0	838	87	832	646	29	1565	43	3723	3766
05:00 PM	34	110	7	4	151	2	132	15	0	149	101	89	7	3	197	22	220	184	1	426	8	923	931
05:15 PM	32	122	5	1	159	4	127	20	3	151	75	98	6	0	179	22	249	201	3	472	7	961	968
05:30 PM	25	145	17	1	187	5	114	22	1	141	85	115	3	1	203	18	226	194	5	438	8	969	977
05:45 PM	20	140	20	3	180	2	123	22	5	147	93	89	4	0	186	16	258	200	3	474	11	987	998
Total	111	517	49	9	677	13	496	79	9	588	354	391	20	4	765	78	953	779	12	1810	34	3840	3874
Grand Total	190	1006	98	18	1294	23	1123	145	14	1291	735	837	31	4	1603	165	1785	1425	41	3375	77	7563	7640
Apprch %	14.7	77.7	7.6			1.8	87	11.2			45.9	52.2	1.9			4.9	52.9	42.2					
Total %	2.5	13.3	1.3		17.1	0.3	14.8	1.9		17.1	9.7	11.1	0.4		21.2	2.2	23.6	18.8		44.6	1	99	
Passenger Vehicles	185	976	93		1271	22	1100	144		1280	704	819	30		1557	163	1757	1378		3339	0	0	7447
% Passenger Vehicles	97.4	97	94.9	94.4	96.9	95.7	98	99.3	100	98.1	95.8	97.8	96.8	100	96.9	98.8	98.4	96.7	100	97.7	0	0	97.5
Large 2 Axle Vehicles	5	15	1		22	1	20	1		22	13	14	1		28	2	23	16		41	0	0	113
% Large 2 Axle Vehicles	2.6	1.5	1	5.6	1.7	4.3	1.8	0.7	0	1.7	1.8	1.7	3.2	0	1.7	1.2	1.3	1.1	0	1.2	0	0	1.5
3 Axle Vehicles	0	13	2		15	0	1	0		1	2	2	0		4	0	3	5		8	0	0	28
% 3 Axle Vehicles	0	1.3	2	0	1.1	0	0.1	0	0	0.1	0.3	0.2	0	0	0.2	0	0.2	0.4	0	0.2	0	0	0.4
4+ Axle Trucks	0	2	2		4	0	2	0		2	16	2	0		18	0	2	26		28	0	0	52
% 4+ Axle Trucks	0	0.2	2	0	0.3	0	0.2	0	0	0.2	2.2	0.2	0	0	1.1	0	0.1	1.8	0	0.8	0	0	0.7

	Heacock Street Southbound				Cactus Avenue Westbound				Heacock Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	17	134	10	161	2	**182**	10	**194**	**102**	**153**	3	**258**	20	229	171	420	**1033**
05:00 PM	**34**	110	7	151	2	132	15	149	101	89	**7**	197	**22**	220	184	426	923
05:15 PM	32	122	5	159	4	127	20	151	75	98	6	179	22	**249**	**201**	**472**	961
05:30 PM	25	**145**	**17**	**187**	**5**	114	**22**	141	85	115	3	203	18	226	194	438	969
Total Volume	108	511	39	658	13	555	67	635	363	455	19	837	82	924	750	1756	3886
% App. Total	16.4	77.7	5.9		2	87.4	10.6		43.4	54.4	2.3		4.7	52.6	42.7		
PHF	.794	.881	.574	.880	.650	.762	.761	.818	.890	.743	.679	.811	.932	.928	.933	.930	.940

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City of Moreno Valley
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E/W: Cactus Avenue
Weather: Clear

File Name : MRVHECAPM
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Page No : 1

Groups Printed- Large 2 Axle Vehicles

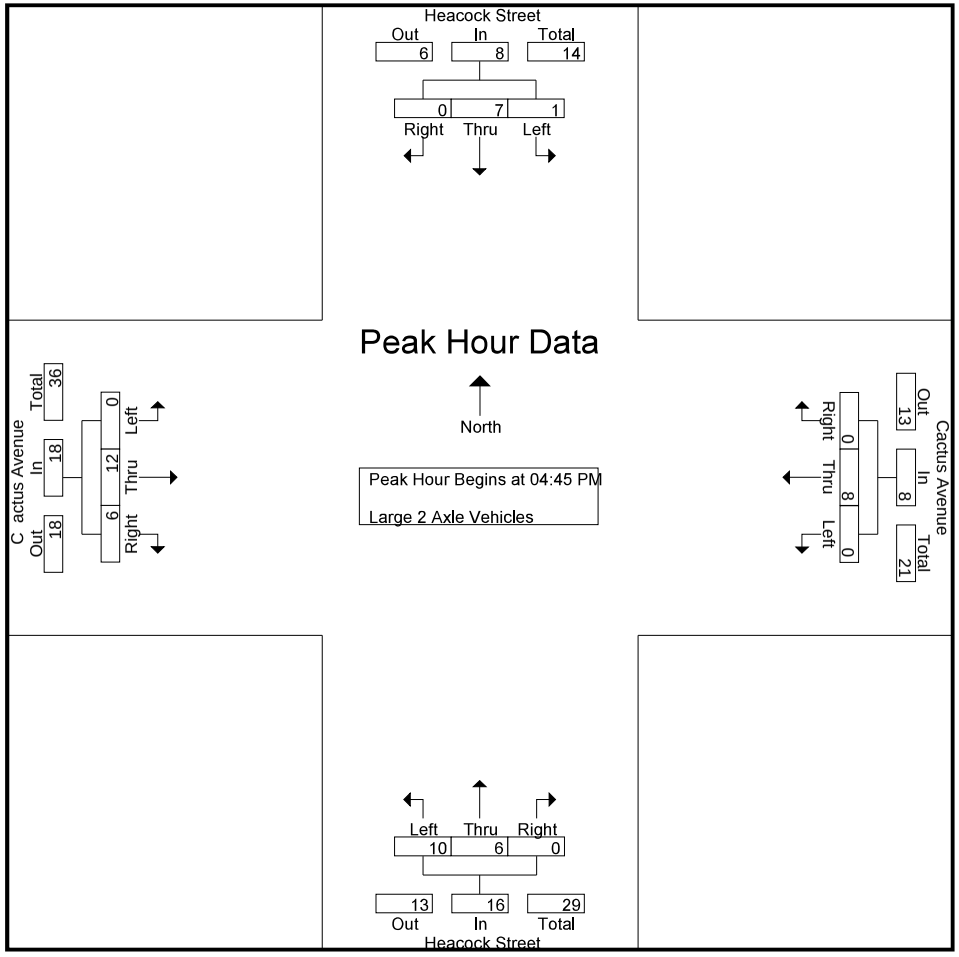
	Heacock Street Southbound					Cactus Avenue Westbound					Heacock Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	1	3	0	0	4	0	7	0	0	7	1	2	1	0	4	0	5	3	0	8	0	23	23
04:15 PM	2	3	0	0	5	1	2	1	0	4	0	0	0	0	0	1	4	3	0	8	0	17	17
04:30 PM	1	2	1	1	4	0	2	0	0	2	1	6	0	0	7	1	0	2	0	3	1	16	17
04:45 PM	0	1	0	0	1	0	2	0	0	2	2	3	0	0	5	0	4	3	0	7	0	15	15
Total	4	9	1	1	14	1	13	1	0	15	4	11	1	0	16	2	13	11	0	26	1	71	72
05:00 PM	1	4	0	0	5	0	1	0	0	1	6	3	0	0	9	0	1	0	0	1	0	16	16
05:15 PM	0	1	0	0	1	0	1	0	0	1	2	0	0	0	2	0	5	3	0	8	0	12	12
05:30 PM	0	1	0	0	1	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	7	7
05:45 PM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	2	2	0	4	0	6	6
Total	1	6	0	0	7	0	7	0	0	7	9	3	0	0	12	0	10	5	0	15	0	41	41
Grand Total	5	15	1	1	21	1	20	1	0	22	13	14	1	0	28	2	23	16	0	41	1	112	113
Apprch %	23.8	71.4	4.8			4.5	90.9	4.5			46.4	50	3.6			4.9	56.1	39					
Total %	4.5	13.4	0.9		18.8	0.9	17.9	0.9		19.6	11.6	12.5	0.9		25	1.8	20.5	14.3		36.6	0.9	99.1	

	Heacock Street Southbound				Cactus Avenue Westbound				Heacock Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	1	0	1	0	2	0	2	2	**3**	0	5	0	4	**3**	7	15
05:00 PM	**1**	**4**	0	**5**	0	1	0	1	**6**	3	0	**9**	0	1	0	1	**16**
05:15 PM	0	1	0	1	0	1	0	1	2	0	0	2	0	**5**	3	**8**	12
05:30 PM	0	1	0	1	0	**4**	0	**4**	0	0	0	0	0	2	0	2	7
Total Volume	1	7	0	8	0	8	0	8	10	6	0	16	0	12	6	18	50
% App. Total	12.5	87.5	0		0	100	0		62.5	37.5	0		0	66.7	33.3		
PHF	.250	.438	.000	.400	.000	.500	.000	.500	.417	.500	.000	.444	.000	.600	.500	.563	.781

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City of Moreno Valley
N/S: Heacock Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVHECAPM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Heacock Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVHECAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

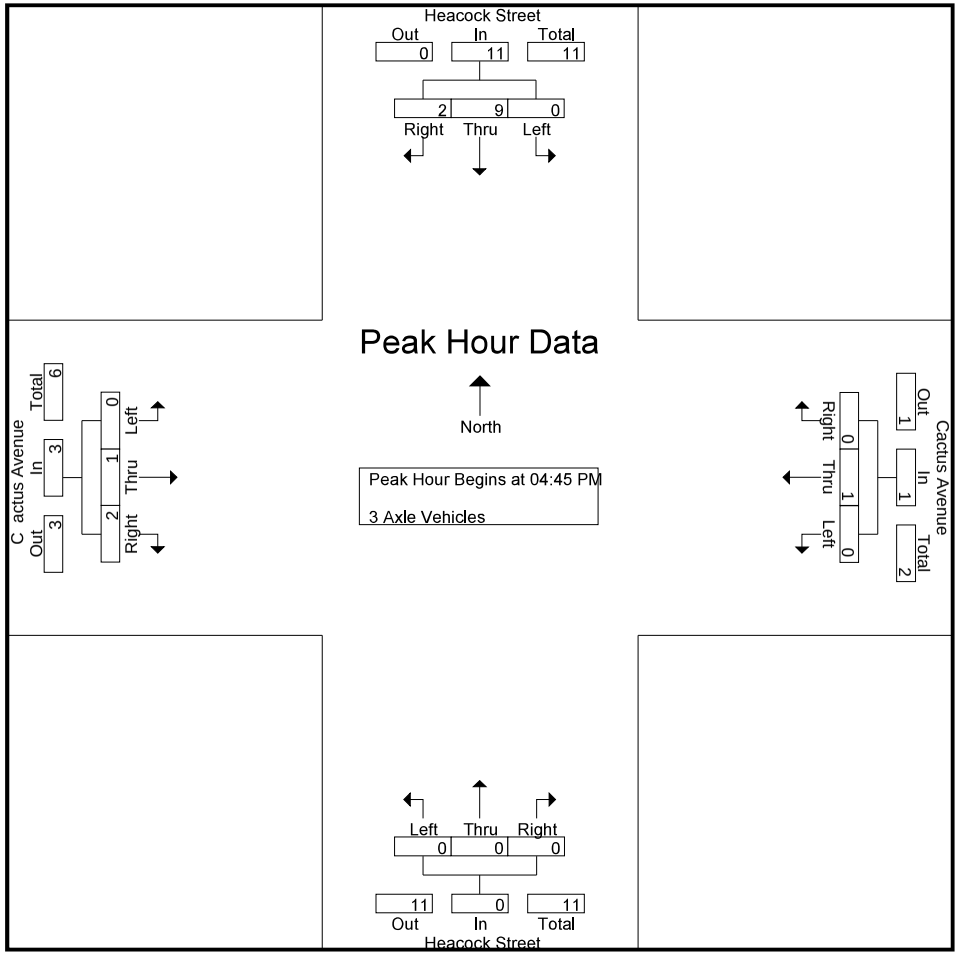
	Heacock Street Southbound					Cactus Avenue Westbound					Heacock Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	2	0	4	0	6	6
04:45 PM	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	6	6
Total	0	3	1	0	4	0	0	0	0	0	1	2	0	0	3	0	3	4	0	7	0	14	14
05:00 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
05:15 PM	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	5	5
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	4	0	0	4	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	5	5
Total	0	10	1	0	11	0	1	0	0	1	1	0	0	0	1	0	0	1	0	1	0	14	14
Grand Total	0	13	2	0	15	0	1	0	0	1	2	2	0	0	4	0	3	5	0	8	0	28	28
Apprch %	0	86.7	13.3			0	100	0			50	50	0			0	37.5	62.5					
Total %	0	46.4	7.1		53.6	0	3.6	0		3.6	7.1	7.1	0		14.3	0	10.7	17.9		28.6	0	100	

	Heacock Street Southbound				Cactus Avenue Westbound				Heacock Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	**3**	**1**	**4**	0	0	0	0	0	0	0	0	0	**1**	**1**	**2**	**6**
05:00 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	3	1	4	0	0	0	0	0	0	0	0	0	0	1	1	5
05:30 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	1
Total Volume	0	9	2	11	0	1	0	1	0	0	0	0	0	1	2	3	15
% App. Total	0	81.8	18.2		0	100	0		0	0	0		0	33.3	66.7		
PHF	.000	.750	.500	.688	.000	.250	.000	.250	.000	.000	.000	.000	.000	.250	.500	.375	.625

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City of Moreno Valley
N/S: Heacock Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVHECAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Heacock Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVHECAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

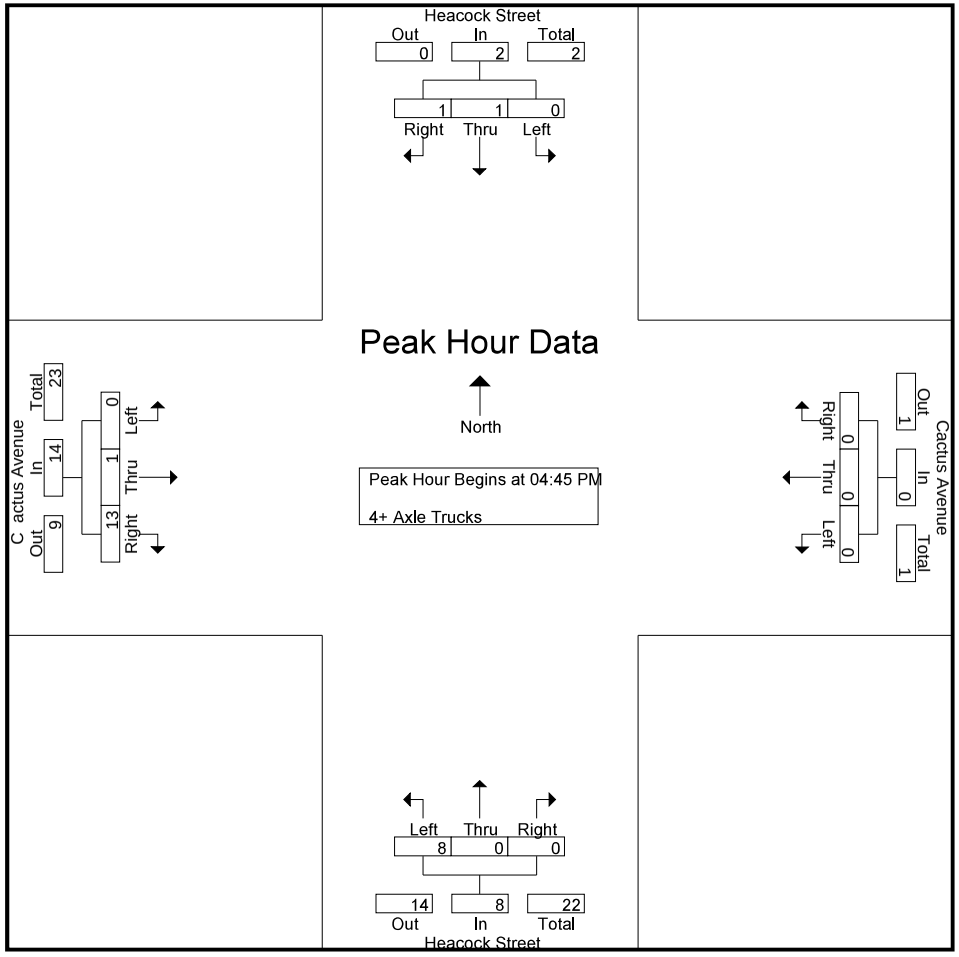
	Heacock Street Southbound					Cactus Avenue Westbound					Heacock Street Northbound					Cactus Avenue Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	0	0	1	1	2	0	0	3	0	0	3	0	3	0	7	7
04:15 PM	0	0	0	0	0	0	1	0	0	1	3	0	0	0	3	0	0	2	0	2	0	6	6
04:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	1	4	0	5	0	7	7
04:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	5	5
Total	0	0	1	0	1	0	2	0	0	2	6	2	0	0	8	0	1	13	0	14	0	25	25
05:00 PM	0	1	0	0	1	0	0	0	0	0	5	0	0	0	5	0	0	3	0	3	0	9	9
05:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	0	2	0	3	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	1	4	0	5	0	7	7
05:45 PM	0	1	1	0	2	0	0	0	0	0	2	0	0	0	2	0	0	4	0	4	0	8	8
Total	0	2	1	0	3	0	0	0	0	0	10	0	0	0	10	0	1	13	0	14	0	27	27
Grand Total	0	2	2	0	4	0	2	0	0	2	16	2	0	0	18	0	2	26	0	28	0	52	52
Apprch %	0	50	50			0	100	0			88.9	11.1	0			0	7.1	92.9					
Total %	0	3.8	3.8		7.7	0	3.8	0		3.8	30.8	3.8	0		34.6	0	3.8	50		53.8	0	100	

	Heacock Street Southbound				Cactus Avenue Westbound				Heacock Street Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	**4**	4	5
05:00 PM	0	**1**	0	1	0	0	0	0	**5**	0	0	**5**	0	0	3	3	**9**
05:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	2	3
05:30 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	**1**	4	**5**	7
Total Volume	0	1	1	2	0	0	0	0	8	0	0	8	0	1	13	14	24
% App. Total	0	50	50		0	0	0		100	0	0		0	7.1	92.9		
PHF	.000	.250	.250	.500	.000	.000	.000	.000	.400	.000	.000	.400	.000	.250	.813	.700	.667

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City of Moreno Valley
N/S: Heacock Street
E/W: Cactus Avenue
Weather: Clear

File Name : MRVHECAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



Location: Moreno Valley
N/S: Heacock Street
E/W: Cactus Avenue

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Heacock Street	East Leg Cactus Avenue	South Leg Heacock Street	West Leg Cactus Avenue	TOTAL
7:00 AM	0	0	0	1	1
7:15 AM	0	1	3	0	4
7:30 AM	0	2	0	0	2
7:45 AM	0	2	0	1	3
8:00 AM	0	0	0	2	2
8:15 AM	1	1	0	0	2
8:30 AM	0	0	0	0	0
8:45 AM	0	1	0	0	1
TOTAL VOLUMES:	1	7	3	4	15

	North Leg Heacock Street	East Leg Cactus Avenue	South Leg Heacock Street	West Leg Cactus Avenue	TOTAL
4:00 PM	1	4	0	1	6
4:15 PM	0	1	0	0	1
4:30 PM	0	3	0	0	3
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	1	2	0	0	3
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	2	10	0	1	13

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Location: Moreno Valley
N/S: Heacock Street
E/W: Cactus Avenue

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Heacock Street	East Leg Cactus Avenue	South Leg Heacock Street	West Leg Cactus Avenue	TOTAL
7:00 AM	0	1	0	0	1
7:15 AM	0	1	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	0	1	0	0	1
8:00 AM	0	1	0	0	1
8:15 AM	1	0	0	1	2
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	1	1
TOTAL VOLUMES:	1	4	0	2	7

	North Leg Heacock Street	East Leg Cactus Avenue	South Leg Heacock Street	West Leg Cactus Avenue	TOTAL
4:00 PM	1	0	0	0	1
4:15 PM	0	0	1	0	1
4:30 PM	0	0	0	1	1
4:45 PM	0	1	0	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	3	0	0	3
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	4	1	1	7

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City of Moreno Valley
N/S: Heacock Street
E/W: Meyer Drive / John F Kennedy Drive
Weather: Clear

File Name : MRVHEMEAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

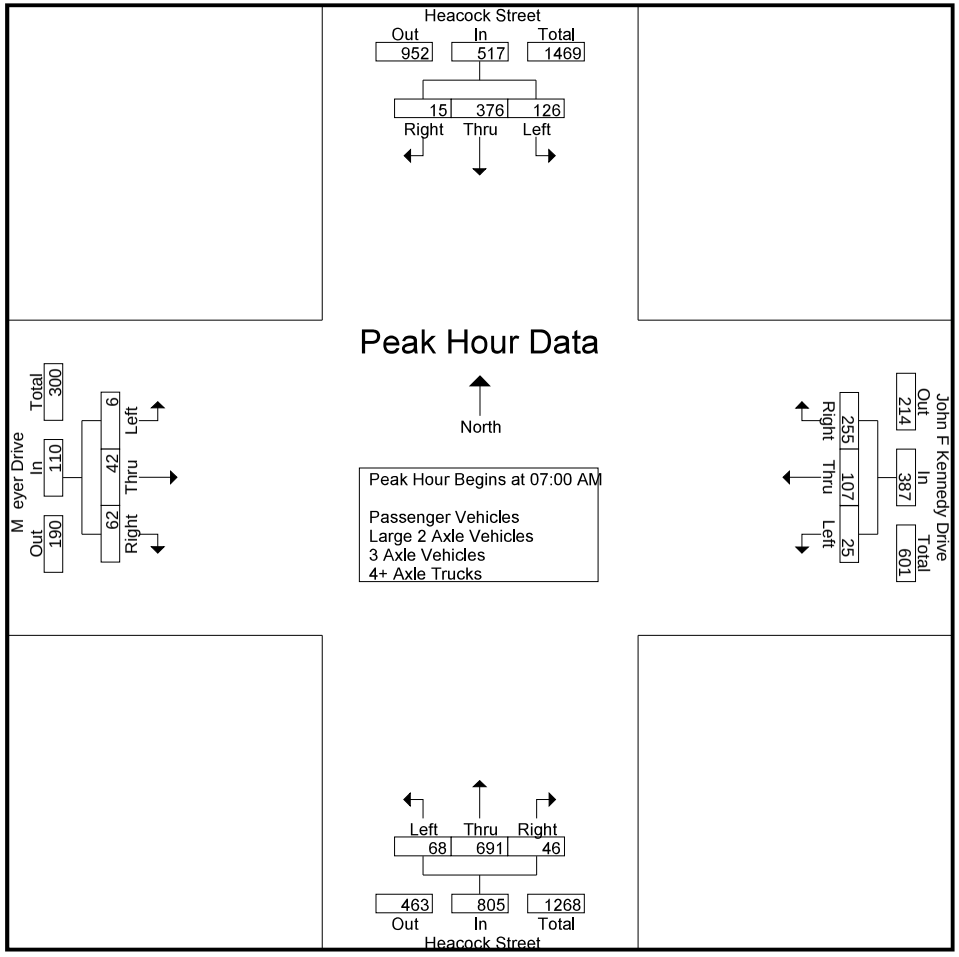
	Heacock Street Southbound					John F Kennedy Drive Westbound					Heacock Street Northbound					Meyer Drive Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	19	99	0	0	118	5	26	42	28	73	20	172	4	1	196	2	5	12	10	19	39	406
07:15 AM	30	106	8	3	144	6	31	72	47	109	7	154	11	1	172	1	8	18	12	27	63	452
07:30 AM	43	91	4	3	138	7	29	65	24	101	23	186	13	6	222	2	15	17	12	34	45	495
07:45 AM	34	80	3	0	117	7	21	76	49	104	18	179	18	6	215	1	14	15	7	30	62	466
Total	126	376	15	6	517	25	107	255	148	387	68	691	46	14	805	6	42	62	41	110	209	1819
08:00 AM	24	63	6	2	93	10	27	54	38	91	15	125	4	1	144	2	10	7	6	19	47	347
08:15 AM	30	48	6	1	84	2	21	55	26	78	11	123	15	7	149	3	8	8	6	19	40	330
08:30 AM	15	55	10	2	80	4	19	34	25	57	13	109	13	2	135	3	11	8	3	22	32	294
08:45 AM	25	51	8	2	84	2	23	34	22	59	16	81	9	1	106	2	4	10	6	16	31	265
Total	94	217	30	7	341	18	90	177	111	285	55	438	41	11	534	10	33	33	21	76	150	1236
Grand Total	220	593	45	13	858	43	197	432	259	672	123	1129	87	25	1339	16	75	95	62	186	359	3055
Apprch %	25.6	69.1	5.2			6.4	29.3	64.3			9.2	84.3	6.5			8.6	40.3	51.1				
Total %	7.2	19.4	1.5		28.1	1.4	6.4	14.1		22	4	37	2.8		43.8	0.5	2.5	3.1		6.1	10.5	89.5
Passenger Vehicles	212	537	43		805	42	194	426		921	120	1093	83		1321	11	73	93		239	0	0
% Passenger Vehicles	96.4	90.6	95.6	100	92.4	97.7	98.5	98.6	100	98.9	97.6	96.8	95.4	100	96.8	68.8	97.3	97.9	100	96.4	0	0
Large 2 Axle Vehicles	6	7	2		15	1	3	5		9	3	9	3		15	5	2	2		9	0	0
% Large 2 Axle Vehicles	2.7	1.2	4.4	0	1.7	2.3	1.5	1.2	0	1	2.4	0.8	3.4	0	1.1	31.2	2.7	2.1	0	3.6	0	0
3 Axle Vehicles	1	4	0		5	0	0	0		0	0	4	0		4	0	0	0		0	0	0
% 3 Axle Vehicles	0.5	0.7	0	0	0.6	0	0	0	0	0	0	0.4	0	0	0.3	0	0	0	0	0	0	0
4+ Axle Trucks	1	45	0		46	0	0	1		1	0	23	1		24	0	0	0		0	0	0
% 4+ Axle Trucks	0.5	7.6	0	0	5.3	0	0	0.2	0	0.1	0	2	1.1	0	1.8	0	0	0	0	0	0	0

	Heacock Street Southbound				John F Kennedy Drive Westbound				Heacock Street Northbound				Meyer Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	19	99	0	118	5	26	42	73	20	172	4	196	**2**	5	12	19	406
07:15 AM	30	**106**	**8**	**144**	6	**31**	72	**109**	7	154	11	172	1	8	**18**	27	452
07:30 AM	**43**	91	4	138	**7**	29	65	101	**23**	**186**	13	**222**	2	**15**	17	**34**	**495**
07:45 AM	34	80	3	117	7	21	**76**	104	18	179	**18**	215	1	14	15	30	466
Total Volume	126	376	15	517	25	107	255	387	68	691	46	805	6	42	62	110	1819
% App. Total	24.4	72.7	2.9		6.5	27.6	65.9		8.4	85.8	5.7		5.5	38.2	56.4		
PHF	.733	.887	.469	.898	.893	.863	.839	.888	.739	.929	.639	.907	.750	.700	.861	.809	.919

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City of Moreno Valley
N/S: Heacock Street
E/W: Meyer Drive / John F Kennedy Drive
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File Name : MRVHEMEAM
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Groups Printed- Large 2 Axle Vehicles

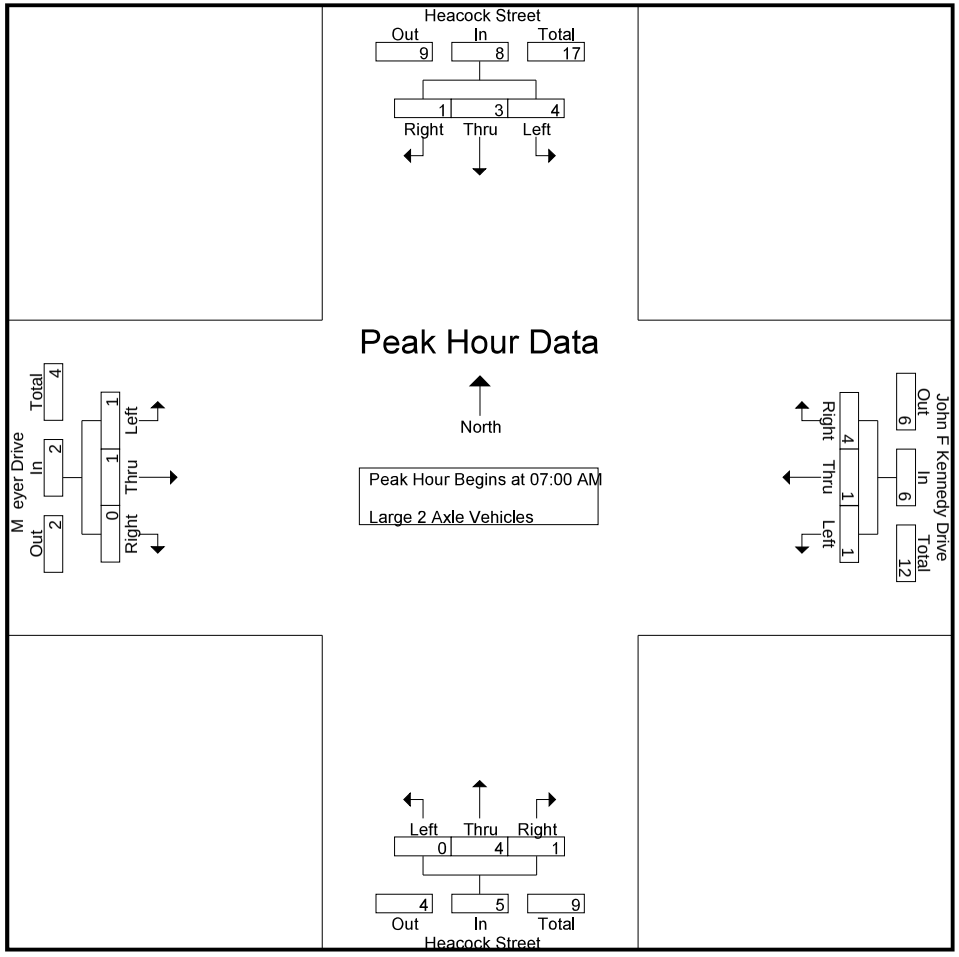
	Heacock Street Southbound					John F Kennedy Drive Westbound					Heacock Street Northbound					Meyer Drive Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	1	0	1	0	0	0	0	0	0	1	1	0	2	0	1	0	0	1	0	4
07:30 AM	2	2	0	0	4	1	0	2	0	3	0	3	0	0	3	1	0	0	0	1	0	11
07:45 AM	1	0	0	0	1	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	4
Total	4	3	1	0	8	1	1	4	0	6	0	4	1	0	5	1	1	0	0	2	0	21
08:00 AM	1	1	0	0	2	0	2	0	0	2	1	4	0	0	5	0	0	0	0	0	0	9
08:15 AM	0	1	1	0	2	0	0	0	0	0	1	0	1	0	2	1	0	0	0	1	0	5
08:30 AM	1	1	0	0	2	0	0	0	0	0	1	0	1	0	2	2	1	1	0	4	0	8
08:45 AM	0	1	0	0	1	0	0	1	0	1	0	1	0	0	1	1	0	1	0	2	0	5
Total	2	4	1	0	7	0	2	1	0	3	3	5	2	0	10	4	1	2	0	7	0	27
Grand Total	6	7	2	0	15	1	3	5	0	9	3	9	3	0	15	5	2	2	0	9	0	48
Apprch %	40	46.7	13.3			11.1	33.3	55.6			20	60	20			55.6	22.2	22.2				
Total %	12.5	14.6	4.2		31.2	2.1	6.2	10.4		18.8	6.2	18.8	6.2		31.2	10.4	4.2	4.2		18.8	0	100

	Heacock Street Southbound				John F Kennedy Drive Westbound				Heacock Street Northbound				Meyer Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	**1**	1	0	0	0	0	0	1	**1**	2	0	**1**	0	**1**	4
07:30 AM	**2**	**2**	0	**4**	**1**	0	**2**	**3**	0	**3**	0	**3**	**1**	0	0	1	**11**
07:45 AM	1	0	0	1	0	**1**	2	3	0	0	0	0	0	0	0	0	4
Total Volume	4	3	1	8	1	1	4	6	0	4	1	5	1	1	0	2	21
% App. Total	50	37.5	12.5		16.7	16.7	66.7		0	80	20		50	50	0		
PHF	.500	.375	.250	.500	.250	.250	.500	.500	.000	.333	.250	.417	.250	.250	.000	.500	.477

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City of Moreno Valley
N/S: Heacock Street
E/W: Meyer Drive / John F Kennedy Drive
Weather: Clear

File Name : MRVHEMEAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Heacock Street
E/W: Meyer Drive / John F Kennedy Drive
Weather: Clear

File Name : MRVHEMEAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

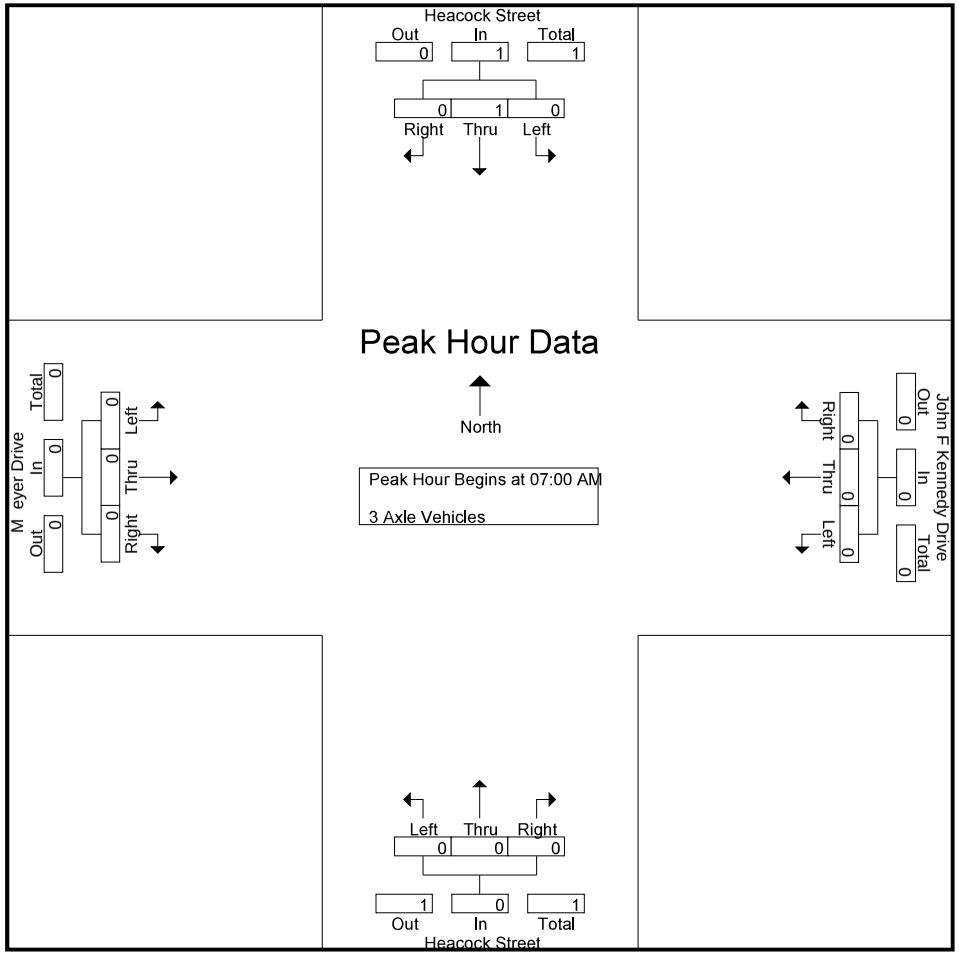
	Heacock Street Southbound					John F Kennedy Drive Westbound					Heacock Street Northbound					Meyer Drive Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
08:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	3	0	0	4	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	8
Grand Total	1	4	0	0	5	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	9
Apprch %	20	80	0			0	0	0			0	100	0			0	0	0				
Total %	11.1	44.4	0		55.6	0	0	0		0	0	44.4	0		44.4	0	0	0		0	0	100

	Heacock Street Southbound				John F Kennedy Drive Westbound				Heacock Street Northbound				Meyer Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	**1**
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

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E/W: Meyer Drive / John F Kennedy Drive
Weather: Clear

File Name : MRVHEMEAM
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Page No : 1

Groups Printed- 4+ Axle Trucks

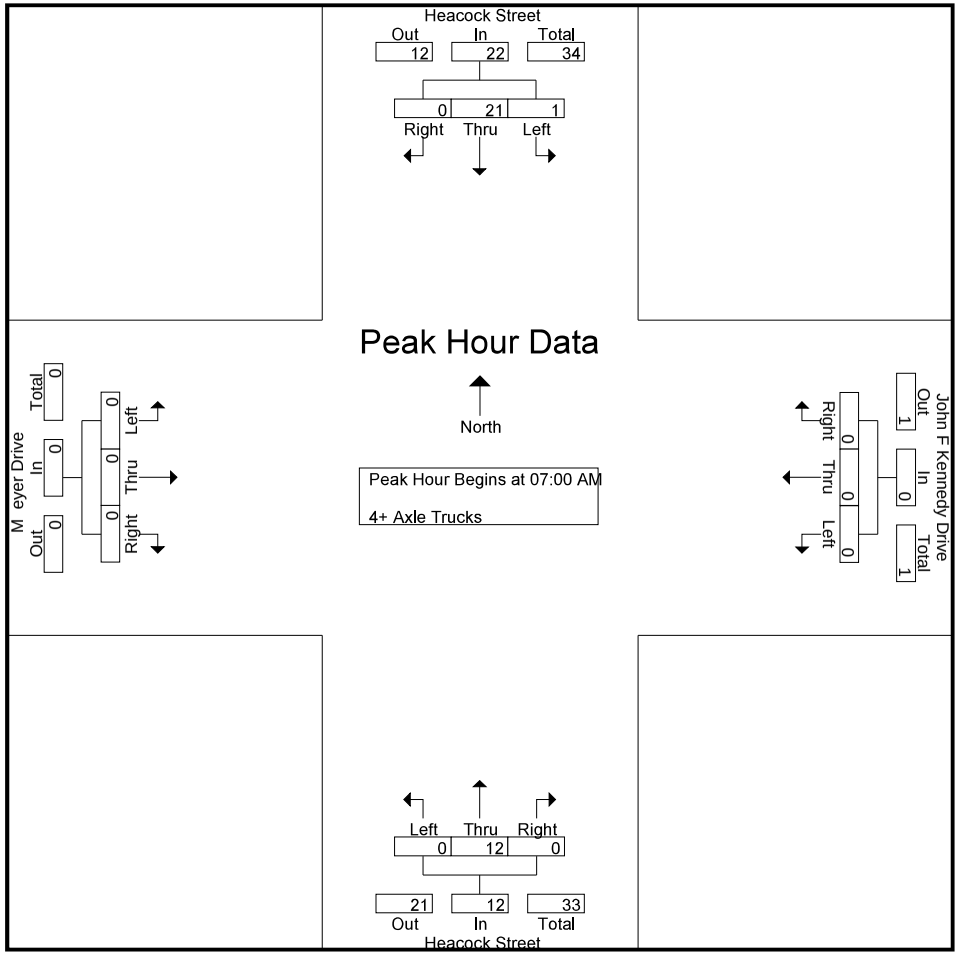
	Heacock Street Southbound					John F Kennedy Drive Westbound					Heacock Street Northbound					Meyer Drive Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5
07:15 AM	1	3	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6
07:30 AM	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	9
07:45 AM	0	9	0	0	9	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	14
Total	1	21	0	0	22	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	34
08:00 AM	0	5	0	0	5	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	0	11
08:15 AM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	7
08:30 AM	0	10	0	0	10	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	13
08:45 AM	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	6
Total	0	24	0	0	24	0	0	1	0	1	0	11	1	0	12	0	0	0	0	0	0	37
Grand Total	1	45	0	0	46	0	0	1	0	1	0	23	1	0	24	0	0	0	0	0	0	71
Apprch %	2.2	97.8	0			0	0	100			0	95.8	4.2			0	0	0				
Total %	1.4	63.4	0		64.8	0	0	1.4		1.4	0	32.4	1.4		33.8	0	0	0		0	0	100

	Heacock Street Southbound				John F Kennedy Drive Westbound				Heacock Street Northbound				Meyer Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	3	0	3	0	0	0	0	0	2	0	2	0	0	0	0	5
07:15 AM	**1**	3	0	4	0	0	0	0	0	2	0	2	0	0	0	0	6
07:30 AM	0	6	0	6	0	0	0	0	0	3	0	3	0	0	0	0	9
07:45 AM	0	**9**	0	**9**	0	0	0	0	0	**5**	0	**5**	0	0	0	0	**14**
Total Volume	1	21	0	22	0	0	0	0	0	12	0	12	0	0	0	0	34
% App. Total	4.5	95.5	0		0	0	0		0	100	0		0	0	0		
PHF	.250	.583	.000	.611	.000	.000	.000	.000	.000	.600	.000	.600	.000	.000	.000	.000	.607

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City of Moreno Valley
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Weather: Clear

File Name : MRVHEMEAM
Site Code : 05115223
Start Date : 4/28/2015
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File Name : MRVHEMEPM
Site Code : 05115223
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Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

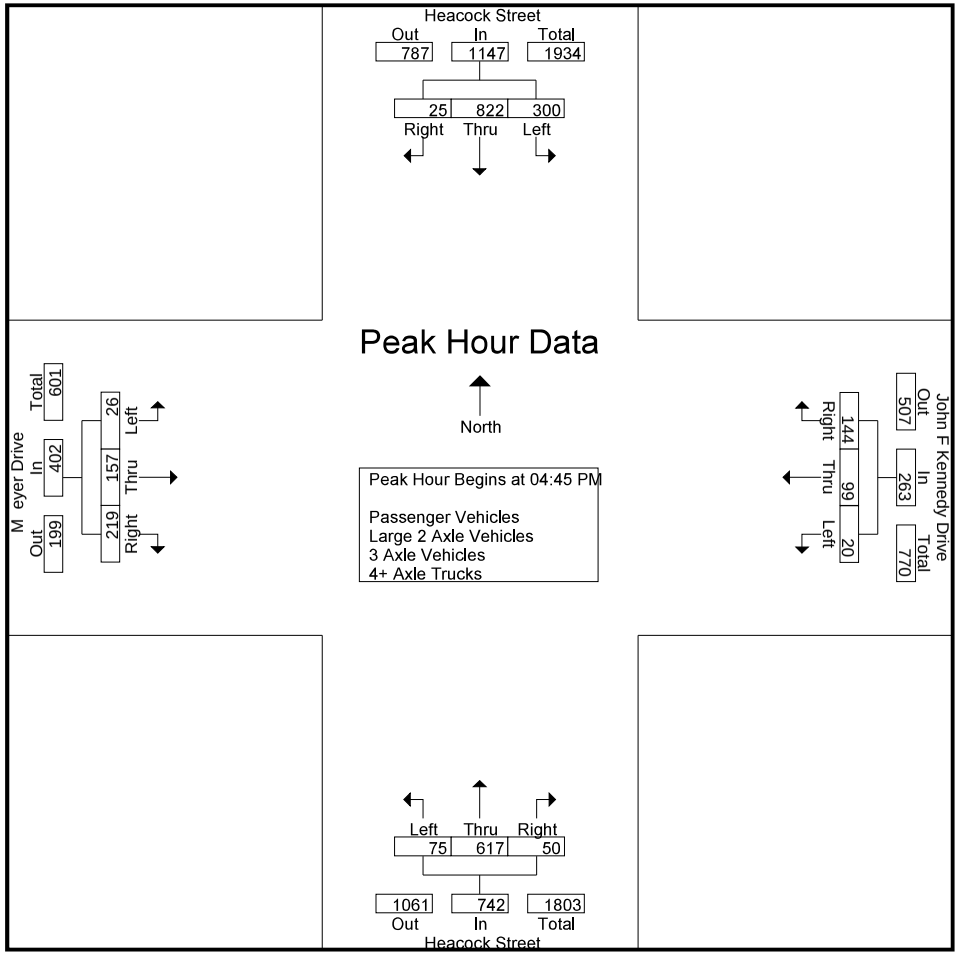
	Heacock Street Southbound					John F Kennedy Drive Westbound					Heacock Street Northbound					Meyer Drive Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	69	135	6	0	210	4	25	51	36	80	17	105	12	1	134	10	45	29	16	84	53	508
04:15 PM	89	157	11	0	257	7	27	48	20	82	16	99	5	1	120	7	41	36	22	84	43	543
04:30 PM	63	187	10	2	260	6	21	35	20	62	18	159	10	3	187	5	42	37	23	84	48	593
04:45 PM	69	213	3	2	285	4	25	46	27	75	21	203	20	6	244	9	39	30	17	78	52	682
Total	290	692	30	4	1012	21	98	180	103	299	72	566	47	11	685	31	167	132	78	330	196	2326
05:00 PM	70	182	7	2	259	4	25	35	25	64	15	158	12	5	185	9	44	65	24	118	56	626
05:15 PM	85	203	9	5	297	5	22	32	22	59	15	110	8	4	133	3	34	62	40	99	71	588
05:30 PM	76	224	6	2	306	7	27	31	17	65	24	146	10	2	180	5	40	62	26	107	47	658
05:45 PM	82	207	7	6	296	4	25	35	22	64	19	102	13	6	134	7	51	48	22	106	56	600
Total	313	816	29	15	1158	20	99	133	86	252	73	516	43	17	632	24	169	237	112	430	230	2472
Grand Total	603	1508	59	19	2170	41	197	313	189	551	145	1082	90	28	1317	55	336	369	190	760	426	4798
Apprch %	27.8	69.5	2.7			7.4	35.8	56.8			11	82.2	6.8			7.2	44.2	48.6				
Total %	12.6	31.4	1.2		45.2	0.9	4.1	6.5		11.5	3	22.6	1.9		27.4	1.1	7	7.7		15.8	8.2	91.8
Passenger Vehicles	597	1449	59		2124	41	195	311		736	145	1054	89		1316	55	332	365		941	0	0
% Passenger Vehicles	99	96.1	100	100	97	100	99	99.4	100	99.5	100	97.4	98.9	100	97.8	100	98.8	98.9	99.5	99.1	0	0
Large 2 Axle Vehicles	5	19	0		24	0	2	0		2	0	9	1		10	0	4	3		8	0	0
% Large 2 Axle Vehicles	0.8	1.3	0	0	1.1	0	1	0	0	0.3	0	0.8	1.1	0	0.7	0	1.2	0.8	0.5	0.8	0	0
3 Axle Vehicles	1	14	0		15	0	0	1		1	0	3	0		3	0	0	1		1	0	0
% 3 Axle Vehicles	0.2	0.9	0	0	0.7	0	0	0.3	0	0.1	0	0.3	0	0	0.2	0	0	0.3	0	0.1	0	0
4+ Axle Trucks	0	26	0		26	0	0	1		1	0	16	0		16	0	0	0		0	0	0
% 4+ Axle Trucks	0	1.7	0	0	1.2	0	0	0.3	0	0.1	0	1.5	0	0	1.2	0	0	0	0	0	0	0

	Heacock Street Southbound				John F Kennedy Drive Westbound				Heacock Street Northbound				Meyer Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	69	213	3	285	4	25	**46**	**75**	21	**203**	**20**	**244**	**9**	39	30	78	**682**
05:00 PM	70	182	7	259	4	25	35	64	15	158	12	185	9	**44**	**65**	**118**	626
05:15 PM	**85**	203	**9**	297	5	22	32	59	15	110	8	133	3	34	62	99	588
05:30 PM	76	**224**	6	**306**	**7**	**27**	31	65	**24**	146	10	180	5	40	62	107	658
Total Volume	300	822	25	1147	20	99	144	263	75	617	50	742	26	157	219	402	2554
% App. Total	26.2	71.7	2.2		7.6	37.6	54.8		10.1	83.2	6.7		6.5	39.1	54.5		
PHF	.882	.917	.694	.937	.714	.917	.783	.877	.781	.760	.625	.760	.722	.892	.842	.852	.936

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City of Moreno Valley
N/S: Heacock Street
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File Name : MRVHEMEPM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Heacock Street
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Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

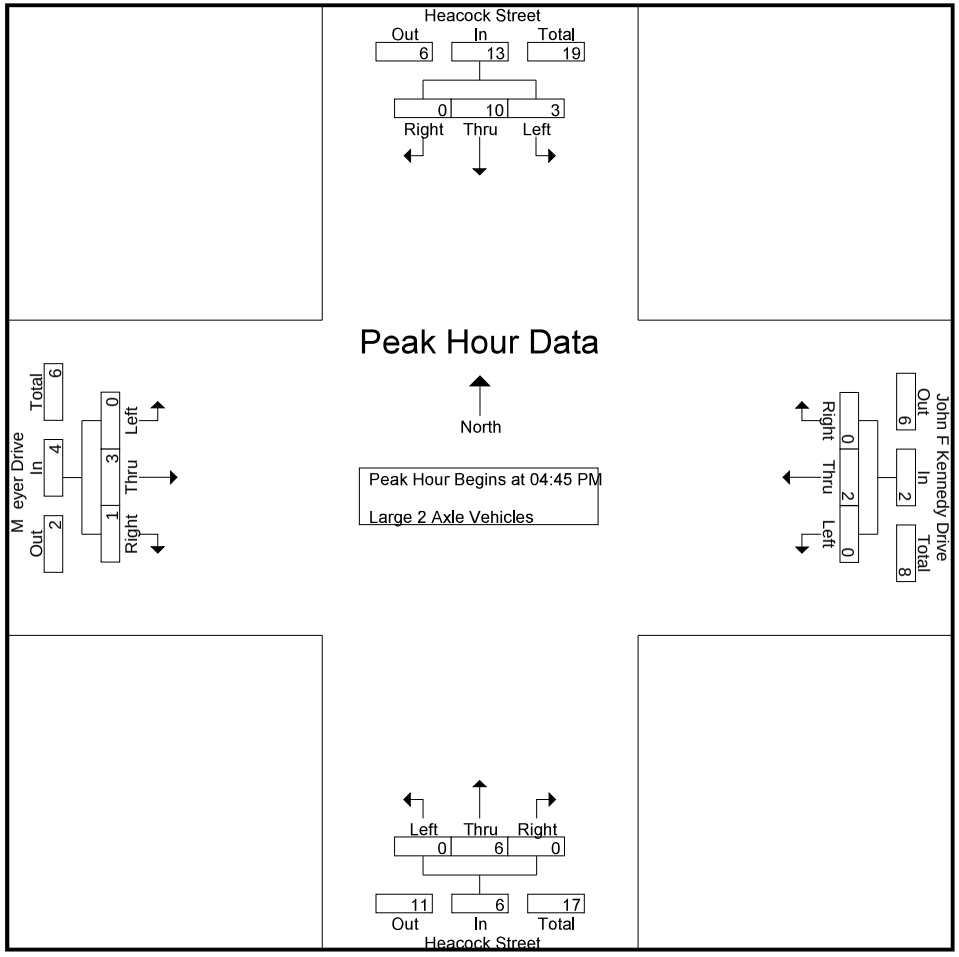
	Heacock Street Southbound					John F Kennedy Drive Westbound					Heacock Street Northbound					Meyer Drive Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	1	2	0	0	3	0	0	0	0	0	0	1	0	0	1	0	1	1	1	2	1	6
04:15 PM	1	3	0	0	4	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	5
04:30 PM	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5
04:45 PM	1	4	0	0	5	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	8
Total	3	13	0	0	16	0	0	0	0	0	0	5	1	0	6	0	1	1	1	2	1	24
05:00 PM	1	1	0	0	2	0	2	0	0	2	0	3	0	0	3	0	1	0	0	1	0	8
05:15 PM	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	6
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	2
Total	2	6	0	0	8	0	2	0	0	2	0	4	0	0	4	0	3	2	0	5	0	19
Grand Total	5	19	0	0	24	0	2	0	0	2	0	9	1	0	10	0	4	3	1	7	1	43
Apprch %	20.8	79.2	0			0	100	0			0	90	10			0	57.1	42.9				
Total %	11.6	44.2	0		55.8	0	4.7	0		4.7	0	20.9	2.3		23.3	0	9.3	7		16.3	2.3	97.7

	Heacock Street Southbound				John F Kennedy Drive Westbound				Heacock Street Northbound				Meyer Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**1**	**4**	0	**5**	0	0	0	0	0	**3**	0	**3**	0	0	0	0	**8**
05:00 PM	1	1	0	2	0	**2**	0	**2**	0	3	0	3	0	**1**	0	1	8
05:15 PM	1	4	0	5	0	0	0	0	0	0	0	0	0	1	0	1	6
05:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	**1**	**2**	3
Total Volume	3	10	0	13	0	2	0	2	0	6	0	6	0	3	1	4	25
% App. Total	23.1	76.9	0		0	100	0		0	100	0		0	75	25		
PHF	.750	.625	.000	.650	.000	.250	.000	.250	.000	.500	.000	.500	.000	.750	.250	.500	.781

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Groups Printed- 3 Axle Vehicles

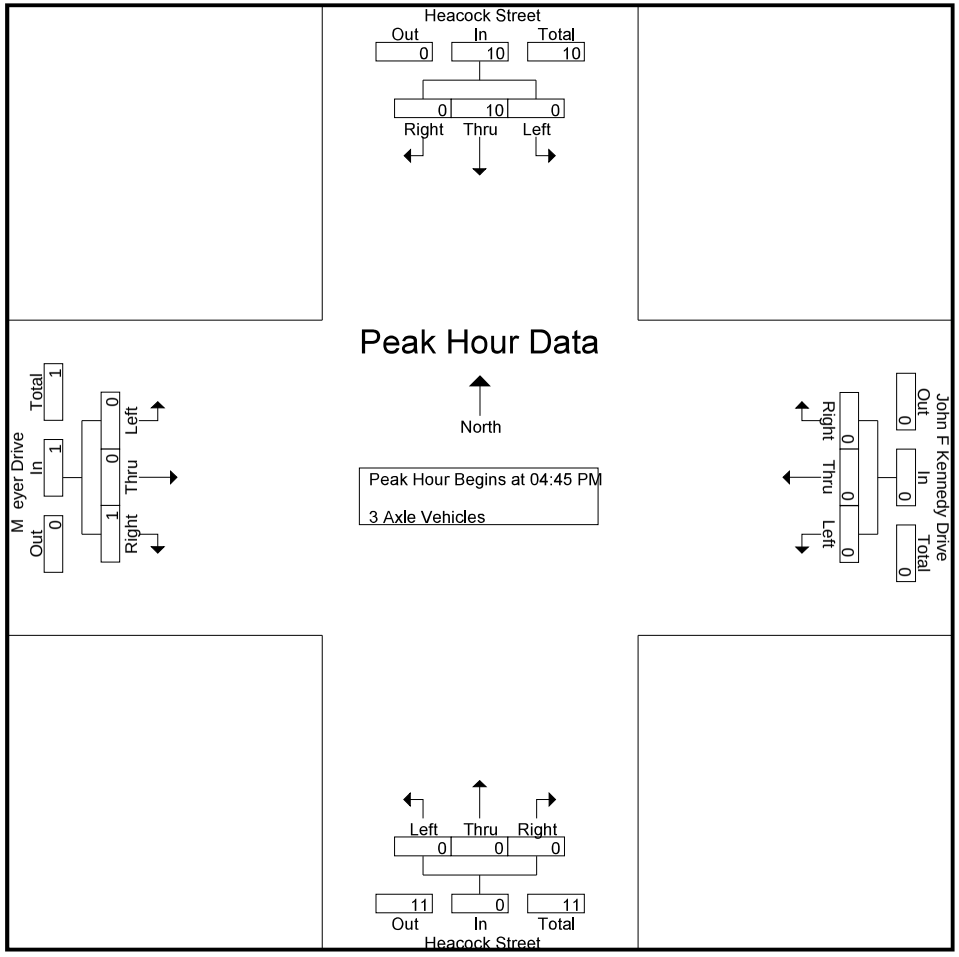
	Heacock Street Southbound					John F Kennedy Drive Westbound					Heacock Street Northbound					Meyer Drive Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
04:15 PM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
04:30 PM	0	2	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3
04:45 PM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	1	8	0	0	9	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	12
05:00 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
05:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
Total	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	8
Grand Total	1	14	0	0	15	0	0	1	0	1	0	3	0	0	3	0	0	1	0	1	0	20
Apprch %	6.7	93.3	0			0	0	100			0	100	0			0	0	100				
Total %	5	70	0		75	0	0	5		5	0	15	0		15	0	0	5		5	0	100

	Heacock Street Southbound				John F Kennedy Drive Westbound				Heacock Street Northbound				Meyer Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	**5**	0	**5**	0	0	0	0	0	0	0	0	0	0	0	0	**5**
05:00 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	1
Total Volume	0	10	0	10	0	0	0	0	0	0	0	0	0	0	1	1	11
% App. Total	0	100	0		0	0	0		0	0	0		0	0	100		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.550

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City of Moreno Valley
N/S: Heacock Street
E/W: Meyer Drive / John F Kennedy Drive
Weather: Clear

File Name : MRVHEMEPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Heacock Street
E/W: Meyer Drive / John F Kennedy Drive
Weather: Clear

File Name : MRVHEMEPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

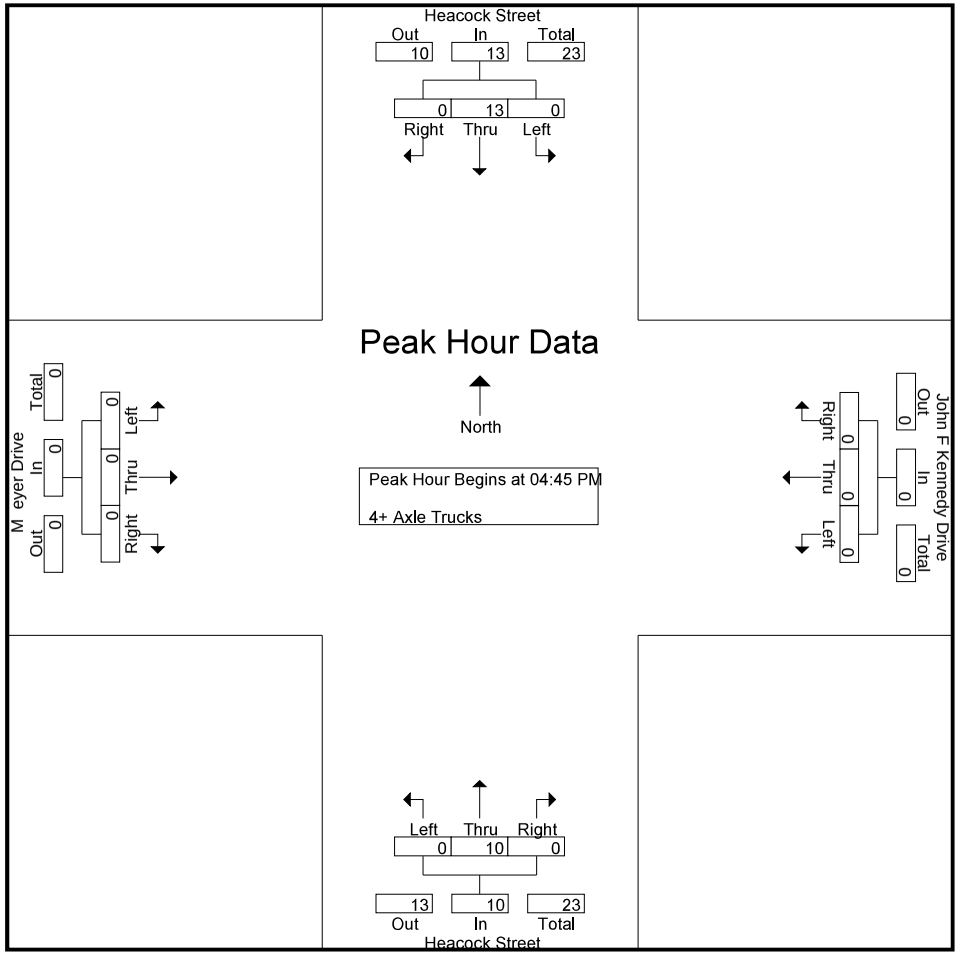
	Heacock Street Southbound					John F Kennedy Drive Westbound					Heacock Street Northbound					Meyer Drive Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	3	0	0	3	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	7
04:15 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4
04:30 PM	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5
04:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	12	0	0	12	0	0	1	0	1	0	6	0	0	6	0	0	0	0	0	0	19
05:00 PM	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	9
05:15 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:30 PM	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	8
05:45 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	14	0	0	14	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	24
Grand Total	0	26	0	0	26	0	0	1	0	1	0	16	0	0	16	0	0	0	0	0	0	43
Apprch %	0	100	0			0	0	100			0	100	0			0	0	0				
Total %	0	60.5	0		60.5	0	0	2.3		2.3	0	37.2	0		37.2	0	0	0		0	0	100

	Heacock Street Southbound				John F Kennedy Drive Westbound				Heacock Street Northbound				Meyer Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:00 PM	0	3	0	3	0	0	0	0	0	**6**	0	**6**	0	0	0	0	**9**
05:15 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:30 PM	0	**4**	0	**4**	0	0	0	0	0	4	0	4	0	0	0	0	8
Total Volume	0	13	0	13	0	0	0	0	0	10	0	10	0	0	0	0	23
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.813	.000	.813	.000	.000	.000	.000	.000	.417	.000	.417	.000	.000	.000	.000	.639

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City of Moreno Valley
N/S: Heacock Street
E/W: Meyer Drive / John F Kennedy Drive
Weather: Clear

File Name : MRVHEMEPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



Location: Moreno Valley
N/S: Heacock Street
E/W: Meyer Drive / John F Kennedy Drive

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Heacock Street	East Leg Meyer Drive / John F Kennedy Driv	South Leg Heacock Street	West Leg Meyer Drive / John F Kennedy Driv	TOTAL
7:00 AM	3	5	0	0	8
7:15 AM	2	9	0	0	11
7:30 AM	0	6	0	0	6
7:45 AM	0	0	0	0	0
8:00 AM	8	12	0	0	20
8:15 AM	5	1	1	1	8
8:30 AM	0	3	0	0	3
8:45 AM	2	1	0	0	3
TOTAL VOLUMES:	20	37	1	1	59

	North Leg Heacock Street	East Leg Meyer Drive / John F Kennedy Driv	South Leg Heacock Street	West Leg Meyer Drive / John F Kennedy Driv	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	2	2	0	1	5
4:30 PM	0	1	0	0	1
4:45 PM	0	1	0	0	1
5:00 PM	0	0	0	0	0
5:15 PM	1	0	0	0	1
5:30 PM	4	8	0	0	12
5:45 PM	1	5	0	0	6
TOTAL VOLUMES:	8	17	0	1	26

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Location: Moreno Valley
N/S: Heacock Street
E/W: Meyer Drive / John F Kennedy Drive

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Heacock Street	East Leg Meyer Drive / John F Kennedy Driv	South Leg Heacock Street	West Leg Meyer Drive / John F Kennedy Driv	TOTAL
7:00 AM	0	0	0	2	2
7:15 AM	0	2	0	0	2
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	2	4

	North Leg Heacock Street	East Leg Meyer Drive / John F Kennedy Driv	South Leg Heacock Street	West Leg Meyer Drive / John F Kennedy Driv	TOTAL
4:00 PM	2	0	0	1	3
4:15 PM	1	0	1	0	2
4:30 PM	0	1	0	1	2
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	1	0	0	1
5:45 PM	1	0	0	0	1
TOTAL VOLUMES:	4	2	1	2	9

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City of Moreno Valley
N/S: Heacock Street
E/W: Gentian Avenue
Weather: Clear

File Name : MRVHEGEAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

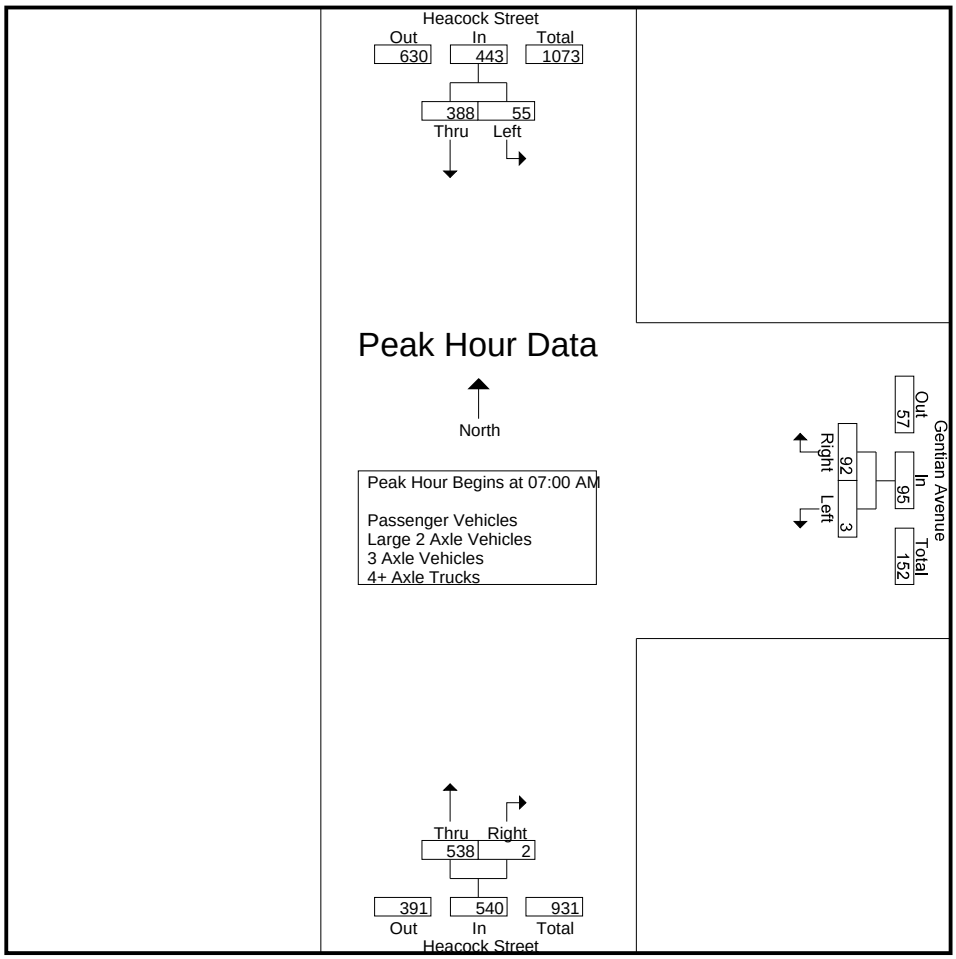
	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	10	92	102	2	24	26	130	0	130	258
07:15 AM	18	108	126	1	23	24	120	1	121	271
07:30 AM	17	89	106	0	20	20	157	0	157	283
07:45 AM	10	99	109	0	25	25	131	1	132	266
Total	55	388	443	3	92	95	538	2	540	1078
08:00 AM	4	60	64	0	12	12	118	0	118	194
08:15 AM	5	57	62	0	11	11	109	0	109	182
08:30 AM	4	64	68	3	11	14	83	2	85	167
08:45 AM	3	55	58	1	11	12	70	0	70	140
Total	16	236	252	4	45	49	380	2	382	683
Grand Total	71	624	695	7	137	144	918	4	922	1761
Apprch %	10.2	89.8		4.9	95.1		99.6	0.4		
Total %	4	35.4	39.5	0.4	7.8	8.2	52.1	0.2	52.4	
Passenger Vehicles	71	562	633	6	136	142	880	3	883	1658
% Passenger Vehicles	100	90.1	91.1	85.7	99.3	98.6	95.9	75	95.8	94.2
Large 2 Axle Vehicles	0	13	13	1	1	2	12	1	13	28
% Large 2 Axle Vehicles	0	2.1	1.9	14.3	0.7	1.4	1.3	25	1.4	1.6
3 Axle Vehicles	0	6	6	0	0	0	3	0	3	9
% 3 Axle Vehicles	0	1	0.9	0	0	0	0.3	0	0.3	0.5
4+ Axle Trucks	0	43	43	0	0	0	23	0	23	66
% 4+ Axle Trucks	0	6.9	6.2	0	0	0	2.5	0	2.5	3.7

	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	10	92	102	**2**	24	**26**	130	0	130	258
07:15 AM	**18**	**108**	**126**	1	23	24	120	**1**	121	271
07:30 AM	17	89	106	0	20	20	**157**	0	**157**	**283**
07:45 AM	10	99	109	0	**25**	25	131	1	132	266
Total Volume	55	388	443	3	92	95	538	2	540	1078
% App. Total	12.4	87.6		3.2	96.8		99.6	0.4		
PHF	.764	.898	.879	.375	.920	.913	.857	.500	.860	.952

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City of Moreno Valley
N/S: Heacock Street
E/W: Gentian Avenue
Weather: Clear

File Name : MRVHEGEAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	10	92	102	**2**	24	**26**	130	0	130
+15 mins.	**18**	**108**	**126**	1	23	24	120	**1**	121
+30 mins.	17	89	106	0	20	20	**157**	0	**157**
+45 mins.	10	99	109	0	**25**	25	131	1	132
Total Volume	55	388	443	3	92	95	538	2	540
% App. Total	12.4	87.6		3.2	96.8		99.6	0.4	
PHF	.764	.898	.879	.375	.920	.913	.857	.500	.860

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City of Moreno Valley
N/S: Heacock Street
E/W: Gentian Avenue
Weather: Clear

File Name : MRVHEGEAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

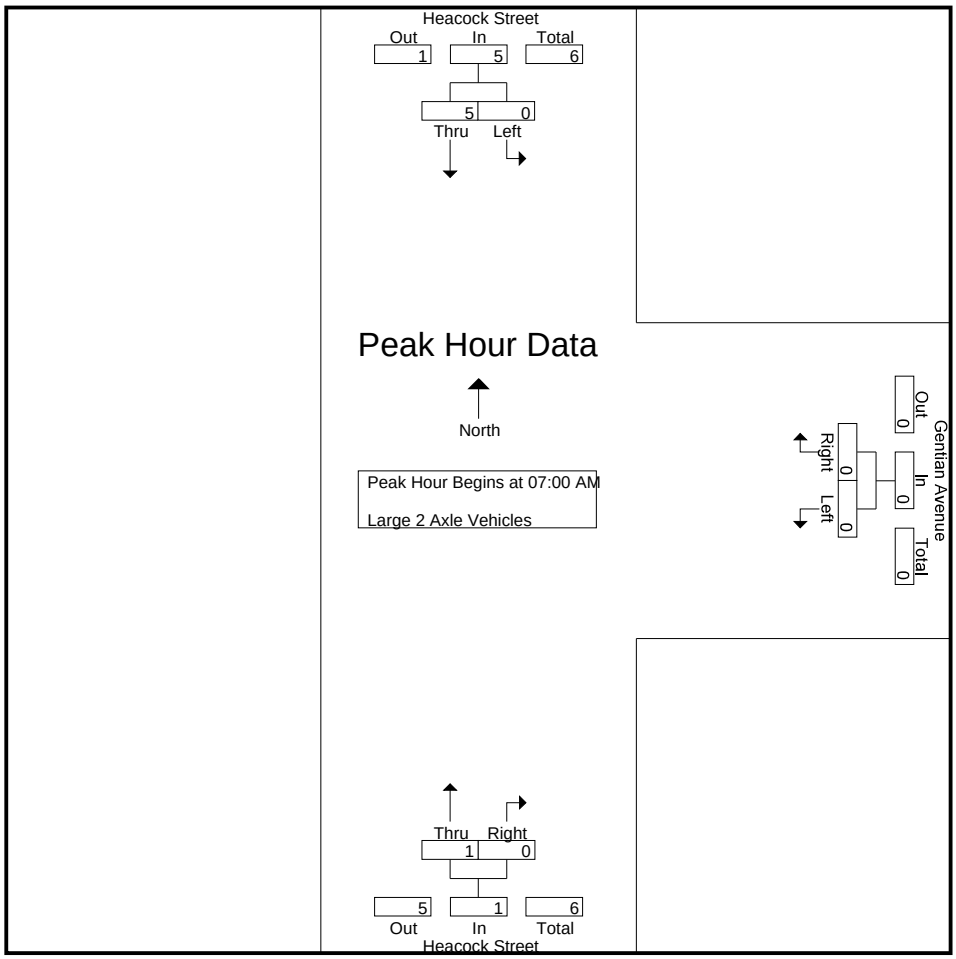
	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	2	2	0	0	0	0	0	0	2
07:15 AM	0	1	1	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	2	2	0	0	0	1	0	1	3
Total	0	5	5	0	0	0	1	0	1	6
08:00 AM	0	2	2	0	0	0	6	0	6	8
08:15 AM	0	1	1	0	1	1	1	0	1	3
08:30 AM	0	3	3	0	0	0	2	1	3	6
08:45 AM	0	2	2	1	0	1	2	0	2	5
Total	0	8	8	1	1	2	11	1	12	22
Grand Total	0	13	13	1	1	2	12	1	13	28
Apprch %	0	100		50	50		92.3	7.7		
Total %	0	46.4	46.4	3.6	3.6	7.1	42.9	3.6	46.4	

	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	**2**	**2**	0	0	0	0	0	0	2
07:15 AM	0	1	1	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	2	2	0	0	0	**1**	0	**1**	**3**
Total Volume	0	5	5	0	0	0	1	0	1	6
% App. Total	0	100		0	0		100	0		
PHF	.000	.625	.625	.000	.000	.000	.250	.000	.250	.500

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City of Moreno Valley
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File Name : MRVHEGEAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	**2**	**2**	0	0	0	0	0	0
+15 mins.	0	1	1	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	2	0	0	0	**1**	0	**1**
Total Volume	0	5	5	0	0	0	1	0	1
% App. Total	0	100		0	0		100	0	
PHF	.000	.625	.625	.000	.000	.000	.250	.000	.250

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City of Moreno Valley
N/S: Heacock Street
E/W: Gentian Avenue
Weather: Clear

File Name : MRVHEGEAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

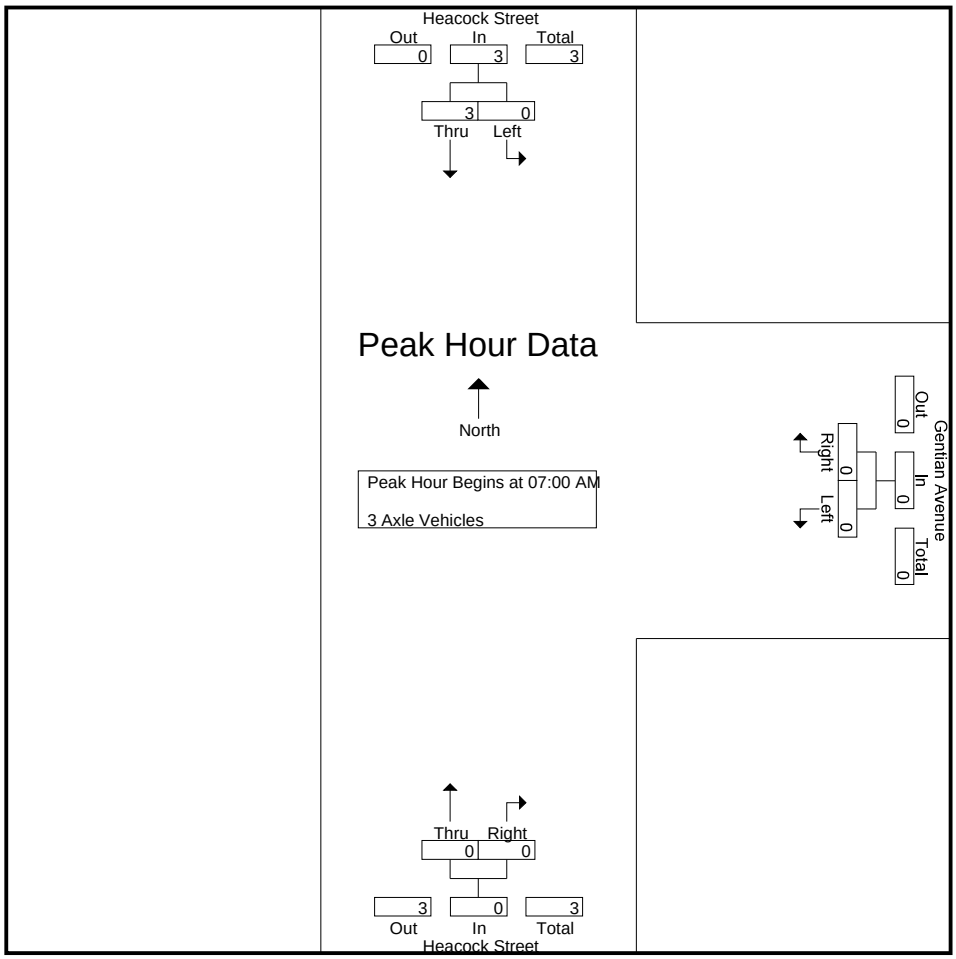
	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	1	0	0	0	0	0	0	1
07:15 AM	0	1	1	0	0	0	0	0	0	1
07:30 AM	0	1	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	3	3	0	0	0	0	0	0	3
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	3	3	0	0	0	1	0	1	4
08:30 AM	0	0	0	0	0	0	2	0	2	2
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	3	3	0	0	0	3	0	3	6
Grand Total	0	6	6	0	0	0	3	0	3	9
Apprch %	0	100		0	0		100	0		
Total %	0	66.7	66.7	0	0	0	33.3	0	33.3	

	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	**1**	**1**	0	0	0	0	0	0	**1**
07:15 AM	0	1	1	0	0	0	0	0	0	1
07:30 AM	0	1	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	3	3	0	0	0	0	0	0	3
% App. Total	0	100		0	0		0	0		
PHF	.000	.750	.750	.000	.000	.000	.000	.000	.000	.750

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Weather: Clear

File Name : MRVHEGEAM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	**1**	**1**	0	0	0	0	0	0
+15 mins.	0	1	1	0	0	0	0	0	0
+30 mins.	0	1	1	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	3	3	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.750	.750	.000	.000	.000	.000	.000	.000

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City of Moreno Valley
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File Name : MRVHEGEAM
Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- 4+ Axle Trucks

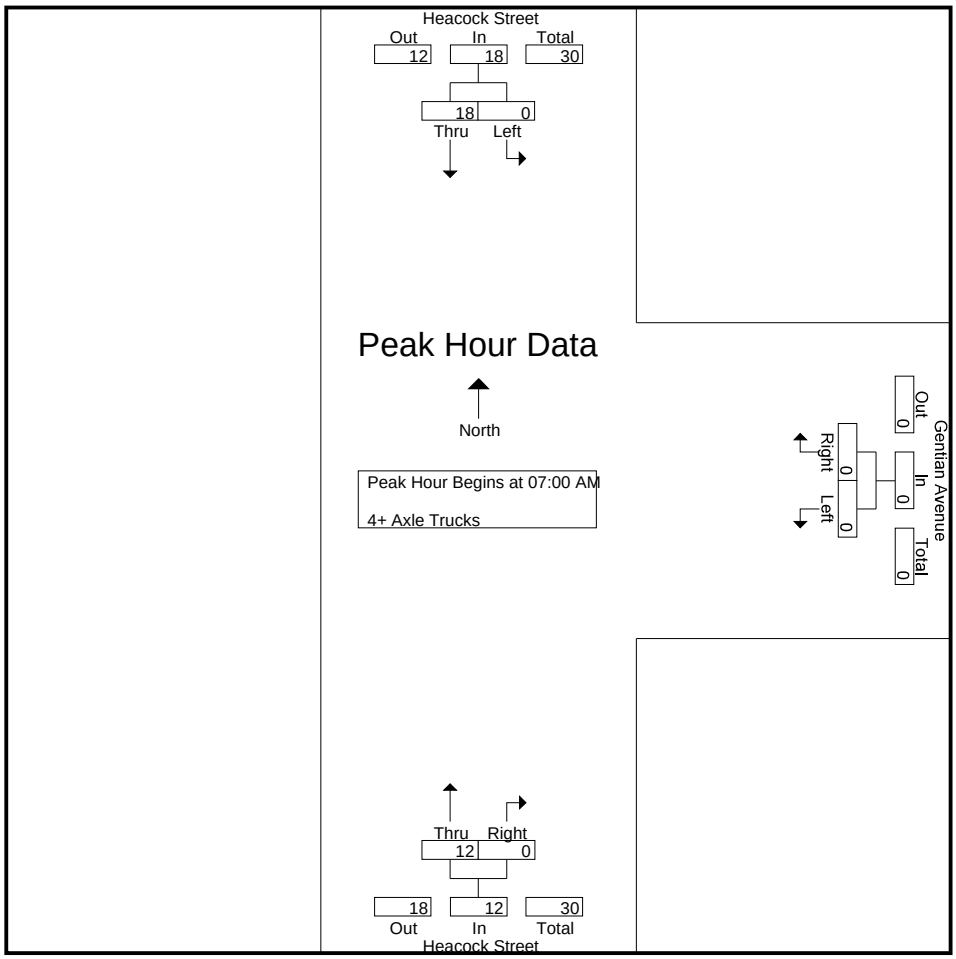
	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	3	3	0	0	0	2	0	2	5
07:15 AM	0	2	2	0	0	0	2	0	2	4
07:30 AM	0	3	3	0	0	0	3	0	3	6
07:45 AM	0	10	10	0	0	0	5	0	5	15
Total	0	18	18	0	0	0	12	0	12	30
08:00 AM	0	6	6	0	0	0	6	0	6	12
08:15 AM	0	5	5	0	0	0	2	0	2	7
08:30 AM	0	9	9	0	0	0	1	0	1	10
08:45 AM	0	5	5	0	0	0	2	0	2	7
Total	0	25	25	0	0	0	11	0	11	36
Grand Total	0	43	43	0	0	0	23	0	23	66
Apprch %	0	100		0	0		100	0		
Total %	0	65.2	65.2	0	0	0	34.8	0	34.8	

	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	3	3	0	0	0	2	0	2	5
07:15 AM	0	2	2	0	0	0	2	0	2	4
07:30 AM	0	3	3	0	0	0	3	0	3	6
07:45 AM	0	**10**	**10**	0	0	0	**5**	0	**5**	**15**
Total Volume	0	18	18	0	0	0	12	0	12	30
% App. Total	0	100		0	0		100	0		
PHF	.000	.450	.450	.000	.000	.000	.600	.000	.600	.500

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City of Moreno Valley
N/S: Heacock Street
E/W: Gentian Avenue
Weather: Clear

File Name : MRVHEGEAM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	3	3	0	0	0	2	0	2
+15 mins.	0	2	2	0	0	0	2	0	2
+30 mins.	0	3	3	0	0	0	3	0	3
+45 mins.	0	**10**	**10**	0	0	0	**5**	0	**5**
Total Volume	0	18	18	0	0	0	12	0	12
% App. Total	0	100		0	0		100	0	
PHF	.000	.450	.450	.000	.000	.000	.600	.000	.600

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City of Moreno Valley
N/S: Heacock Street
E/W: Gentian Avenue
Weather: Clear

File Name : MRVHEGEPM
Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

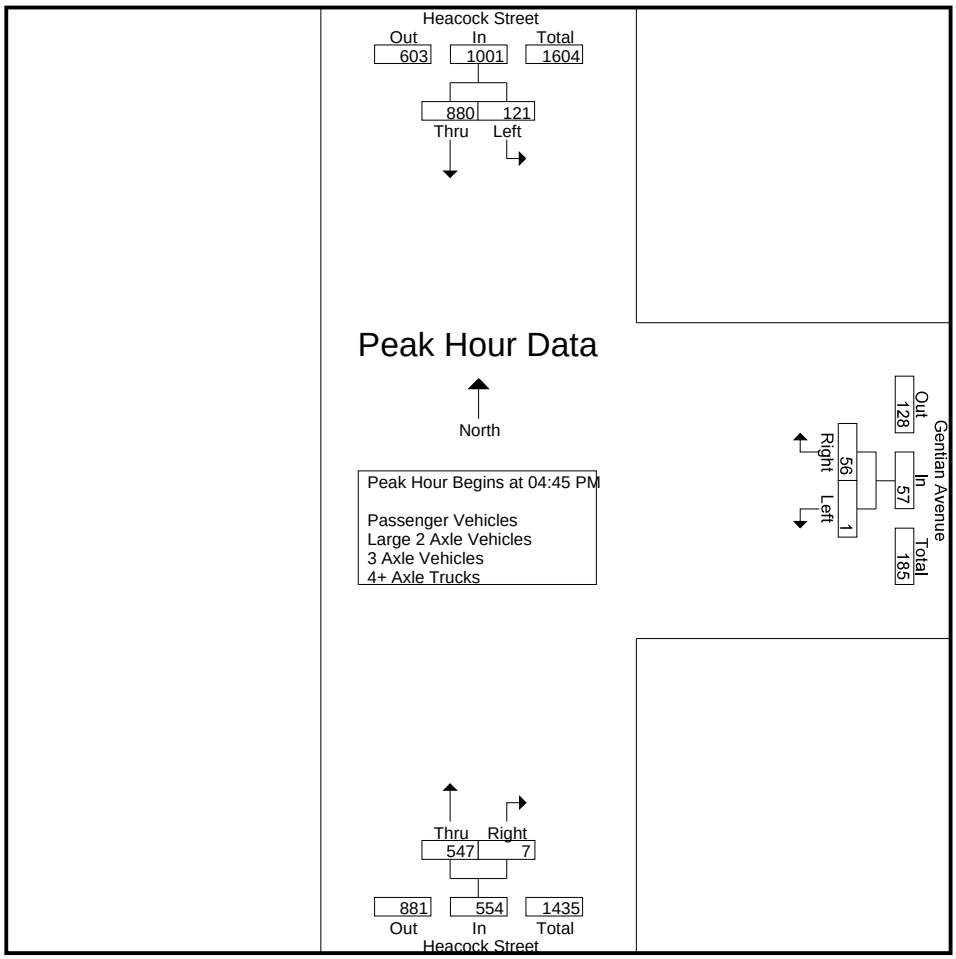
	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	16	131	147	0	18	18	87	1	88	253
04:15 PM	18	170	188	0	11	11	94	2	96	295
04:30 PM	20	191	211	1	14	15	155	0	155	381
04:45 PM	23	206	229	0	13	13	186	1	187	429
Total	77	698	775	1	56	57	522	4	526	1358
05:00 PM	35	205	240	1	14	15	130	5	135	390
05:15 PM	29	230	259	0	16	16	84	0	84	359
05:30 PM	34	239	273	0	13	13	147	1	148	434
05:45 PM	32	226	258	0	12	12	91	0	91	361
Total	130	900	1030	1	55	56	452	6	458	1544
Grand Total	207	1598	1805	2	111	113	974	10	984	2902
Apprch %	11.5	88.5		1.8	98.2		99	1		
Total %	7.1	55.1	62.2	0.1	3.8	3.9	33.6	0.3	33.9	
Passenger Vehicles	205	1536	1741	2	107	109	946	10	956	2806
% Passenger Vehicles	99	96.1	96.5	100	96.4	96.5	97.1	100	97.2	96.7
Large 2 Axle Vehicles	1	21	22	0	2	2	8	0	8	32
% Large 2 Axle Vehicles	0.5	1.3	1.2	0	1.8	1.8	0.8	0	0.8	1.1
3 Axle Vehicles	0	16	16	0	1	1	3	0	3	20
% 3 Axle Vehicles	0	1	0.9	0	0.9	0.9	0.3	0	0.3	0.7
4+ Axle Trucks	1	25	26	0	1	1	17	0	17	44
% 4+ Axle Trucks	0.5	1.6	1.4	0	0.9	0.9	1.7	0	1.7	1.5

	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	23	206	229	0	13	13	**186**	1	**187**	429
05:00 PM	**35**	205	240	**1**	14	15	130	**5**	135	390
05:15 PM	29	230	259	0	**16**	**16**	84	0	84	359
05:30 PM	34	**239**	**273**	0	13	13	147	1	148	**434**
Total Volume	121	880	1001	1	56	57	547	7	554	1612
% App. Total	12.1	87.9		1.8	98.2		98.7	1.3		
PHF	.864	.921	.917	.250	.875	.891	.735	.350	.741	.929

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City of Moreno Valley
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File Name : MRVHEGEPM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:30 PM			04:15 PM		
+0 mins.	**35**	205	240	**1**	14	15	94	2	96
+15 mins.	29	230	259	0	13	13	155	0	155
+30 mins.	34	**239**	**273**	1	14	15	**186**	1	**187**
+45 mins.	32	226	258	0	**16**	**16**	130	**5**	135
Total Volume	130	900	1030	2	57	59	565	8	573
% App. Total	12.6	87.4		3.4	96.6		98.6	1.4	
PHF	.929	.941	.943	.500	.891	.922	.759	.400	.766

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City of Moreno Valley
N/S: Heacock Street
E/W: Gentian Avenue
Weather: Clear

File Name : MRVHEGEPM
Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- Large 2 Axle Vehicles

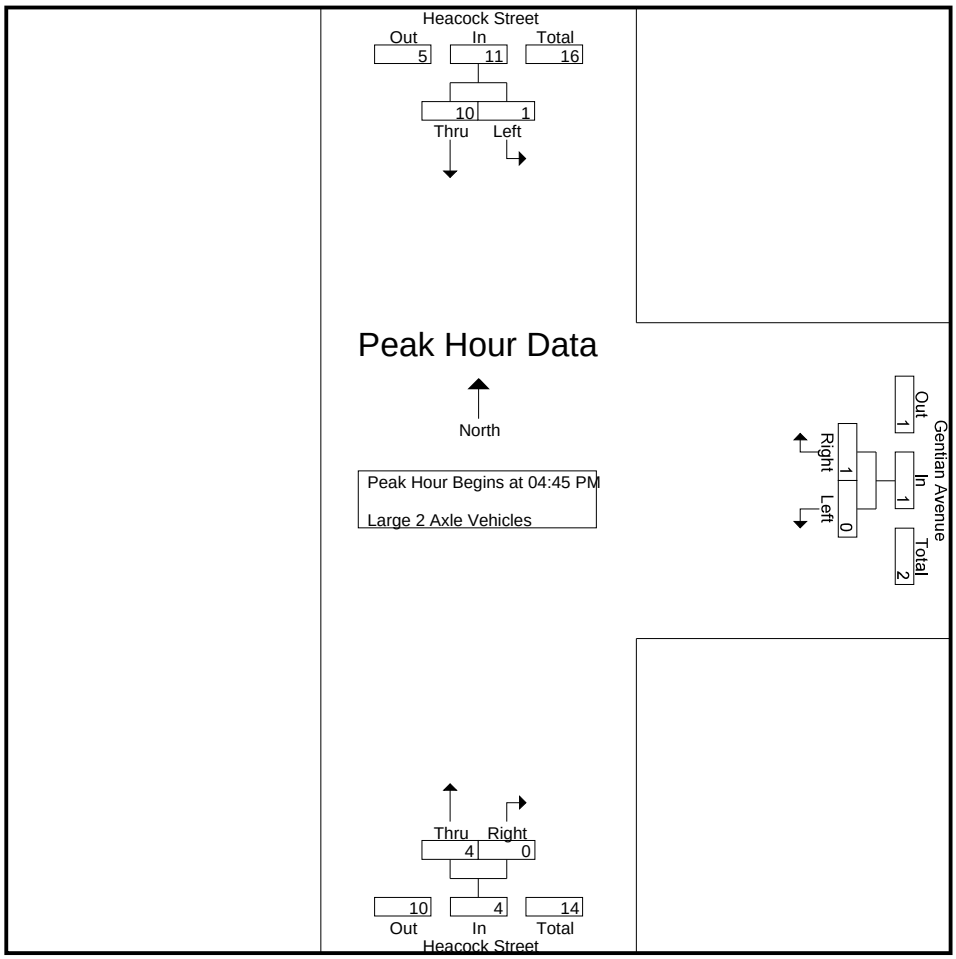
	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	2	0	0	0	2	0	2	4
04:15 PM	0	3	3	0	0	0	0	0	0	3
04:30 PM	0	5	5	0	1	1	1	0	1	7
04:45 PM	0	3	3	0	1	1	2	0	2	6
Total	0	13	13	0	2	2	5	0	5	20
05:00 PM	1	1	2	0	0	0	2	0	2	4
05:15 PM	0	4	4	0	0	0	0	0	0	4
05:30 PM	0	2	2	0	0	0	0	0	0	2
05:45 PM	0	1	1	0	0	0	1	0	1	2
Total	1	8	9	0	0	0	3	0	3	12
Grand Total	1	21	22	0	2	2	8	0	8	32
Apprch %	4.5	95.5		0	100		100	0		
Total %	3.1	65.6	68.8	0	6.2	6.2	25	0	25	

	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	3	3	0	**1**	**1**	**2**	0	**2**	**6**
05:00 PM	**1**	1	2	0	0	0	2	0	2	4
05:15 PM	0	**4**	**4**	0	0	0	0	0	0	4
05:30 PM	0	2	2	0	0	0	0	0	0	2
Total Volume	1	10	11	0	1	1	4	0	4	16
% App. Total	9.1	90.9		0	100		100	0		
PHF	.250	.625	.688	.000	.250	.250	.500	.000	.500	.667

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File Name : MRVHEGEPM
Site Code : 05115223
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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	3	3	0	**1**	**1**	**2**	0	**2**
+15 mins.	**1**	1	2	0	0	0	2	0	2
+30 mins.	0	**4**	**4**	0	0	0	0	0	0
+45 mins.	0	2	2	0	0	0	0	0	0
Total Volume	1	10	11	0	1	1	4	0	4
% App. Total	9.1	90.9		0	100		100	0	
PHF	.250	.625	.688	.000	.250	.250	.500	.000	.500

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City of Moreno Valley
N/S: Heacock Street
E/W: Gentian Avenue
Weather: Clear

File Name : MRVHEGEPM
Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- 3 Axle Vehicles

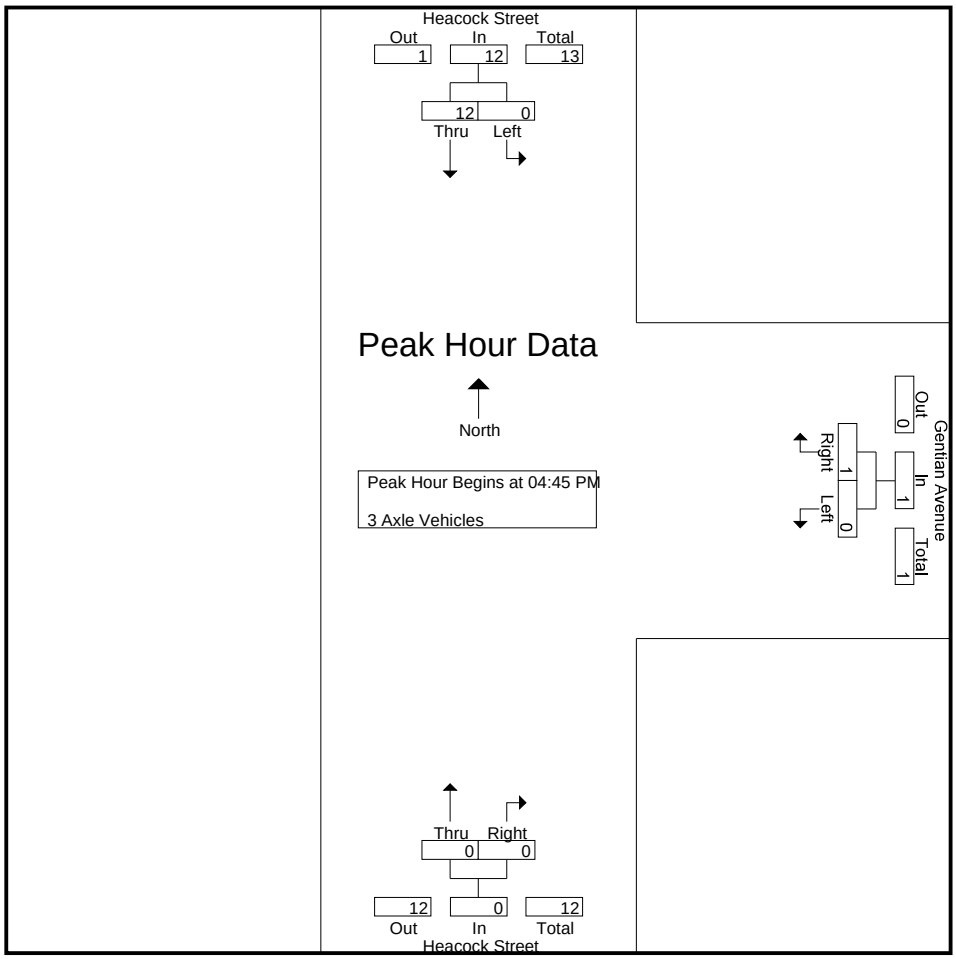
	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	1	0	0	0	1	0	1	2
04:15 PM	0	0	0	0	0	0	1	0	1	1
04:30 PM	0	2	2	0	0	0	0	0	0	2
04:45 PM	0	4	4	0	0	0	0	0	0	4
Total	0	7	7	0	0	0	2	0	2	9
05:00 PM	0	5	5	0	1	1	0	0	0	6
05:15 PM	0	2	2	0	0	0	0	0	0	2
05:30 PM	0	1	1	0	0	0	0	0	0	1
05:45 PM	0	1	1	0	0	0	1	0	1	2
Total	0	9	9	0	1	1	1	0	1	11
Grand Total	0	16	16	0	1	1	3	0	3	20
Apprch %	0	100		0	100		100	0		
Total %	0	80	80	0	5	5	15	0	15	

	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	4	4	0	0	0	0	0	0	4
05:00 PM	0	**5**	**5**	0	**1**	**1**	0	0	0	**6**
05:15 PM	0	2	2	0	0	0	0	0	0	2
05:30 PM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	12	12	0	1	1	0	0	0	13
% App. Total	0	100		0	100		0	0		
PHF	.000	.600	.600	.000	.250	.250	.000	.000	.000	.542

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N/S: Heacock Street
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Weather: Clear

File Name : MRVHEGEPM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	4	4	0	0	0	0	0	0
+15 mins.	0	**5**	**5**	0	**1**	**1**	0	0	0
+30 mins.	0	2	2	0	0	0	0	0	0
+45 mins.	0	1	1	0	0	0	0	0	0
Total Volume	0	12	12	0	1	1	0	0	0
% App. Total	0	100		0	100		0	0	
PHF	.000	.600	.600	.000	.250	.250	.000	.000	.000

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City of Moreno Valley
N/S: Heacock Street
E/W: Gentian Avenue
Weather: Clear

File Name : MRVHEGEPM
Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- 4+ Axle Trucks

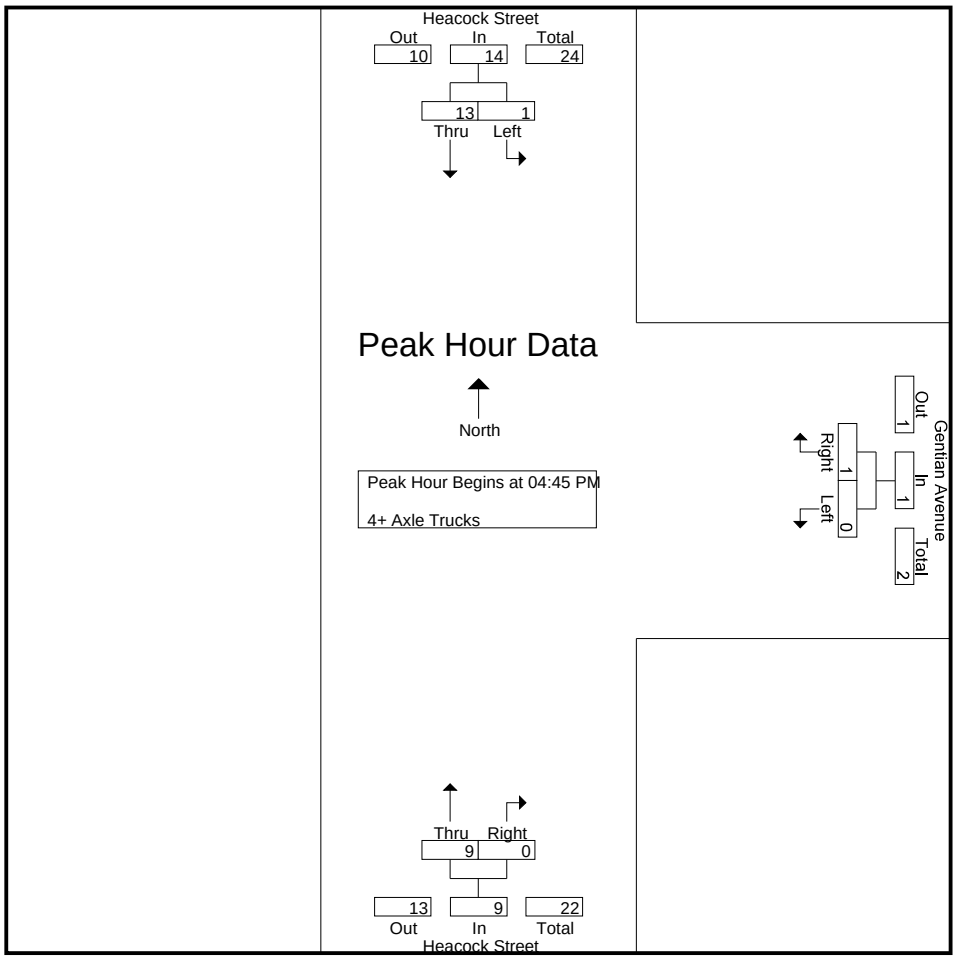
	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	2	0	0	0	4	0	4	6
04:15 PM	0	3	3	0	0	0	3	0	3	6
04:30 PM	0	3	3	0	0	0	1	0	1	4
04:45 PM	0	3	3	0	0	0	1	0	1	4
Total	0	11	11	0	0	0	9	0	9	20
05:00 PM	0	3	3	0	0	0	5	0	5	8
05:15 PM	1	3	4	0	1	1	0	0	0	5
05:30 PM	0	4	4	0	0	0	3	0	3	7
05:45 PM	0	4	4	0	0	0	0	0	0	4
Total	1	14	15	0	1	1	8	0	8	24
Grand Total	1	25	26	0	1	1	17	0	17	44
Apprch %	3.8	96.2		0	100		100	0		
Total %	2.3	56.8	59.1	0	2.3	2.3	38.6	0	38.6	

	Heacock Street Southbound			Gentian Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	3	3	0	0	0	1	0	1	4
05:00 PM	0	3	3	0	0	0	**5**	0	**5**	**8**
05:15 PM	**1**	3	**4**	0	**1**	**1**	0	0	0	5
05:30 PM	0	**4**	4	0	0	0	3	0	3	7
Total Volume	1	13	14	0	1	1	9	0	9	24
% App. Total	7.1	92.9		0	100		100	0		
PHF	.250	.813	.875	.000	.250	.250	.450	.000	.450	.750

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City of Moreno Valley
N/S: Heacock Street
E/W: Gentian Avenue
Weather: Clear

File Name : MRVHEGEPM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	3	3	0	0	0	1	0	1
+15 mins.	0	3	3	0	0	0	**5**	0	**5**
+30 mins.	**1**	3	**4**	0	**1**	**1**	0	0	0
+45 mins.	0	**4**	4	0	0	0	3	0	3
Total Volume	1	13	14	0	1	1	9	0	9
% App. Total	7.1	92.9		0	100		100	0	
PHF	.250	.813	.875	.000	.250	.250	.450	.000	.450

Location: Moreno Valley
N/S: Heacock Street
E/W: Gentian Avenue

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Heacock Street	East Leg Gentian Avenue	South Leg Heacock Street	West Leg Gentian Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Heacock Street	East Leg Gentian Avenue	South Leg Heacock Street	West Leg Gentian Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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Location: Moreno Valley
N/S: Heacock Street
E/W: Gentian Avenue

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Heacock Street	East Leg Gentian Avenue	South Leg Heacock Street	West Leg Gentian Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Heacock Street	East Leg Gentian Avenue	South Leg Heacock Street	West Leg Gentian Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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City of Moreno Valley
N/S: Heacock Street
E/W: Iris Avenue
Weather: Clear

File Name : MRVHEIRAM
Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

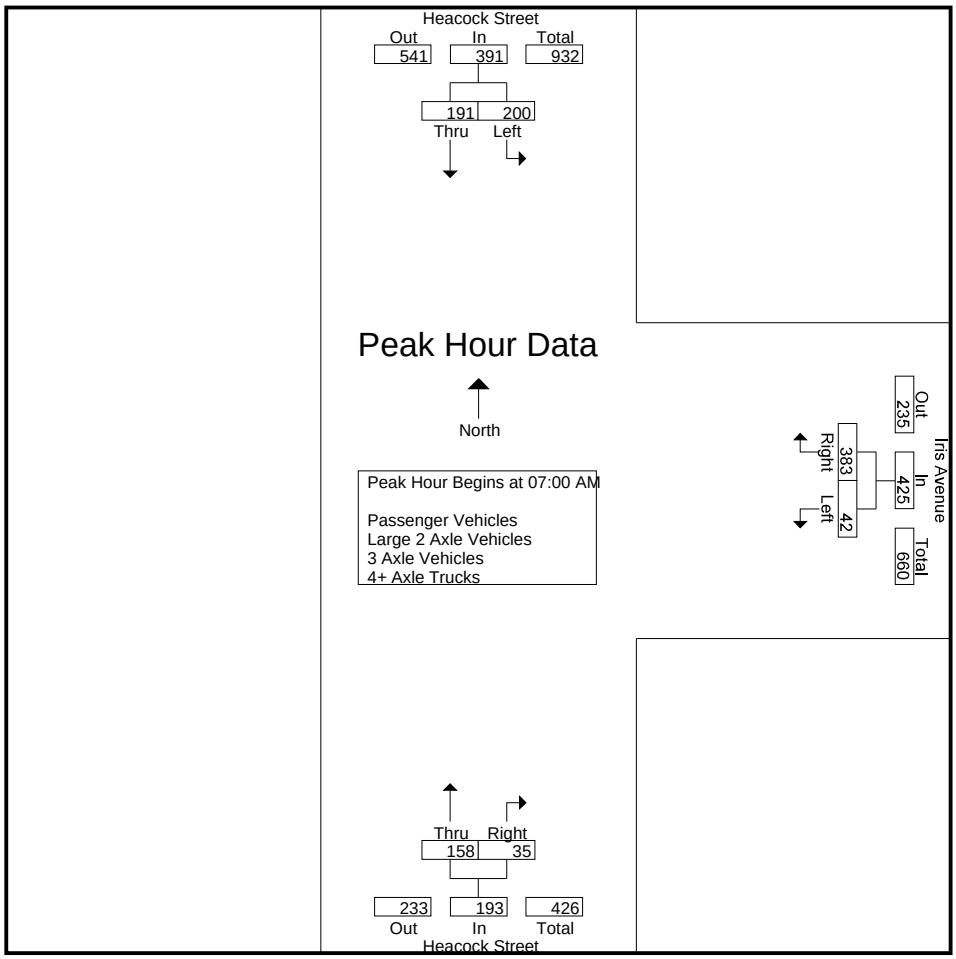
	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	46	40	86	8	104	112	34	6	40	238
07:15 AM	50	73	123	14	82	96	40	10	50	269
07:30 AM	48	37	85	12	107	119	43	8	51	255
07:45 AM	56	41	97	8	90	98	41	11	52	247
Total	200	191	391	42	383	425	158	35	193	1009
08:00 AM	44	25	69	1	84	85	36	2	38	192
08:15 AM	34	25	59	3	80	83	25	3	28	170
08:30 AM	40	27	67	2	64	66	20	2	22	155
08:45 AM	42	17	59	1	54	55	16	3	19	133
Total	160	94	254	7	282	289	97	10	107	650
Grand Total	360	285	645	49	665	714	255	45	300	1659
Apprch %	55.8	44.2		6.9	93.1		85	15		
Total %	21.7	17.2	38.9	3	40.1	43	15.4	2.7	18.1	
Passenger Vehicles	354	235	589	44	660	704	227	42	269	1562
% Passenger Vehicles	98.3	82.5	91.3	89.8	99.2	98.6	89	93.3	89.7	94.2
Large 2 Axle Vehicles	2	8	10	4	1	5	2	3	5	20
% Large 2 Axle Vehicles	0.6	2.8	1.6	8.2	0.2	0.7	0.8	6.7	1.7	1.2
3 Axle Vehicles	1	3	4	0	1	1	2	0	2	7
% 3 Axle Vehicles	0.3	1.1	0.6	0	0.2	0.1	0.8	0	0.7	0.4
4+ Axle Trucks	3	39	42	1	3	4	24	0	24	70
% 4+ Axle Trucks	0.8	13.7	6.5	2	0.5	0.6	9.4	0	8	4.2

	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	46	40	86	8	104	112	34	6	40	238
07:15 AM	50	**73**	**123**	**14**	82	96	40	10	50	**269**
07:30 AM	48	37	85	12	**107**	**119**	**43**	8	51	255
07:45 AM	**56**	41	97	8	90	98	41	**11**	**52**	247
Total Volume	200	191	391	42	383	425	158	35	193	1009
% App. Total	51.2	48.8		9.9	90.1		81.9	18.1		
PHF	.893	.654	.795	.750	.895	.893	.919	.795	.928	.938

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City of Moreno Valley
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Weather: Clear

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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	46	40	86	8	104	112	34	6	40
+15 mins.	50	**73**	**123**	**14**	82	96	40	10	50
+30 mins.	48	37	85	12	**107**	**119**	**43**	8	51
+45 mins.	**56**	41	97	8	90	98	41	**11**	**52**
Total Volume	200	191	391	42	383	425	158	35	193
% App. Total	51.2	48.8		9.9	90.1		81.9	18.1	
PHF	.893	.654	.795	.750	.895	.893	.919	.795	.928

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Weather: Clear

File Name : MRVHEIRAM
Site Code : 05115223
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Groups Printed- Large 2 Axle Vehicles

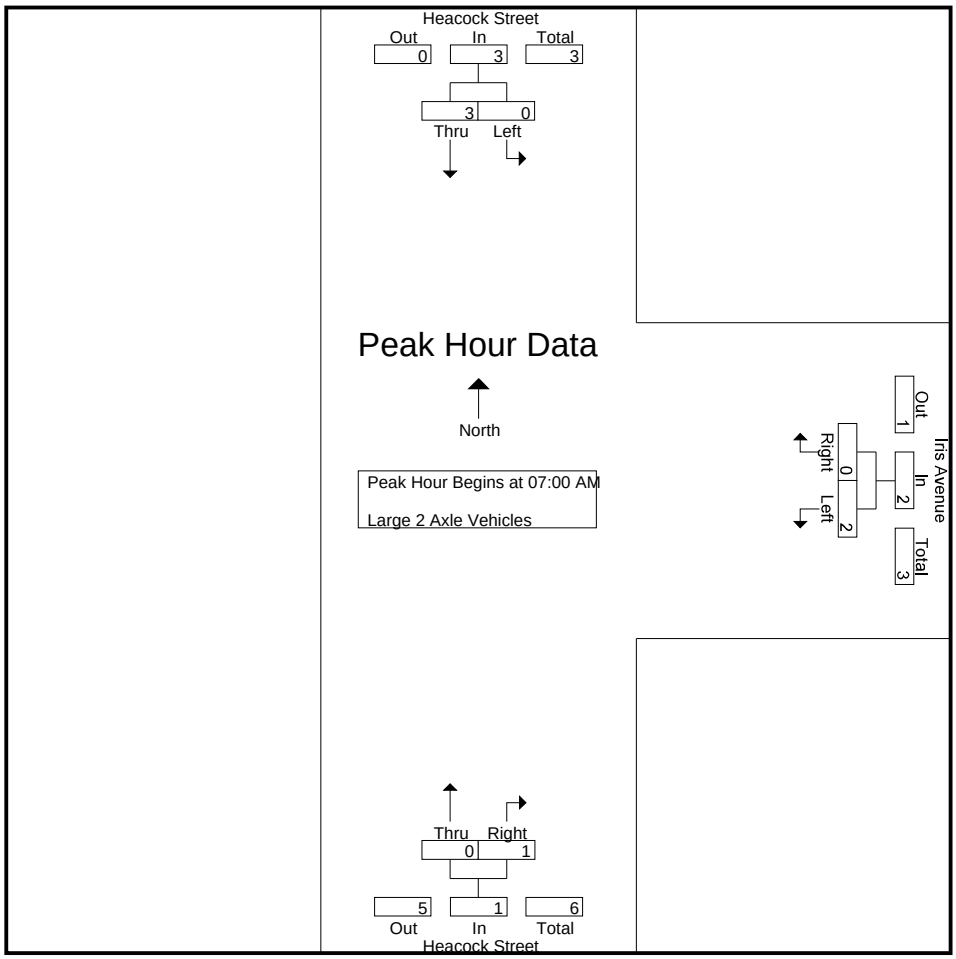
	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	1	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	2	2	2	0	2	0	1	1	5
Total	0	3	3	2	0	2	0	1	1	6
08:00 AM	0	3	3	0	1	1	1	0	1	5
08:15 AM	0	1	1	2	0	2	0	2	2	5
08:30 AM	1	0	1	0	0	0	1	0	1	2
08:45 AM	1	1	2	0	0	0	0	0	0	2
Total	2	5	7	2	1	3	2	2	4	14
Grand Total	2	8	10	4	1	5	2	3	5	20
Apprch %	20	80		80	20		40	60		
Total %	10	40	50	20	5	25	10	15	25	

	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	1	1	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	**2**	**2**	**2**	0	**2**	0	**1**	**1**	**5**
Total Volume	0	3	3	2	0	2	0	1	1	6
% App. Total	0	100		100	0		0	100		
PHF	.000	.375	.375	.250	.000	.250	.000	.250	.250	.300

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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	1	1	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	**2**	**2**	**2**	0	**2**	0	**1**	**1**
Total Volume	0	3	3	2	0	2	0	1	1
% App. Total	0	100		100	0		0	100	
PHF	.000	.375	.375	.250	.000	.250	.000	.250	.250

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Weather: Clear

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Groups Printed- 3 Axle Vehicles

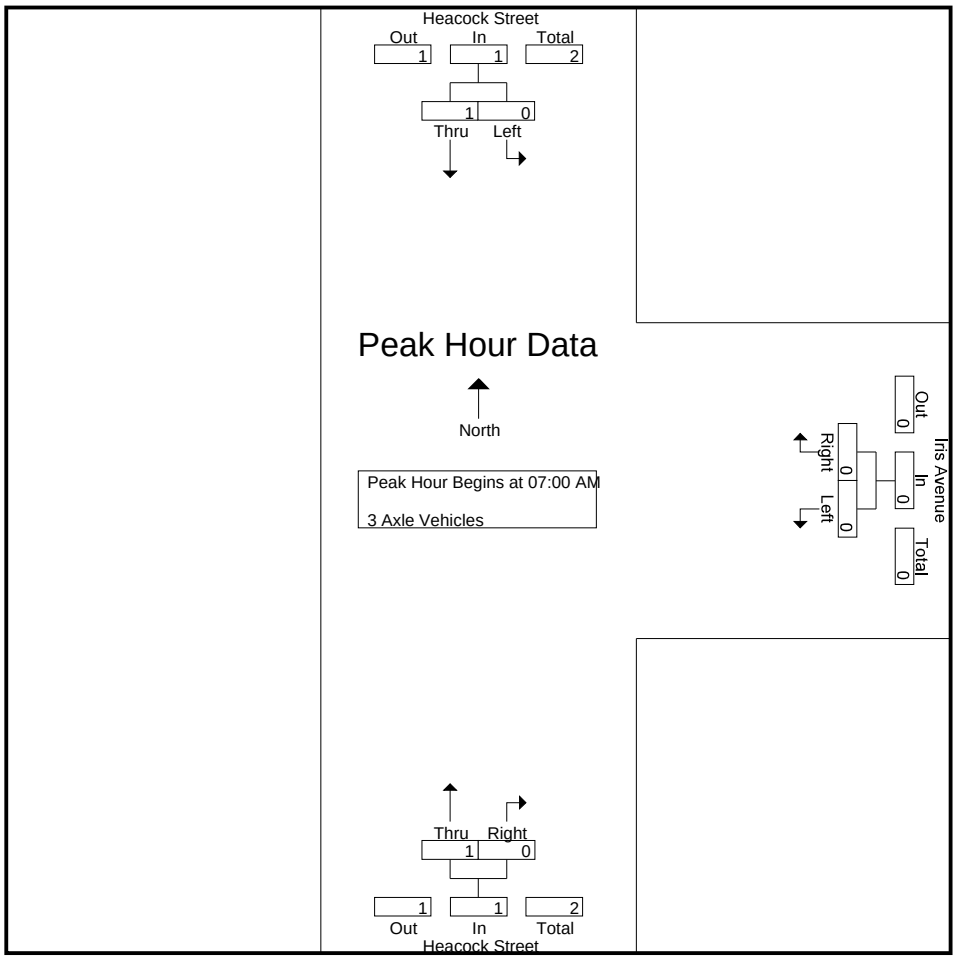
	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	1	1
07:15 AM	0	1	1	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	1	0	1	2
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	2	3	0	1	1	0	0	0	4
08:30 AM	0	0	0	0	0	0	1	0	1	1
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	1	2	3	0	1	1	1	0	1	5
Grand Total	1	3	4	0	1	1	2	0	2	7
Apprch %	25	75		0	100		100	0		
Total %	14.3	42.9	57.1	0	14.3	14.3	28.6	0	28.6	

	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	**1**	0	**1**	**1**
07:15 AM	0	**1**	**1**	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	1	0	1	2
% App. Total	0	100		0	0		100	0		
PHF	.000	.250	.250	.000	.000	.000	.250	.000	.250	.500

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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	**1**	0	**1**
+15 mins.	0	**1**	**1**	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	1	0	1
% App. Total	0	100		0	0		100	0	
PHF	.000	.250	.250	.000	.000	.000	.250	.000	.250

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Groups Printed- 4+ Axle Trucks

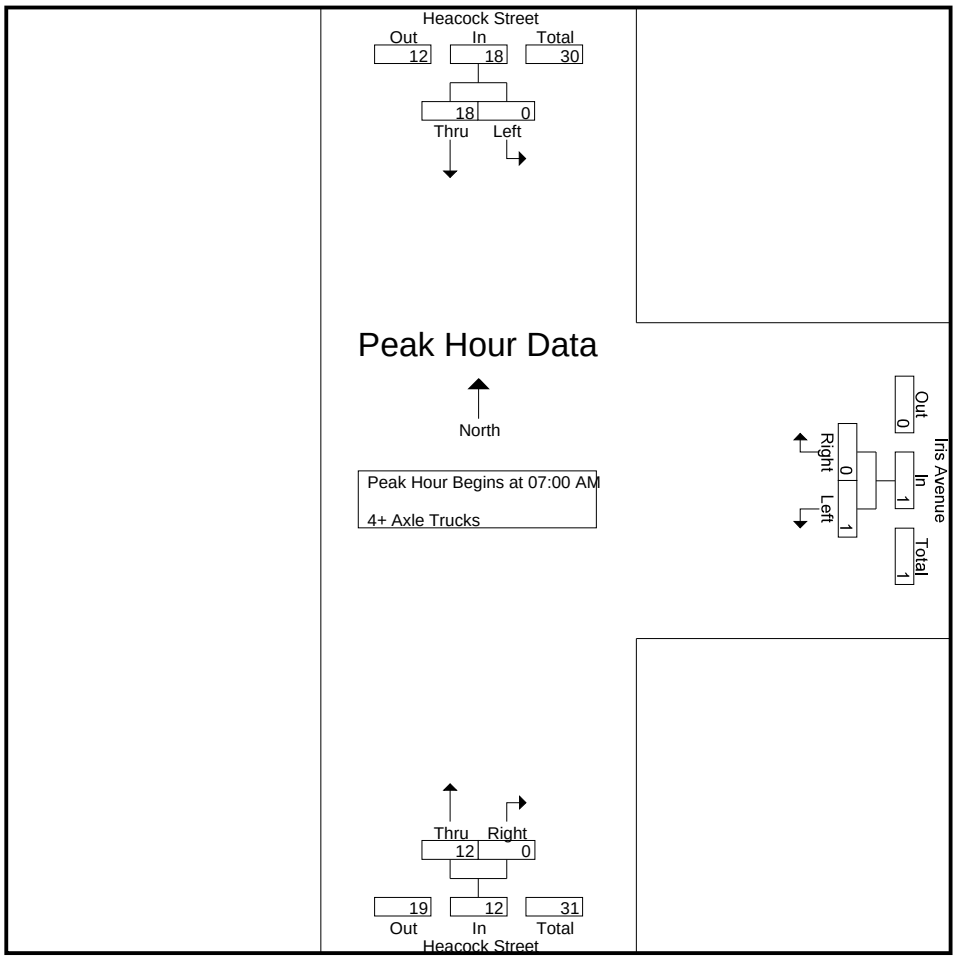
	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	4	4	0	0	0	2	0	2	6
07:15 AM	0	1	1	0	0	0	2	0	2	3
07:30 AM	0	4	4	1	0	1	3	0	3	8
07:45 AM	0	9	9	0	0	0	5	0	5	14
Total	0	18	18	1	0	1	12	0	12	31
08:00 AM	0	5	5	0	3	3	8	0	8	16
08:15 AM	1	4	5	0	0	0	1	0	1	6
08:30 AM	1	9	10	0	0	0	1	0	1	11
08:45 AM	1	3	4	0	0	0	2	0	2	6
Total	3	21	24	0	3	3	12	0	12	39
Grand Total	3	39	42	1	3	4	24	0	24	70
Apprch %	7.1	92.9		25	75		100	0		
Total %	4.3	55.7	60	1.4	4.3	5.7	34.3	0	34.3	

	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	4	4	0	0	0	2	0	2	6
07:15 AM	0	1	1	0	0	0	2	0	2	3
07:30 AM	0	4	4	**1**	0	**1**	3	0	3	8
07:45 AM	0	**9**	**9**	0	0	0	**5**	0	**5**	**14**
Total Volume	0	18	18	1	0	1	12	0	12	31
% App. Total	0	100		100	0		100	0		
PHF	.000	.500	.500	.250	.000	.250	.600	.000	.600	.554

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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	4	4	0	0	0	2	0	2
+15 mins.	0	1	1	0	0	0	2	0	2
+30 mins.	0	4	4	**1**	0	**1**	3	0	3
+45 mins.	0	**9**	**9**	0	0	0	**5**	0	**5**
Total Volume	0	18	18	1	0	1	12	0	12
% App. Total	0	100		100	0		100	0	
PHF	.000	.500	.500	.250	.000	.250	.600	.000	.600

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

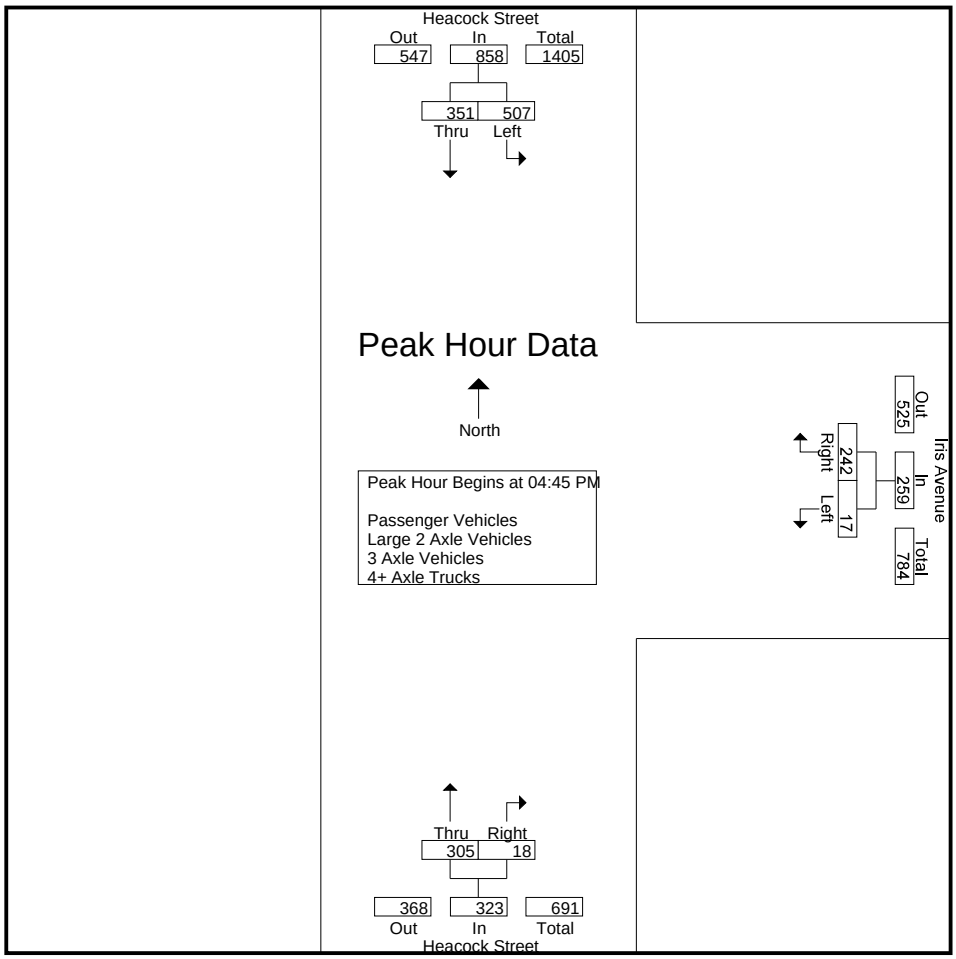
	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	89	45	134	6	59	65	29	4	33	232
04:15 PM	86	68	154	6	57	63	42	3	45	262
04:30 PM	86	104	190	12	57	69	95	8	103	362
04:45 PM	118	103	221	8	54	62	130	8	138	421
Total	379	320	699	32	227	259	296	23	319	1277
05:00 PM	111	78	189	0	62	62	73	3	76	327
05:15 PM	148	76	224	2	52	54	31	2	33	311
05:30 PM	130	94	224	7	74	81	71	5	76	381
05:45 PM	134	98	232	4	57	61	37	6	43	336
Total	523	346	869	13	245	258	212	16	228	1355
Grand Total	902	666	1568	45	472	517	508	39	547	2632
Apprch %	57.5	42.5		8.7	91.3		92.9	7.1		
Total %	34.3	25.3	59.6	1.7	17.9	19.6	19.3	1.5	20.8	
Passenger Vehicles	894	620	1514	44	471	515	483	38	521	2550
% Passenger Vehicles	99.1	93.1	96.6	97.8	99.8	99.6	95.1	97.4	95.2	96.9
Large 2 Axle Vehicles	7	10	17	0	1	1	5	1	6	24
% Large 2 Axle Vehicles	0.8	1.5	1.1	0	0.2	0.2	1	2.6	1.1	0.9
3 Axle Vehicles	0	16	16	1	0	1	3	0	3	20
% 3 Axle Vehicles	0	2.4	1	2.2	0	0.2	0.6	0	0.5	0.8
4+ Axle Trucks	1	20	21	0	0	0	17	0	17	38
% 4+ Axle Trucks	0.1	3	1.3	0	0	0	3.3	0	3.1	1.4

	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	118	**103**	221	**8**	54	62	**130**	**8**	**138**	**421**
05:00 PM	111	78	189	0	62	62	73	3	76	327
05:15 PM	**148**	76	**224**	2	52	54	31	2	33	311
05:30 PM	130	94	224	7	**74**	**81**	71	5	76	381
Total Volume	507	351	858	17	242	259	305	18	323	1440
% App. Total	59.1	40.9		6.6	93.4		94.4	5.6		
PHF	.856	.852	.958	.531	.818	.799	.587	.563	.585	.855

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

	05:00 PM			04:00 PM			04:15 PM		
+0 mins.	111	78	189	6	**59**	65	42	3	45
+15 mins.	**148**	76	224	6	57	63	95	**8**	103
+30 mins.	130	94	224	**12**	57	**69**	**130**	8	**138**
+45 mins.	134	**98**	**232**	8	54	62	73	3	76
Total Volume	523	346	869	32	227	259	340	22	362
% App. Total	60.2	39.8		12.4	87.6		93.9	6.1	
PHF	.883	.883	.936	.667	.962	.938	.654	.688	.656

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Groups Printed- Large 2 Axle Vehicles

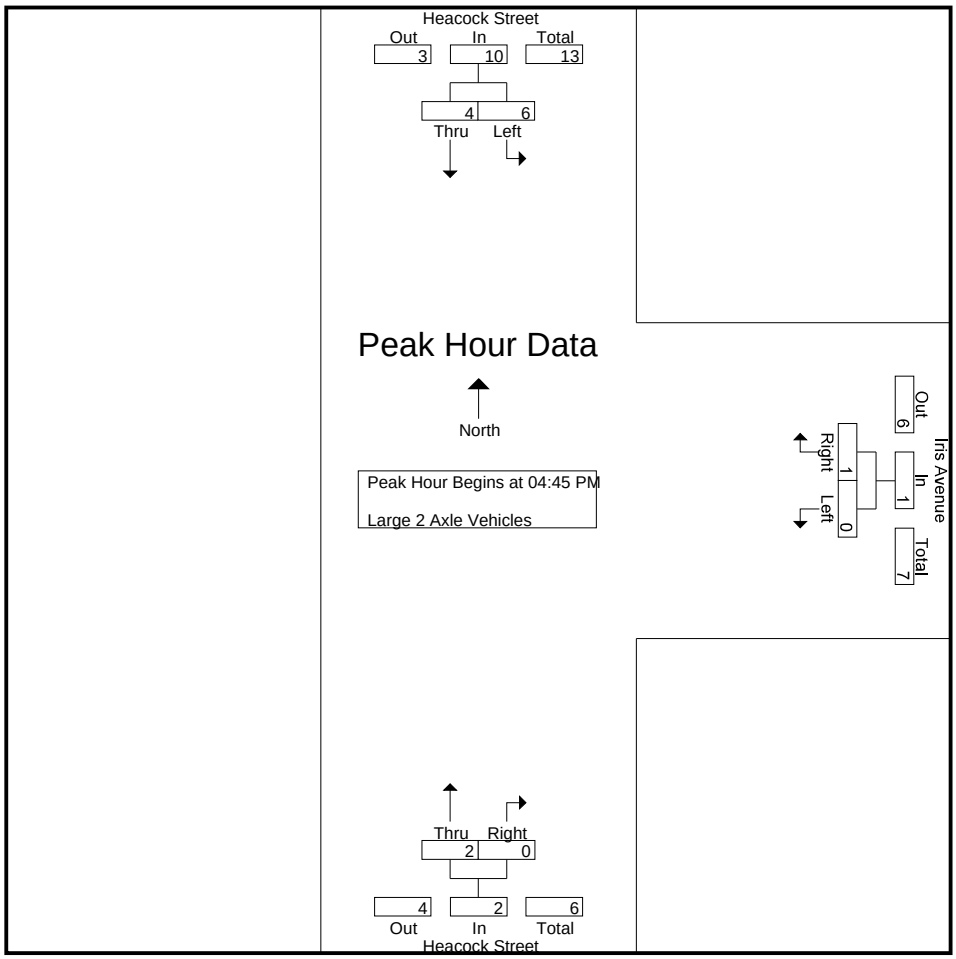
	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	1	0	0	0	1	0	1	2
04:15 PM	0	1	1	0	0	0	0	1	1	2
04:30 PM	1	3	4	0	0	0	1	0	1	5
04:45 PM	2	1	3	0	0	0	1	0	1	4
Total	3	6	9	0	0	0	3	1	4	13
05:00 PM	1	0	1	0	1	1	1	0	1	3
05:15 PM	2	2	4	0	0	0	0	0	0	4
05:30 PM	1	1	2	0	0	0	0	0	0	2
05:45 PM	0	1	1	0	0	0	1	0	1	2
Total	4	4	8	0	1	1	2	0	2	11
Grand Total	7	10	17	0	1	1	5	1	6	24
Apprch %	41.2	58.8		0	100		83.3	16.7		
Total %	29.2	41.7	70.8	0	4.2	4.2	20.8	4.2	25	

	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**2**	1	3	0	0	0	**1**	0	**1**	**4**
05:00 PM	1	0	1	0	**1**	**1**	1	0	1	3
05:15 PM	2	**2**	**4**	0	0	0	0	0	0	4
05:30 PM	1	1	2	0	0	0	0	0	0	2
Total Volume	6	4	10	0	1	1	2	0	2	13
% App. Total	60	40		0	100		100	0		
PHF	.750	.500	.625	.000	.250	.250	.500	.000	.500	.813

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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	**2**	1	3	0	0	0	**1**	0	**1**
+15 mins.	1	0	1	0	**1**	**1**	1	0	1
+30 mins.	2	**2**	**4**	0	0	0	0	0	0
+45 mins.	1	1	2	0	0	0	0	0	0
Total Volume	6	4	10	0	1	1	2	0	2
% App. Total	60	40		0	100		100	0	
PHF	.750	.500	.625	.000	.250	.250	.500	.000	.500

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Groups Printed- 3 Axle Vehicles

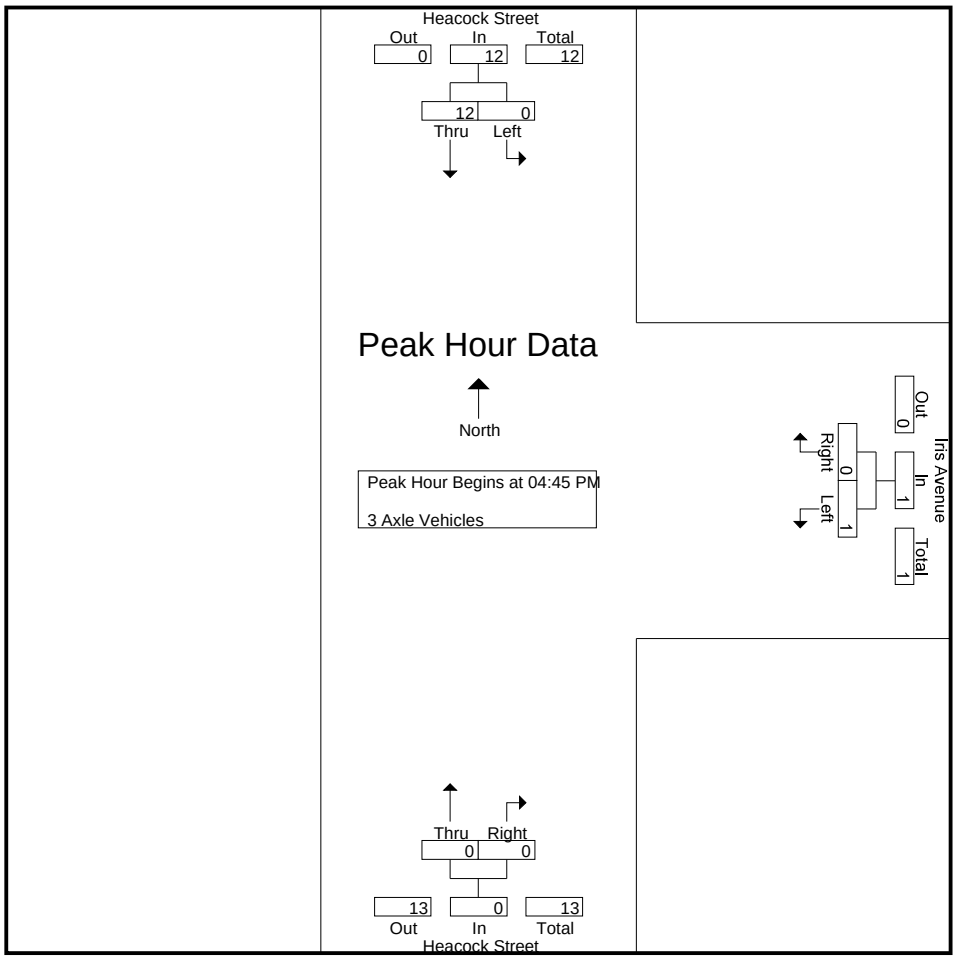
	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	1	0	0	0	1	0	1	2
04:15 PM	0	0	0	0	0	0	1	0	1	1
04:30 PM	0	2	2	0	0	0	0	0	0	2
04:45 PM	0	4	4	0	0	0	0	0	0	4
Total	0	7	7	0	0	0	2	0	2	9
05:00 PM	0	5	5	0	0	0	0	0	0	5
05:15 PM	0	2	2	1	0	1	0	0	0	3
05:30 PM	0	1	1	0	0	0	0	0	0	1
05:45 PM	0	1	1	0	0	0	1	0	1	2
Total	0	9	9	1	0	1	1	0	1	11
Grand Total	0	16	16	1	0	1	3	0	3	20
Apprch %	0	100		100	0		100	0		
Total %	0	80	80	5	0	5	15	0	15	

	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	4	4	0	0	0	0	0	0	4
05:00 PM	0	**5**	**5**	0	0	0	0	0	0	**5**
05:15 PM	0	2	2	**1**	0	**1**	0	0	0	3
05:30 PM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	12	12	1	0	1	0	0	0	13
% App. Total	0	100		100	0		0	0		
PHF	.000	.600	.600	.250	.000	.250	.000	.000	.000	.650

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City of Moreno Valley
N/S: Heacock Street
E/W: Iris Avenue
Weather: Clear

File Name : MRVHEIRPM
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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	4	4	0	0	0	0	0	0
+15 mins.	0	**5**	**5**	0	0	0	0	0	0
+30 mins.	0	2	2	**1**	0	**1**	0	0	0
+45 mins.	0	1	1	0	0	0	0	0	0
Total Volume	0	12	12	1	0	1	0	0	0
% App. Total	0	100		100	0		0	0	
PHF	.000	.600	.600	.250	.000	.250	.000	.000	.000

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City of Moreno Valley
N/S: Heacock Street
E/W: Iris Avenue
Weather: Clear

File Name : MRVHEIRPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

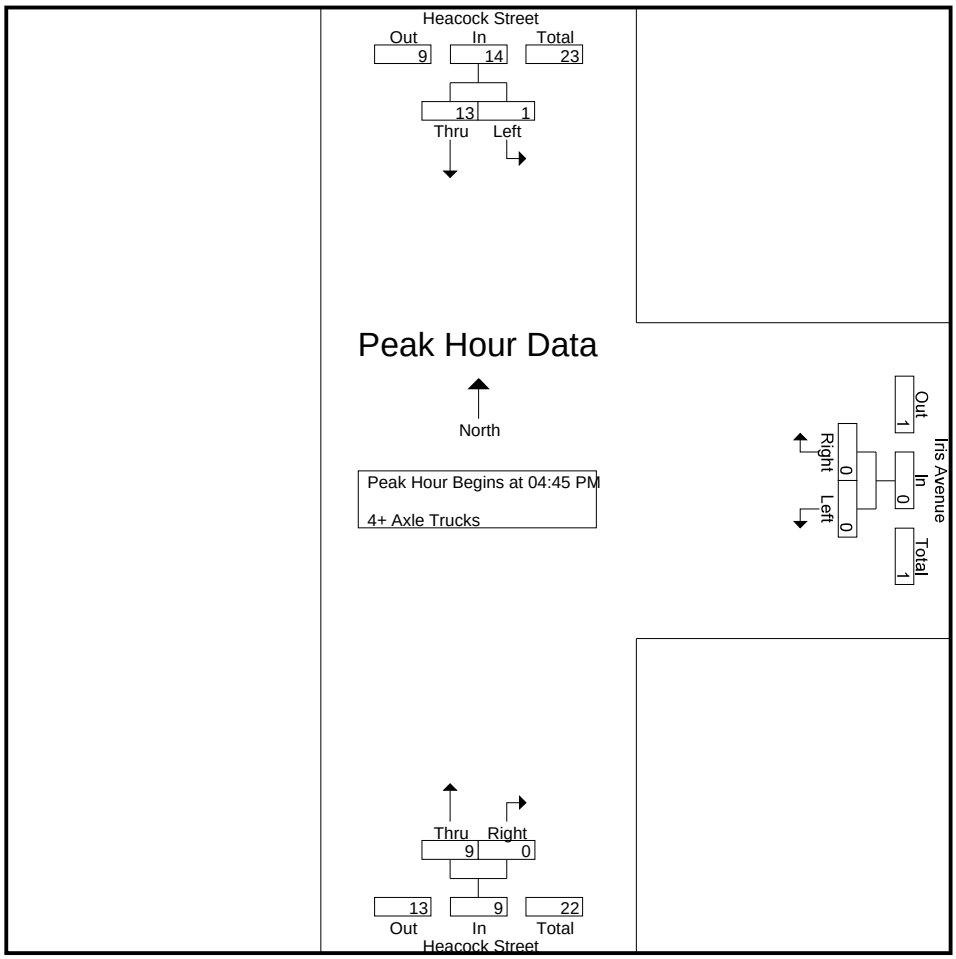
	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	4	0	4	4
04:15 PM	0	3	3	0	0	0	3	0	3	6
04:30 PM	0	1	1	0	0	0	1	0	1	2
04:45 PM	0	4	4	0	0	0	1	0	1	5
Total	0	8	8	0	0	0	9	0	9	17
05:00 PM	0	4	4	0	0	0	5	0	5	9
05:15 PM	1	1	2	0	0	0	0	0	0	2
05:30 PM	0	4	4	0	0	0	3	0	3	7
05:45 PM	0	3	3	0	0	0	0	0	0	3
Total	1	12	13	0	0	0	8	0	8	21
Grand Total	1	20	21	0	0	0	17	0	17	38
Apprch %	4.8	95.2		0	0		100	0		
Total %	2.6	52.6	55.3	0	0	0	44.7	0	44.7	

	Heacock Street Southbound			Iris Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	**4**	**4**	0	0	0	1	0	1	5
05:00 PM	0	4	4	0	0	0	**5**	0	**5**	**9**
05:15 PM	**1**	1	2	0	0	0	0	0	0	2
05:30 PM	0	4	4	0	0	0	3	0	3	7
Total Volume	1	13	14	0	0	0	9	0	9	23
% App. Total	7.1	92.9		0	0		100	0		
PHF	.250	.813	.875	.000	.000	.000	.450	.000	.450	.639

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City of Moreno Valley
N/S: Heacock Street
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Weather: Clear

File Name : MRVHEIRPM
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Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	**4**	**4**	0	0	0	1	0	1
+15 mins.	0	4	4	0	0	0	**5**	0	**5**
+30 mins.	**1**	1	2	0	0	0	0	0	0
+45 mins.	0	4	4	0	0	0	3	0	3
Total Volume	1	13	14	0	0	0	9	0	9
% App. Total	7.1	92.9		0	0		100	0	
PHF	.250	.813	.875	.000	.000	.000	.450	.000	.450

Location: Moreno Valley
N/S: Heacock Street
E/W: Iris Avenue

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Heacock Street	East Leg Iris Avenue	South Leg Heacock Street	West Leg Iris Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Heacock Street	East Leg Iris Avenue	South Leg Heacock Street	West Leg Iris Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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Location: Moreno Valley
N/S: Heacock Street
E/W: Iris Avenue

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Heacock Street	East Leg Iris Avenue	South Leg Heacock Street	West Leg Iris Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Heacock Street	East Leg Iris Avenue	South Leg Heacock Street	West Leg Iris Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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City of Moreno Valley
N/S: Heacock Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVHEKRAM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

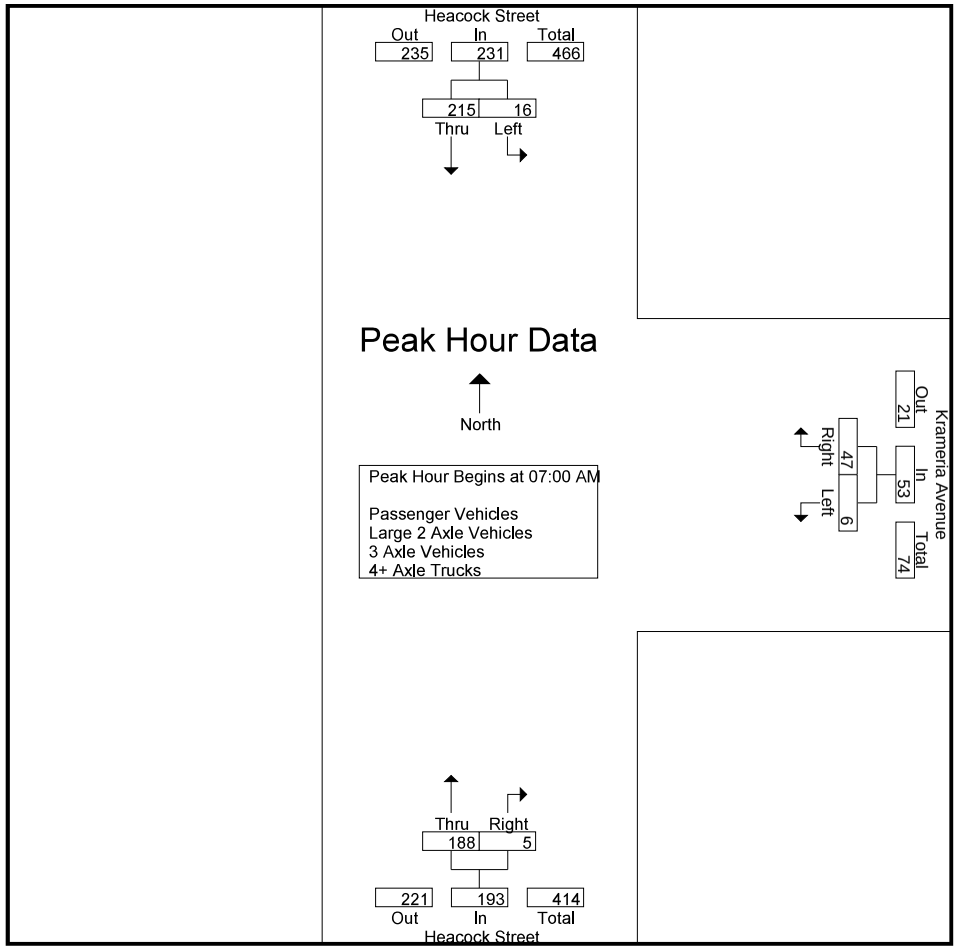
	Heacock Street Southbound				Krameria Avenue Westbound				Heacock Street Northbound					
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	5	50	0	55	1	18	18	19	31	1	0	32	18	106
07:15 AM	5	78	0	83	0	12	11	12	53	0	0	53	11	148
07:30 AM	1	39	0	40	1	12	10	13	57	1	0	58	10	111
07:45 AM	5	48	0	53	4	5	0	9	47	3	0	50	0	112
Total	16	215	0	231	6	47	39	53	188	5	0	193	39	477
08:00 AM	1	13	0	14	2	6	4	8	44	1	0	45	4	67
08:15 AM	2	23	0	25	1	3	3	4	30	0	0	30	3	59
08:30 AM	3	25	0	28	1	6	4	7	21	0	0	21	4	56
08:45 AM	3	21	0	24	0	6	4	6	18	0	0	18	4	48
Total	9	82	0	91	4	21	15	25	113	1	0	114	15	230
Grand Total	25	297	0	322	10	68	54	78	301	6	0	307	54	707
Apprch %	7.8	92.2			12.8	87.2			98	2				
Total %	3.5	42		45.5	1.4	9.6		11	42.6	0.8		43.4	7.1	92.9
Passenger Vehicles	12	257		269	5	60		117	265	4		269	0	0
% Passenger Vehicles	48	86.5	0	83.5	50	88.2	96.3	88.6	88	66.7	0	87.6	0	0
Large 2 Axle Vehicles	1	15		16	2	0		2	14	0		14	0	0
% Large 2 Axle Vehicles	4	5.1	0	5	20	0	0	1.5	4.7	0	0	4.6	0	0
3 Axle Vehicles	2	4		6	1	0		1	3	0		3	0	0
% 3 Axle Vehicles	8	1.3	0	1.9	10	0	0	0.8	1	0	0	1	0	0
4+ Axle Trucks	10	21		31	2	8		12	19	2		21	0	0
% 4+ Axle Trucks	40	7.1	0	9.6	20	11.8	3.7	9.1	6.3	33.3	0	6.8	0	0

	Heacock Street Southbound			Krameria Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	5	50	55	1	18	19	31	1	32	106
07:15 AM	5	78	83	0	12	12	53	0	53	148
07:30 AM	1	39	40	1	12	13	57	1	58	111
07:45 AM	5	48	53	4	5	9	47	3	50	112
Total Volume	16	215	231	6	47	53	188	5	193	477
% App. Total	6.9	93.1		11.3	88.7		97.4	2.6		
PHF	.800	.689	.696	.375	.653	.697	.825	.417	.832	.806

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City of Moreno Valley
N/S: Heacock Street
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Weather: Clear

File Name : MRVHEKRAM
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City of Moreno Valley
N/S: Heacock Street
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Weather: Clear

File Name : MRVHEKRAM
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Groups Printed- Large 2 Axle Vehicles

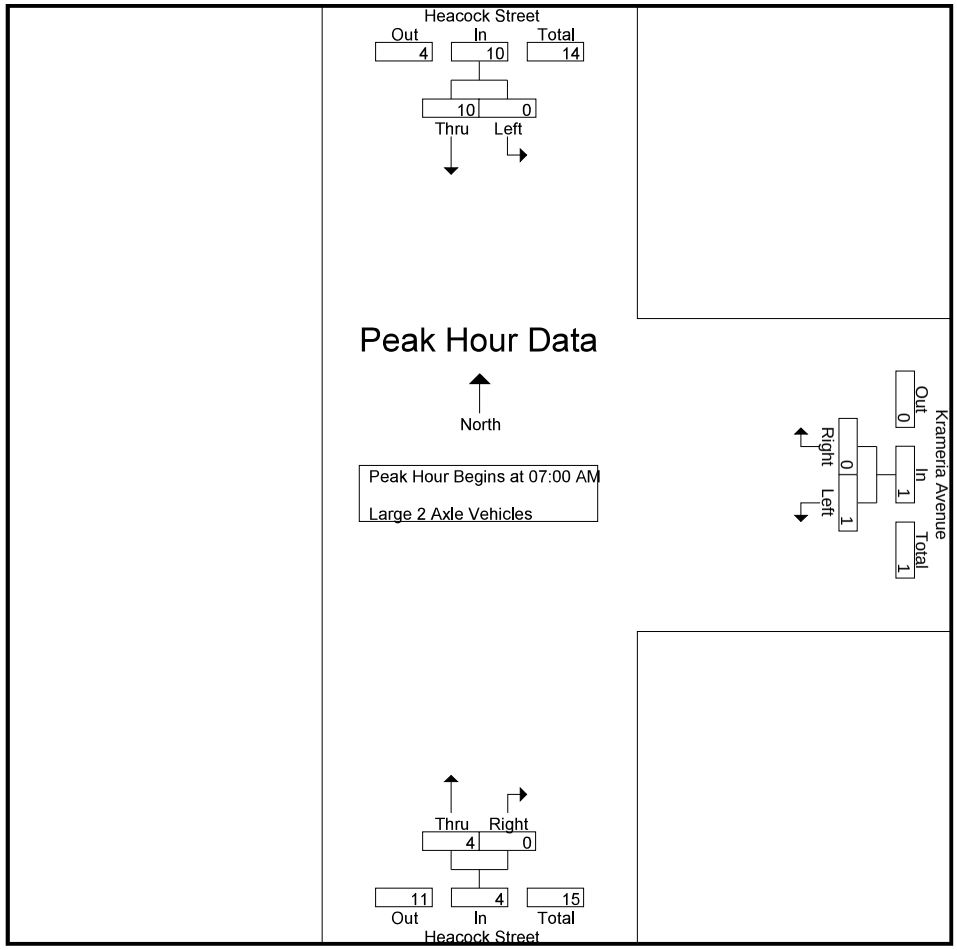
	Heacock Street Southbound				Krameria Avenue Westbound				Heacock Street Northbound					
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	2	0	2	0	0	0	0	2	0	0	2	0	4
07:30 AM	0	3	0	3	0	0	0	0	1	0	0	1	0	4
07:45 AM	0	3	0	3	1	0	0	1	1	0	0	1	0	5
Total	0	10	0	10	1	0	0	1	4	0	0	4	0	15
08:00 AM	0	1	0	1	1	0	0	1	2	0	0	2	0	4
08:15 AM	0	3	0	3	0	0	0	0	6	0	0	6	0	9
08:30 AM	1	0	0	1	0	0	0	0	2	0	0	2	0	3
08:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	1
Total	1	5	0	6	1	0	0	1	10	0	0	10	0	17
Grand Total	1	15	0	16	2	0	0	2	14	0	0	14	0	32
Apprch %	6.2	93.8			100	0			100	0				
Total %	3.1	46.9		50	6.2	0		6.2	43.8	0		43.8	0	100

	Heacock Street Southbound			Krameria Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	2	2	0	0	0	0	0	0	2
07:15 AM	0	2	2	0	0	0	2	0	2	4
07:30 AM	0	3	3	0	0	0	1	0	1	4
07:45 AM	0	3	3	1	0	1	1	0	1	5
Total Volume	0	10	10	1	0	1	4	0	4	15
% App. Total	0	100		100	0		100	0		
PHF	.000	.833	.833	.250	.000	.250	.500	.000	.500	.750

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City of Moreno Valley
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Weather: Clear

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Groups Printed- 3 Axle Vehicles

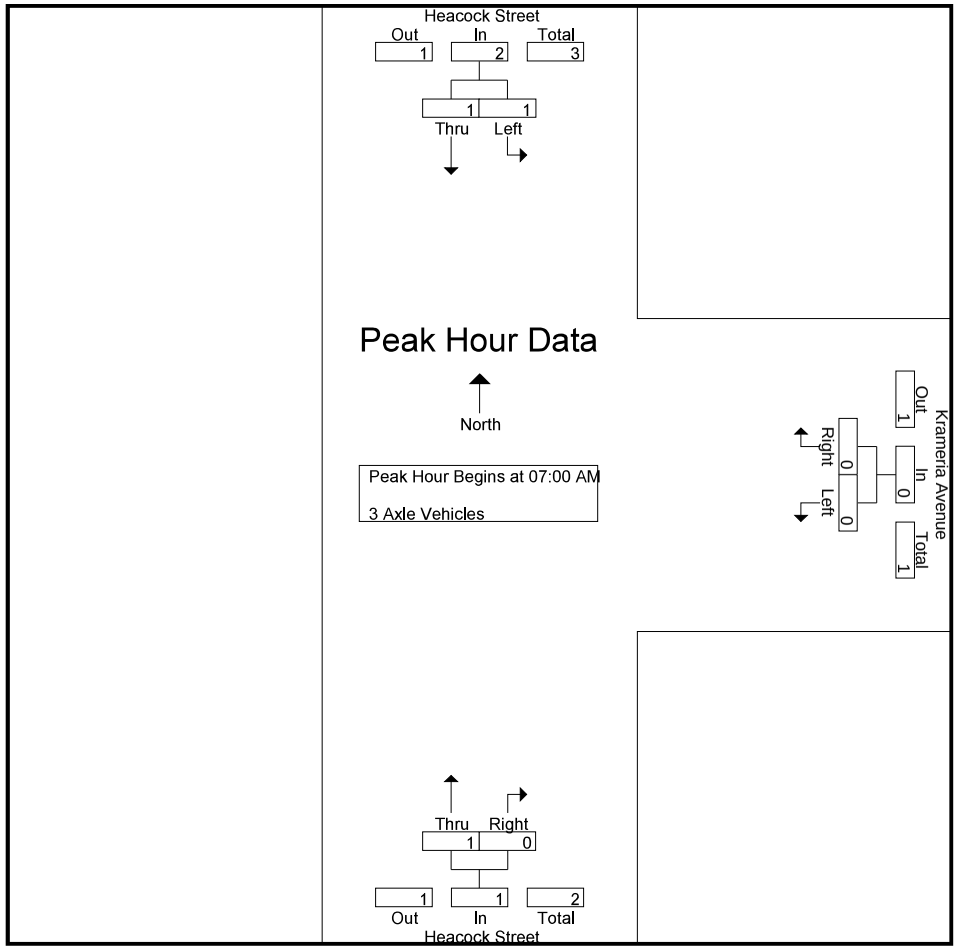
	Heacock Street Southbound				Krameria Avenue Westbound				Heacock Street Northbound					
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	1
07:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	1
Total	1	1	0	2	0	0	0	0	1	0	0	1	0	3
08:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	1
08:30 AM	0	2	0	2	1	0	0	1	0	0	0	0	0	3
08:45 AM	0	1	0	1	0	0	0	0	1	0	0	1	0	2
Total	1	3	0	4	1	0	0	1	2	0	0	2	0	7
Grand Total	2	4	0	6	1	0	0	1	3	0	0	3	0	10
Apprch %	33.3	66.7			100	0			100	0				
Total %	20	40		60	10	0		10	30	0		30	0	100

	Heacock Street Southbound			Krameria Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	1	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	1	0	1	1
07:45 AM	0	1	1	0	0	0	0	0	0	1
Total Volume	1	1	2	0	0	0	1	0	1	3
% App. Total	50	50		0	0		100	0		
PHF	.250	.250	.500	.000	.000	.000	.250	.000	.250	.750

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File Name : MRVHEKRAM
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Groups Printed- 4+ Axle Trucks

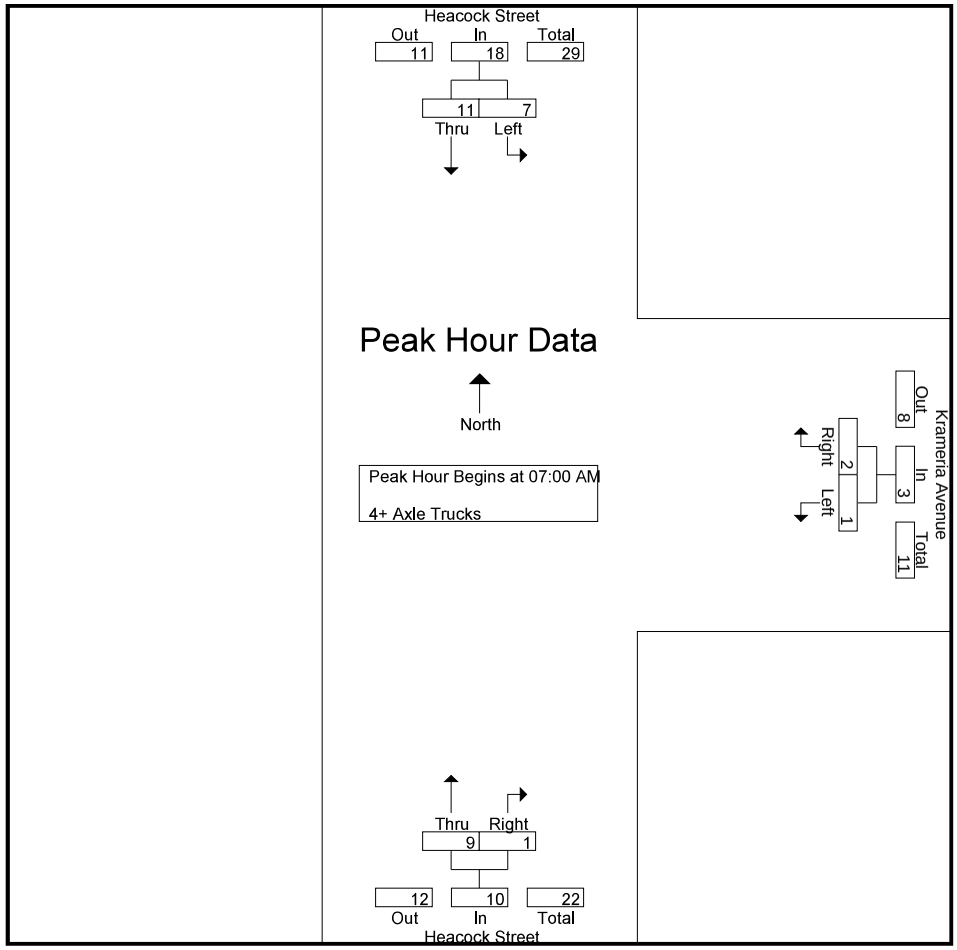
	Heacock Street Southbound				Krameria Avenue Westbound				Heacock Street Northbound					
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	2	3	0	5	0	1	1	1	2	0	0	2	1	8
07:15 AM	2	2	0	4	0	0	0	0	1	0	0	1	0	5
07:30 AM	0	2	0	2	0	0	0	0	3	0	0	3	0	5
07:45 AM	3	4	0	7	1	1	0	2	3	1	0	4	0	13
Total	7	11	0	18	1	2	1	3	9	1	0	10	1	31
08:00 AM	0	1	0	1	1	2	1	3	3	1	0	4	1	8
08:15 AM	1	5	0	6	0	0	0	0	1	0	0	1	0	7
08:30 AM	0	2	0	2	0	2	0	2	3	0	0	3	0	7
08:45 AM	2	2	0	4	0	2	0	2	3	0	0	3	0	9
Total	3	10	0	13	1	6	1	7	10	1	0	11	1	31
Grand Total	10	21	0	31	2	8	2	10	19	2	0	21	2	62
Apprch %	32.3	67.7			20	80			90.5	9.5				
Total %	16.1	33.9		50	3.2	12.9		16.1	30.6	3.2		33.9	3.1	96.9

	Heacock Street Southbound			Krameria Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	2	3	5	0	1	1	2	0	2	8
07:15 AM	2	2	4	0	0	0	1	0	1	5
07:30 AM	0	2	2	0	0	0	3	0	3	5
07:45 AM	3	4	7	1	1	2	3	1	4	13
Total Volume	7	11	18	1	2	3	9	1	10	31
% App. Total	38.9	61.1		33.3	66.7		90	10		
PHF	.583	.688	.643	.250	.500	.375	.750	.250	.625	.596

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

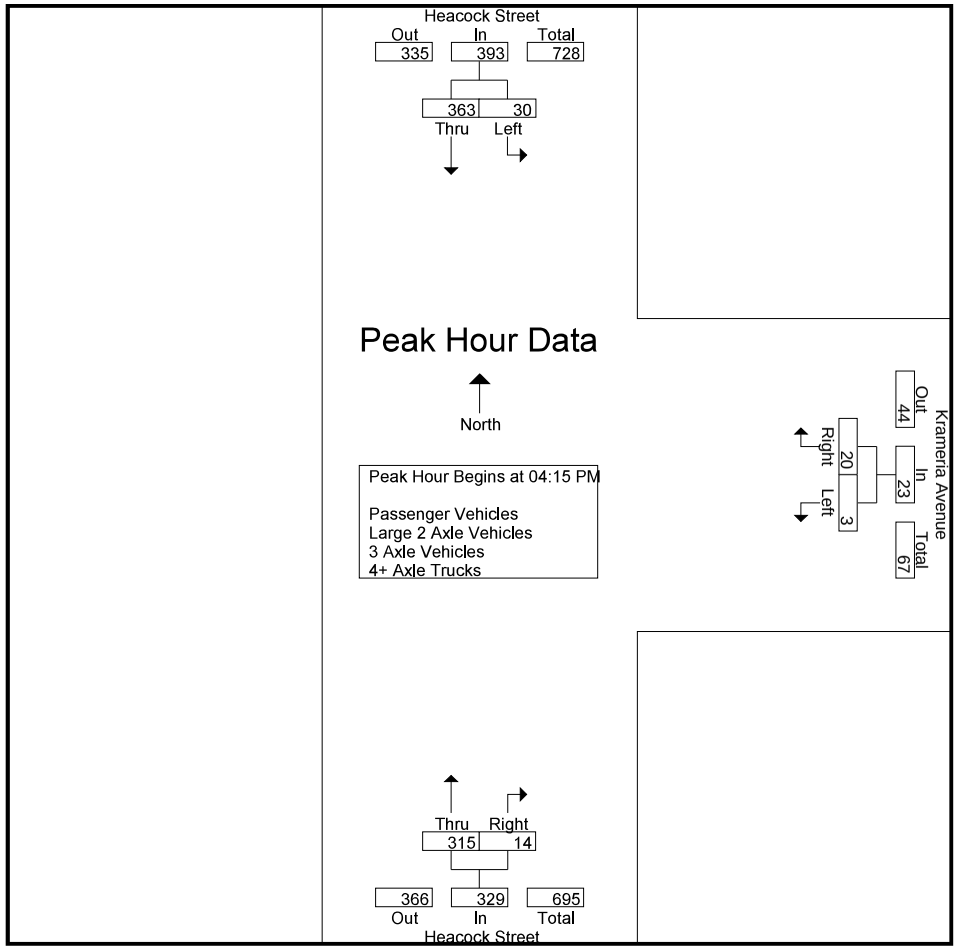
	Heacock Street Southbound				Krameria Avenue Westbound				Heacock Street Northbound					
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	11	48	0	59	2	5	4	7	27	0	0	27	4	93
04:15 PM	5	84	0	89	1	6	4	7	35	0	0	35	4	131
04:30 PM	6	100	0	106	2	6	5	8	113	3	0	116	5	230
04:45 PM	9	99	0	108	0	2	2	2	108	11	0	119	2	229
Total	31	331	0	362	5	19	15	24	283	14	0	297	15	683
05:00 PM	10	80	0	90	0	6	6	6	59	0	0	59	6	155
05:15 PM	6	73	0	79	1	7	6	8	34	0	0	34	6	121
05:30 PM	8	119	0	127	2	2	0	4	72	1	0	73	0	204
05:45 PM	3	109	0	112	1	3	3	4	47	0	0	47	3	163
Total	27	381	0	408	4	18	15	22	212	1	0	213	15	643
Grand Total	58	712	0	770	9	37	30	46	495	15	0	510	30	1326
Apprch %	7.5	92.5			19.6	80.4			97.1	2.9				
Total %	4.4	53.7		58.1	0.7	2.8		3.5	37.3	1.1		38.5	2.2	97.8
Passenger Vehicles	41	663		704	7	22		49	464	15		479	0	0
% Passenger Vehicles	70.7	93.1	0	91.4	77.8	59.5	66.7	64.5	93.7	100	0	93.9	0	0
Large 2 Axle Vehicles	1	13		14	0	0		0	7	0		7	0	0
% Large 2 Axle Vehicles	1.7	1.8	0	1.8	0	0	0	0	1.4	0	0	1.4	0	0
3 Axle Vehicles	3	24		27	0	1		2	5	0		5	0	0
% 3 Axle Vehicles	5.2	3.4	0	3.5	0	2.7	3.3	2.6	1	0	0	1	0	0
4+ Axle Trucks	13	12		25	2	14		25	19	0		19	0	0
% 4+ Axle Trucks	22.4	1.7	0	3.2	22.2	37.8	30	32.9	3.8	0	0	3.7	0	0

	Heacock Street Southbound			Krameria Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	5	84	89	1	6	7	35	0	35	131
04:30 PM	6	100	106	2	6	8	113	3	116	230
04:45 PM	9	99	108	0	2	2	108	11	119	229
05:00 PM	10	80	90	0	6	6	59	0	59	155
Total Volume	30	363	393	3	20	23	315	14	329	745
% App. Total	7.6	92.4		13	87		95.7	4.3		
PHF	.750	.908	.910	.375	.833	.719	.697	.318	.691	.810

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City of Moreno Valley
N/S: Heacock Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVHEKRPM
Site Code : 05115223
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City of Moreno Valley
N/S: Heacock Street
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File Name : MRVHEKRPM
Site Code : 05115223
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Groups Printed- Large 2 Axle Vehicles

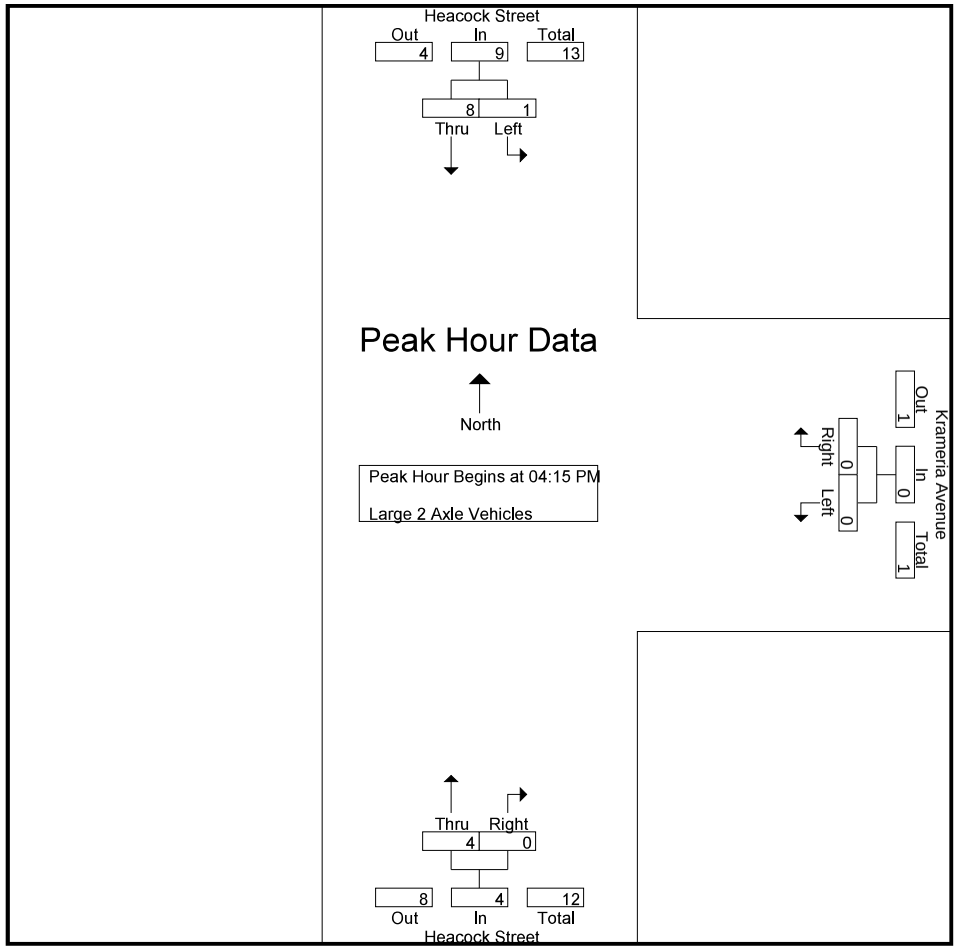
	Heacock Street Southbound				Krameria Avenue Westbound				Heacock Street Northbound					
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	3	0	3	0	0	0	0	1	0	0	1	0	4
04:15 PM	0	2	0	2	0	0	0	0	1	0	0	1	0	3
04:30 PM	0	2	0	2	0	0	0	0	2	0	0	2	0	4
04:45 PM	0	3	0	3	0	0	0	0	1	0	0	1	0	4
Total	0	10	0	10	0	0	0	0	5	0	0	5	0	15
05:00 PM	1	1	0	2	0	0	0	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	1
05:30 PM	0	1	0	1	0	0	0	0	1	0	0	1	0	2
05:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1
Total	1	3	0	4	0	0	0	0	2	0	0	2	0	6
Grand Total	1	13	0	14	0	0	0	0	7	0	0	7	0	21
Apprch %	7.1	92.9			0	0			100	0				
Total %	4.8	61.9		66.7	0	0		0	33.3	0		33.3	0	100

	Heacock Street Southbound			Krameria Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	2	2	0	0	0	1	0	1	3
04:30 PM	0	2	2	0	0	0	2	0	2	4
04:45 PM	0	3	3	0	0	0	1	0	1	4
05:00 PM	1	1	2	0	0	0	0	0	0	2
Total Volume	1	8	9	0	0	0	4	0	4	13
% App. Total	11.1	88.9		0	0		100	0		
PHF	.250	.667	.750	.000	.000	.000	.500	.000	.500	.813

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City of Moreno Valley
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City of Moreno Valley
N/S: Heacock Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVHEKRPM
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Groups Printed- 3 Axle Vehicles

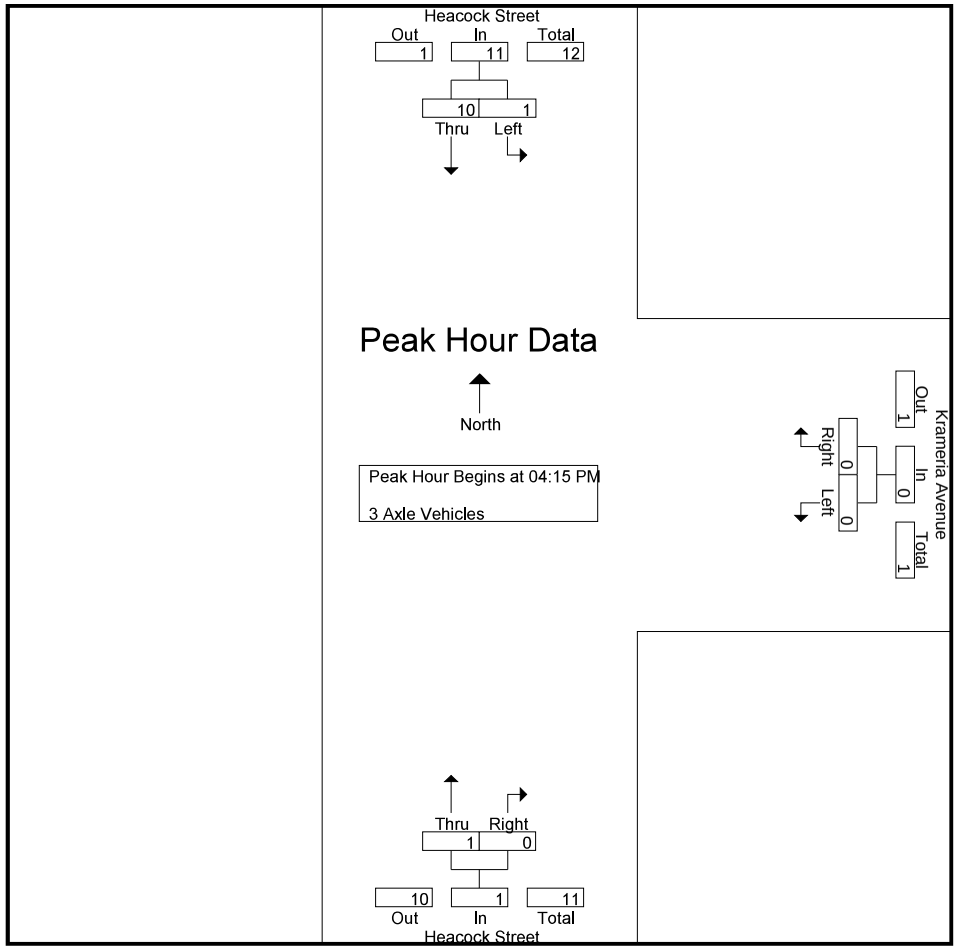
	Heacock Street Southbound				Krameria Avenue Westbound				Heacock Street Northbound					
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	4	0	4	0	1	1	1	3	0	0	3	1	8
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	2
04:45 PM	1	2	0	3	0	0	0	0	1	0	0	1	0	4
Total	1	9	0	10	0	1	1	1	4	0	0	4	1	15
05:00 PM	0	5	0	5	0	0	0	0	0	0	0	0	0	5
05:15 PM	1	3	0	4	0	0	0	0	1	0	0	1	0	5
05:30 PM	1	4	0	5	0	0	0	0	0	0	0	0	0	5
05:45 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	3
Total	2	15	0	17	0	0	0	0	1	0	0	1	0	18
Grand Total	3	24	0	27	0	1	1	1	5	0	0	5	1	33
Apprch %	11.1	88.9			0	100			100	0				
Total %	9.1	72.7		81.8	0	3		3	15.2	0		15.2	2.9	97.1

	Heacock Street Southbound			Krameria Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	1	1	0	0	0	0	0	0	1
04:30 PM	0	2	2	0	0	0	0	0	0	2
04:45 PM	1	2	3	0	0	0	1	0	1	4
05:00 PM	0	5	5	0	0	0	0	0	0	5
Total Volume	1	10	11	0	0	0	1	0	1	12
% App. Total	9.1	90.9		0	0		100	0		
PHF	.250	.500	.550	.000	.000	.000	.250	.000	.250	.600

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File Name : MRVHEKRPM
Site Code : 05115223
Start Date : 5/5/2015
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City of Moreno Valley
N/S: Heacock Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVHEKRPM
Site Code : 05115223
Start Date : 5/5/2015
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Groups Printed- 4+ Axle Trucks

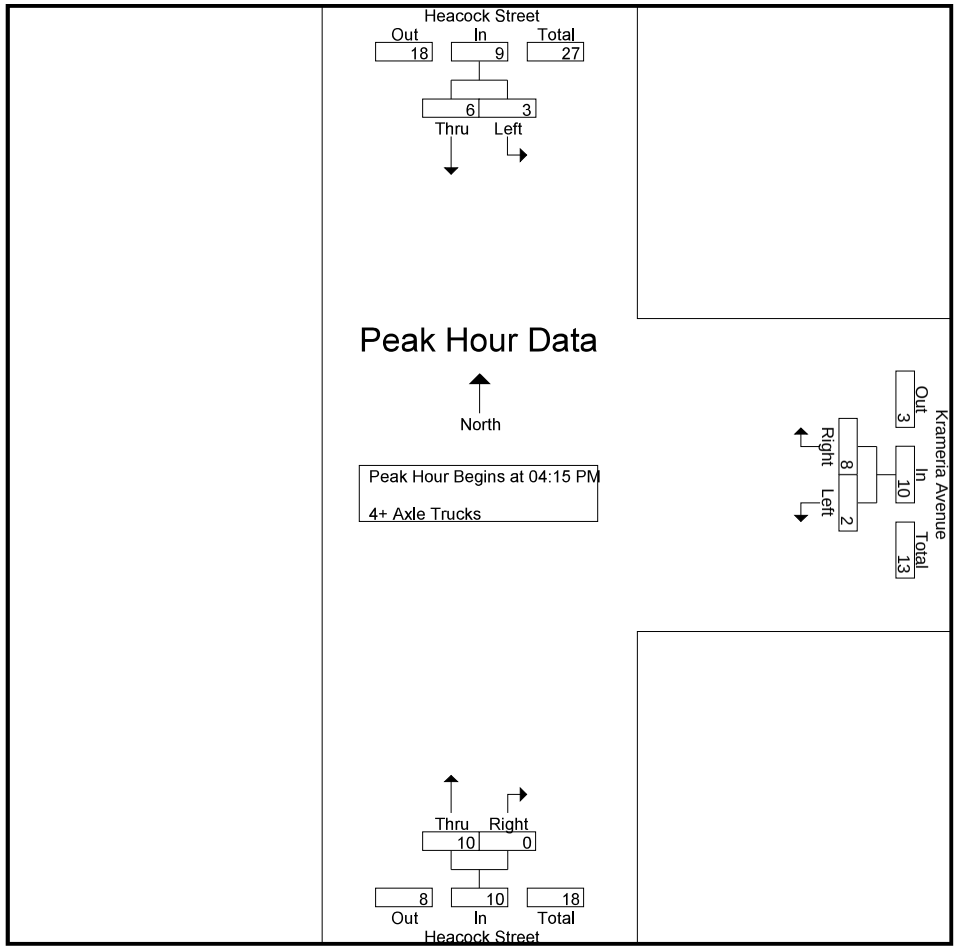
	Heacock Street Southbound				Krameria Avenue Westbound				Heacock Street Northbound					
Start Time	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	3	1	0	4	0	2	2	2	2	0	0	2	2	8
04:15 PM	0	3	0	3	1	5	3	6	0	0	0	0	3	9
04:30 PM	1	0	0	1	1	2	1	3	5	0	0	5	1	9
04:45 PM	1	1	0	2	0	0	0	0	1	0	0	1	0	3
Total	5	5	0	10	2	9	6	11	8	0	0	8	6	29
05:00 PM	1	2	0	3	0	1	1	1	4	0	0	4	1	8
05:15 PM	3	3	0	6	0	2	2	2	2	0	0	2	2	10
05:30 PM	2	1	0	3	0	2	0	2	3	0	0	3	0	8
05:45 PM	2	1	0	3	0	0	0	0	2	0	0	2	0	5
Total	8	7	0	15	0	5	3	5	11	0	0	11	3	31
Grand Total	13	12	0	25	2	14	9	16	19	0	0	19	9	60
Apprch %	52	48			12.5	87.5			100	0				
Total %	21.7	20		41.7	3.3	23.3		26.7	31.7	0		31.7	13	87

	Heacock Street Southbound			Krameria Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	3	3	1	5	6	0	0	0	9
04:30 PM	1	0	1	1	2	3	5	0	5	9
04:45 PM	1	1	2	0	0	0	1	0	1	3
05:00 PM	1	2	3	0	1	1	4	0	4	8
Total Volume	3	6	9	2	8	10	10	0	10	29
% App. Total	33.3	66.7		20	80		100	0		
PHF	.750	.500	.750	.500	.400	.417	.500	.000	.500	.806

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City of Moreno Valley
N/S: Heacock Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVHEKRPM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 2



Location: Moreno Valley
N/S: Heacock Street
E/W: Krameria Avenue

Date: 5/5/2015
Weather: Clear

PEDESTRIANS

	North Leg Heacock Street	East Leg Krameria Avenue	South Leg Heacock Street	West Leg Krameria Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Heacock Street	East Leg Krameria Avenue	South Leg Heacock Street	West Leg Krameria Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	1	0	0	1	2
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	1	2

Location: Moreno Valley
N/S: Heacock Street
E/W: Krameria Avenue

Date: 5/5/2015
Weather: Clear

BICYCLES

	North Leg Heacock Street	East Leg Krameria Avenue	South Leg Heacock Street	West Leg Krameria Avenue	TOTAL
7:00 AM	0	0	0	1	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	1

	North Leg Heacock Street	East Leg Krameria Avenue	South Leg Heacock Street	West Leg Krameria Avenue	TOTAL
4:00 PM	0	0	0	1	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	1

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City of Moreno Valley
N/S: Heacock Street
E/W: Cardinal Avenue
Weather: Clear

File Name : MRVHECDAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

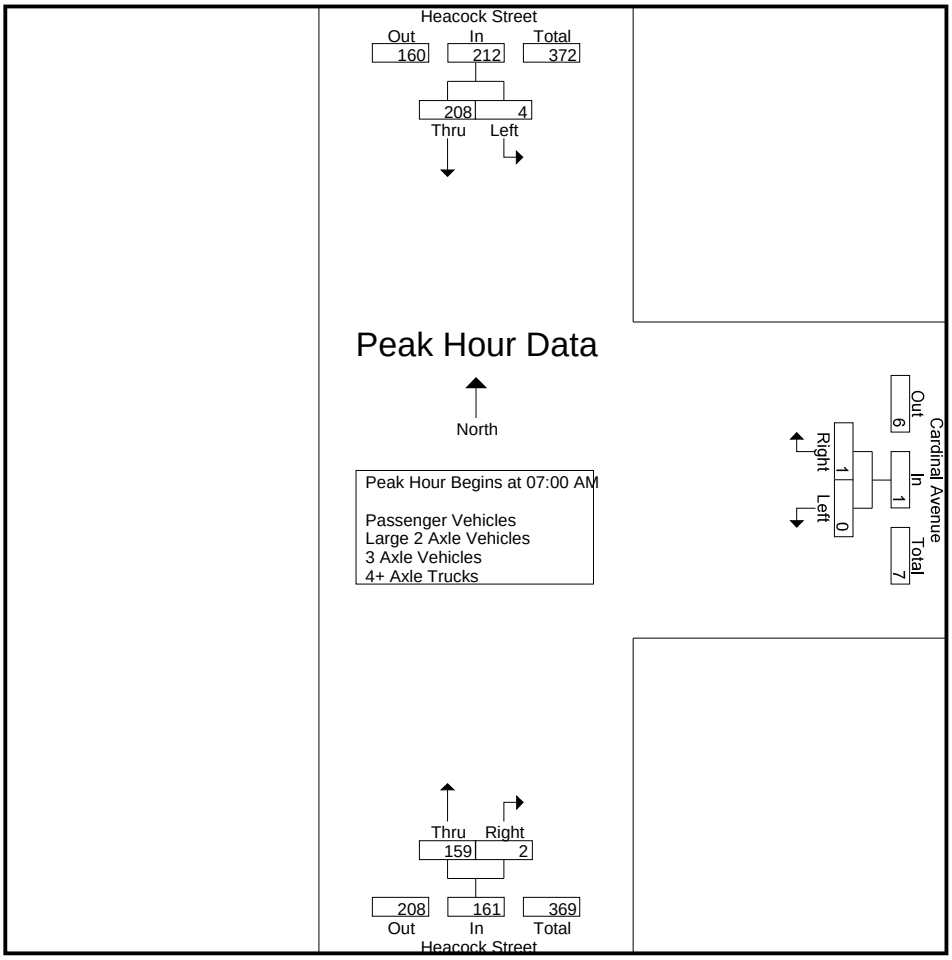
	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	45	45	0	0	0	29	0	29	74
07:15 AM	1	80	81	0	1	1	50	0	50	132
07:30 AM	2	44	46	0	0	0	35	1	36	82
07:45 AM	1	39	40	0	0	0	45	1	46	86
Total	4	208	212	0	1	1	159	2	161	374
08:00 AM	0	18	18	2	0	2	28	0	28	48
08:15 AM	1	21	22	0	0	0	22	1	23	45
08:30 AM	0	21	21	0	0	0	12	0	12	33
08:45 AM	1	17	18	0	0	0	14	0	14	32
Total	2	77	79	2	0	2	76	1	77	158
Grand Total	6	285	291	2	1	3	235	3	238	532
Apprch %	2.1	97.9		66.7	33.3		98.7	1.3		
Total %	1.1	53.6	54.7	0.4	0.2	0.6	44.2	0.6	44.7	
Passenger Vehicles	5	251	256	2	1	3	213	2	215	474
% Passenger Vehicles	83.3	88.1	88	100	100	100	90.6	66.7	90.3	89.1
Large 2 Axle Vehicles	1	5	6	0	0	0	8	0	8	14
% Large 2 Axle Vehicles	16.7	1.8	2.1	0	0	0	3.4	0	3.4	2.6
3 Axle Vehicles	0	11	11	0	0	0	2	1	3	14
% 3 Axle Vehicles	0	3.9	3.8	0	0	0	0.9	33.3	1.3	2.6
4+ Axle Trucks	0	18	18	0	0	0	12	0	12	30
% 4+ Axle Trucks	0	6.3	6.2	0	0	0	5.1	0	5	5.6

	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	45	45	0	0	0	29	0	29	74
07:15 AM	1	80	81	0	1	1	50	0	50	132
07:30 AM	2	44	46	0	0	0	35	1	36	82
07:45 AM	1	39	40	0	0	0	45	1	46	86
Total Volume	4	208	212	0	1	1	159	2	161	374
% App. Total	1.9	98.1		0	100		98.8	1.2		
PHF	.500	.650	.654	.000	.250	.250	.795	.500	.805	.708

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

	07:00 AM			07:15 AM			07:00 AM		
+0 mins.	0	45	45	0	1	1	29	0	29
+15 mins.	1	80	81	0	0	0	50	0	50
+30 mins.	2	44	46	0	0	0	35	1	36
+45 mins.	1	39	40	2	0	2	45	1	46
Total Volume	4	208	212	2	1	3	159	2	161
% App. Total	1.9	98.1		66.7	33.3		98.8	1.2	
PHF	.500	.650	.654	.250	.250	.375	.795	.500	.805

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City of Moreno Valley
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File Name : MRVHECDAM
Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- Large 2 Axle Vehicles

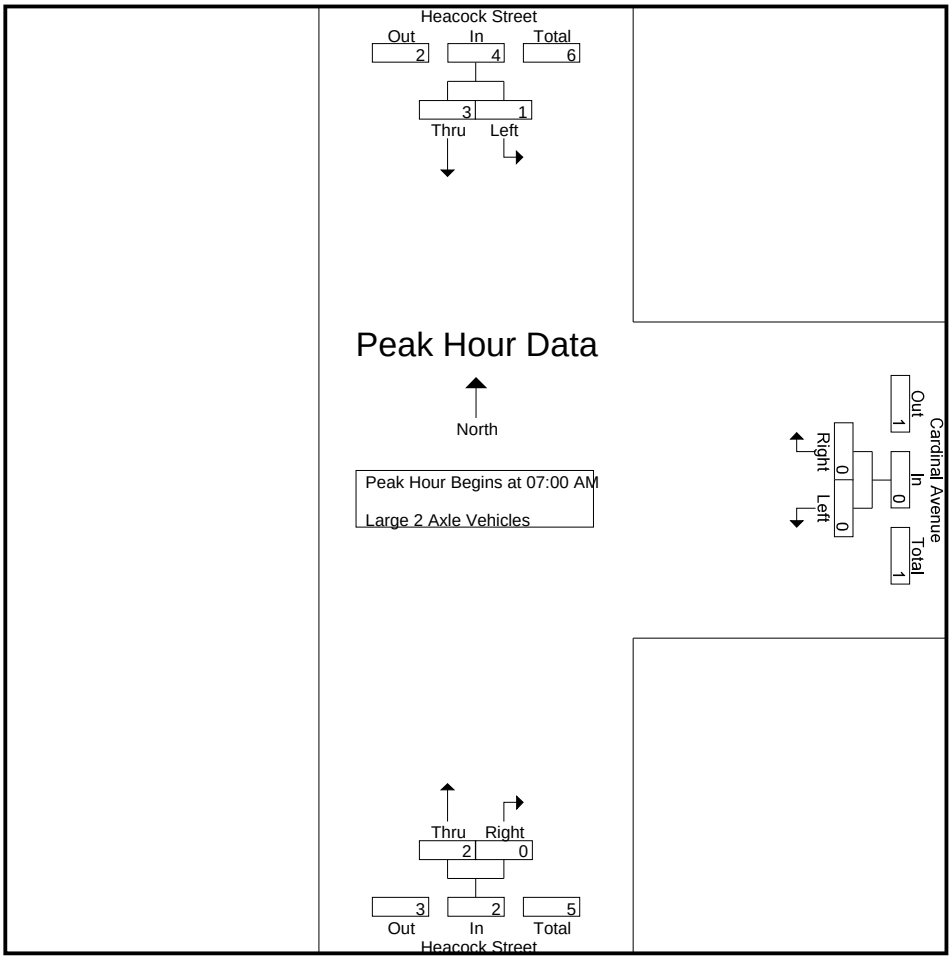
	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	1	1
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	1	0	1	0	0	0	0	0	0	1
07:45 AM	0	3	3	0	0	0	1	0	1	4
Total	1	3	4	0	0	0	2	0	2	6
08:00 AM	0	0	0	0	0	0	3	0	3	3
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	1	0	0	0	2	0	2	3
08:45 AM	0	1	1	0	0	0	1	0	1	2
Total	0	2	2	0	0	0	6	0	6	8
Grand Total	1	5	6	0	0	0	8	0	8	14
Apprch %	16.7	83.3		0	0		100	0		
Total %	7.1	35.7	42.9	0	0	0	57.1	0	57.1	

	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	1	0	1	1
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	1	0	1	0	0	0	0	0	0	1
07:45 AM	0	3	3	0	0	0	1	0	1	4
Total Volume	1	3	4	0	0	0	2	0	2	6
% App. Total	25	75		0	0		100	0		
PHF	.250	.250	.333	.000	.000	.000	.500	.000	.500	.375

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City of Moreno Valley
N/S: Heacock Street
E/W: Cardinal Avenue
Weather: Clear

File Name : MRVHECDAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	1	0	1	0	0	0	0	0	0
+45 mins.	0	3	3	0	0	0	1	0	1
Total Volume	1	3	4	0	0	0	2	0	2
% App. Total	25	75		0	0		100	0	
PHF	.250	.250	.333	.000	.000	.000	.500	.000	.500

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City of Moreno Valley
N/S: Heacock Street
E/W: Cardinal Avenue
Weather: Clear

File Name : MRVHECDAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

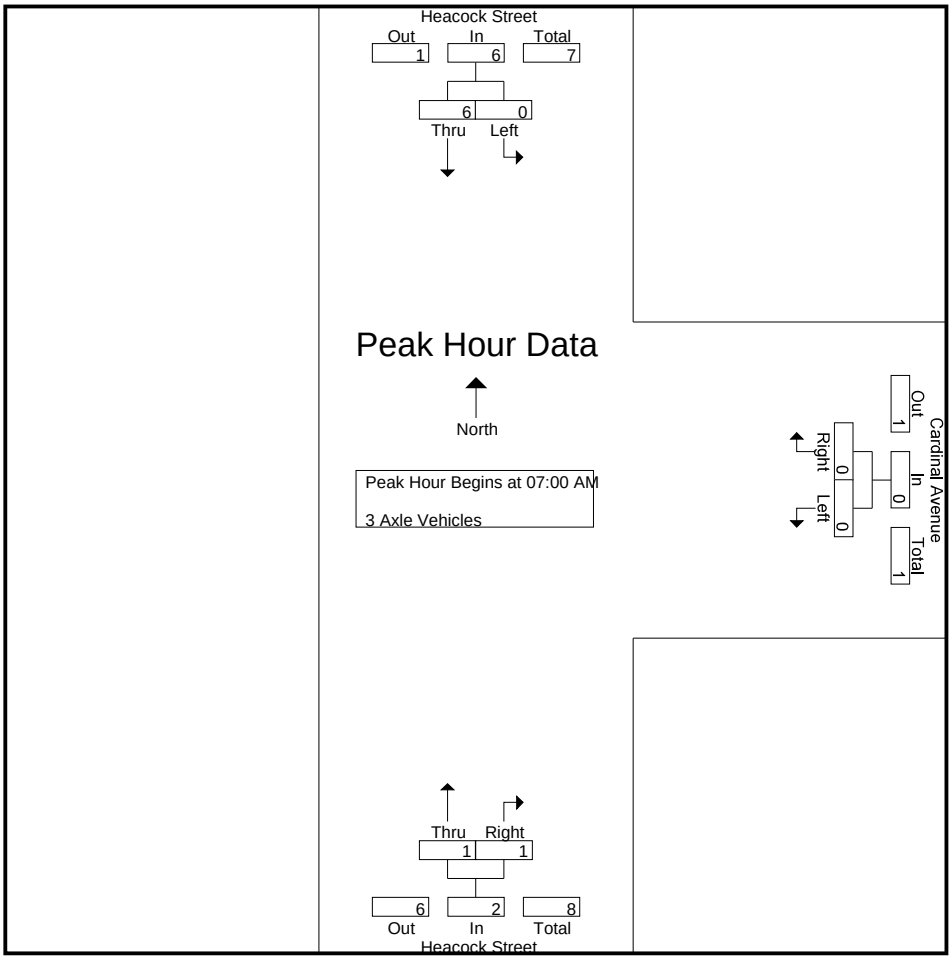
	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	4	4	0	0	0	0	0	0	4
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	2	2	0	0	0	1	1	2	4
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	6	6	0	0	0	1	1	2	8
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	3	3	0	0	0	0	0	0	3
08:30 AM	0	1	1	0	0	0	0	0	0	1
08:45 AM	0	1	1	0	0	0	1	0	1	2
Total	0	5	5	0	0	0	1	0	1	6
Grand Total	0	11	11	0	0	0	2	1	3	14
Apprch %	0	100		0	0		66.7	33.3		
Total %	0	78.6	78.6	0	0	0	14.3	7.1	21.4	

	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	4	4	0	0	0	0	0	0	4
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	2	2	0	0	0	1	1	2	4
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	6	6	0	0	0	1	1	2	8
% App. Total	0	100		0	0		50	50		
PHF	.000	.375	.375	.000	.000	.000	.250	.250	.250	.500

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City of Moreno Valley
N/S: Heacock Street
E/W: Cardinal Avenue
Weather: Clear

File Name : MRVHECDAM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	4	4	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	2	2	0	0	0	1	1	2
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	6	6	0	0	0	1	1	2
% App. Total	0	100		0	0		50	50	
PHF	.000	.375	.375	.000	.000	.000	.250	.250	.250

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City of Moreno Valley
N/S: Heacock Street
E/W: Cardinal Avenue
Weather: Clear

File Name : MRVHECDAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

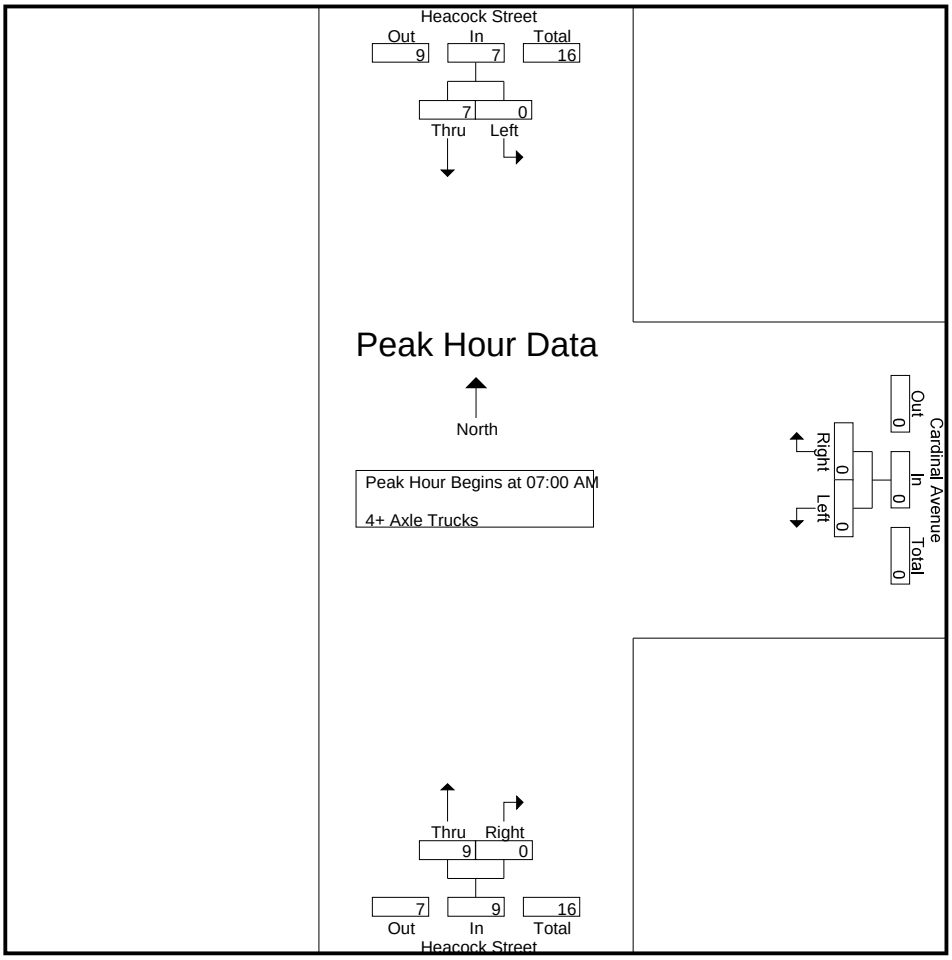
	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	3	3	0	0	0	1	0	1	4
07:15 AM	0	0	0	0	0	0	4	0	4	4
07:30 AM	0	3	3	0	0	0	0	0	0	3
07:45 AM	0	1	1	0	0	0	4	0	4	5
Total	0	7	7	0	0	0	9	0	9	16
08:00 AM	0	5	5	0	0	0	0	0	0	5
08:15 AM	0	1	1	0	0	0	2	0	2	3
08:30 AM	0	2	2	0	0	0	0	0	0	2
08:45 AM	0	3	3	0	0	0	1	0	1	4
Total	0	11	11	0	0	0	3	0	3	14
Grand Total	0	18	18	0	0	0	12	0	12	30
Apprch %	0	100		0	0		100	0		
Total %	0	60	60	0	0	0	40	0	40	

	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	3	3	0	0	0	1	0	1	4
07:15 AM	0	0	0	0	0	0	4	0	4	4
07:30 AM	0	3	3	0	0	0	0	0	0	3
07:45 AM	0	1	1	0	0	0	4	0	4	5
Total Volume	0	7	7	0	0	0	9	0	9	16
% App. Total	0	100		0	0		100	0		
PHF	.000	.583	.583	.000	.000	.000	.563	.000	.563	.800

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City of Moreno Valley
N/S: Heacock Street
E/W: Cardinal Avenue
Weather: Clear

File Name : MRVHECDAM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	3	3	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	0	4	0	4
+30 mins.	0	3	3	0	0	0	0	0	0
+45 mins.	0	1	1	0	0	0	4	0	4
Total Volume	0	7	7	0	0	0	9	0	9
% App. Total	0	100		0	0		100	0	
PHF	.000	.583	.583	.000	.000	.000	.563	.000	.563

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City of Moreno Valley
N/S: Heacock Street
E/W: Cardinal Avenue
Weather: Clear

File Name : MRVHECDPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

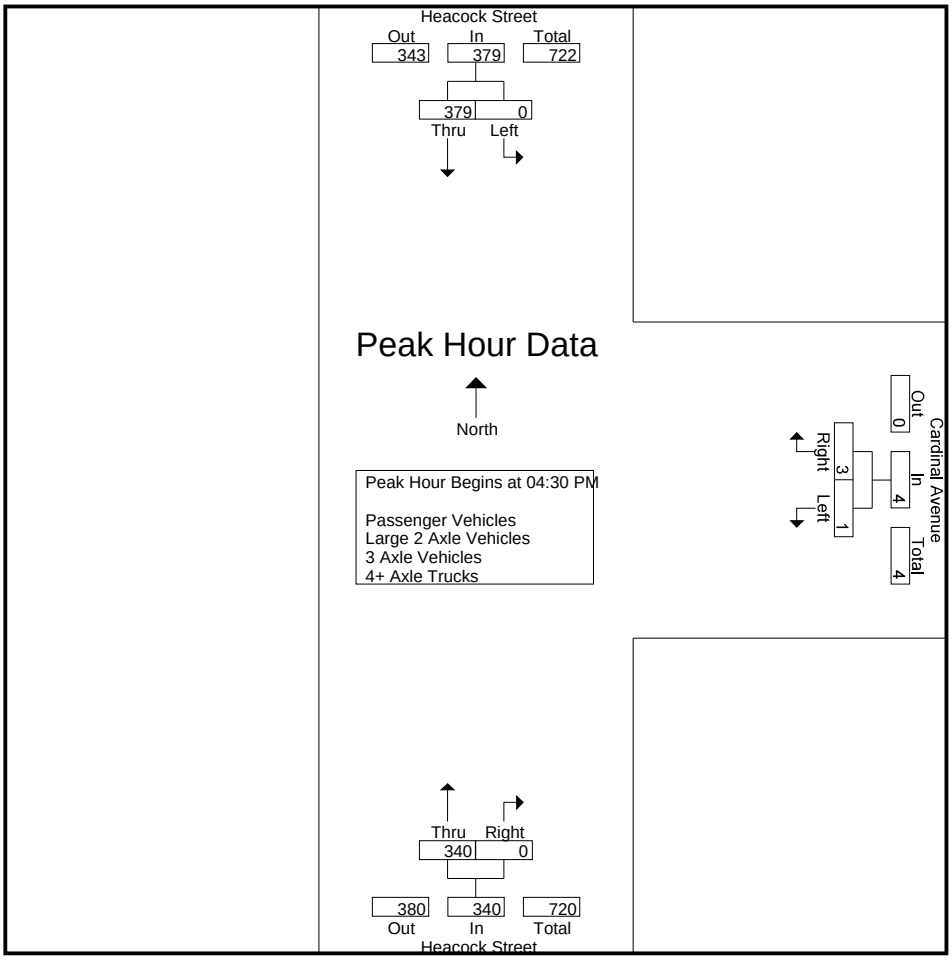
	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	48	48	1	2	3	28	0	28	79
04:15 PM	0	70	70	0	1	1	36	0	36	107
04:30 PM	0	118	118	0	1	1	134	0	134	253
04:45 PM	0	103	103	0	0	0	130	0	130	233
Total	0	339	339	1	4	5	328	0	328	672
05:00 PM	0	74	74	1	2	3	48	0	48	125
05:15 PM	0	84	84	0	0	0	28	0	28	112
05:30 PM	3	90	93	0	0	0	81	1	82	175
05:45 PM	4	90	94	0	0	0	43	3	46	140
Total	7	338	345	1	2	3	200	4	204	552
Grand Total	7	677	684	2	6	8	528	4	532	1224
Apprch %	1	99		25	75		99.2	0.8		
Total %	0.6	55.3	55.9	0.2	0.5	0.7	43.1	0.3	43.5	
Passenger Vehicles	7	629	636	2	5	7	504	4	508	1151
% Passenger Vehicles	100	92.9	93	100	83.3	87.5	95.5	100	95.5	94
Large 2 Axle Vehicles	0	11	11	0	1	1	6	0	6	18
% Large 2 Axle Vehicles	0	1.6	1.6	0	16.7	12.5	1.1	0	1.1	1.5
3 Axle Vehicles	0	17	17	0	0	0	12	0	12	29
% 3 Axle Vehicles	0	2.5	2.5	0	0	0	2.3	0	2.3	2.4
4+ Axle Trucks	0	20	20	0	0	0	6	0	6	26
% 4+ Axle Trucks	0	3	2.9	0	0	0	1.1	0	1.1	2.1

	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	118	118	0	1	1	134	0	134	253
04:45 PM	0	103	103	0	0	0	130	0	130	233
05:00 PM	0	74	74	1	2	3	48	0	48	125
05:15 PM	0	84	84	0	0	0	28	0	28	112
Total Volume	0	379	379	1	3	4	340	0	340	723
% App. Total	0	100		25	75		100	0		
PHF	.000	.803	.803	.250	.375	.333	.634	.000	.634	.714

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File Name : MRVHECDPM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:00 PM			04:15 PM		
+0 mins.	0	118	118	1	2	3	36	0	36
+15 mins.	0	103	103	0	1	1	134	0	134
+30 mins.	0	74	74	0	1	1	130	0	130
+45 mins.	0	84	84	0	0	0	48	0	48
Total Volume	0	379	379	1	4	5	348	0	348
% App. Total	0	100		20	80		100	0	
PHF	.000	.803	.803	.250	.500	.417	.649	.000	.649

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City of Moreno Valley
N/S: Heacock Street
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Weather: Clear

File Name : MRVHECDPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

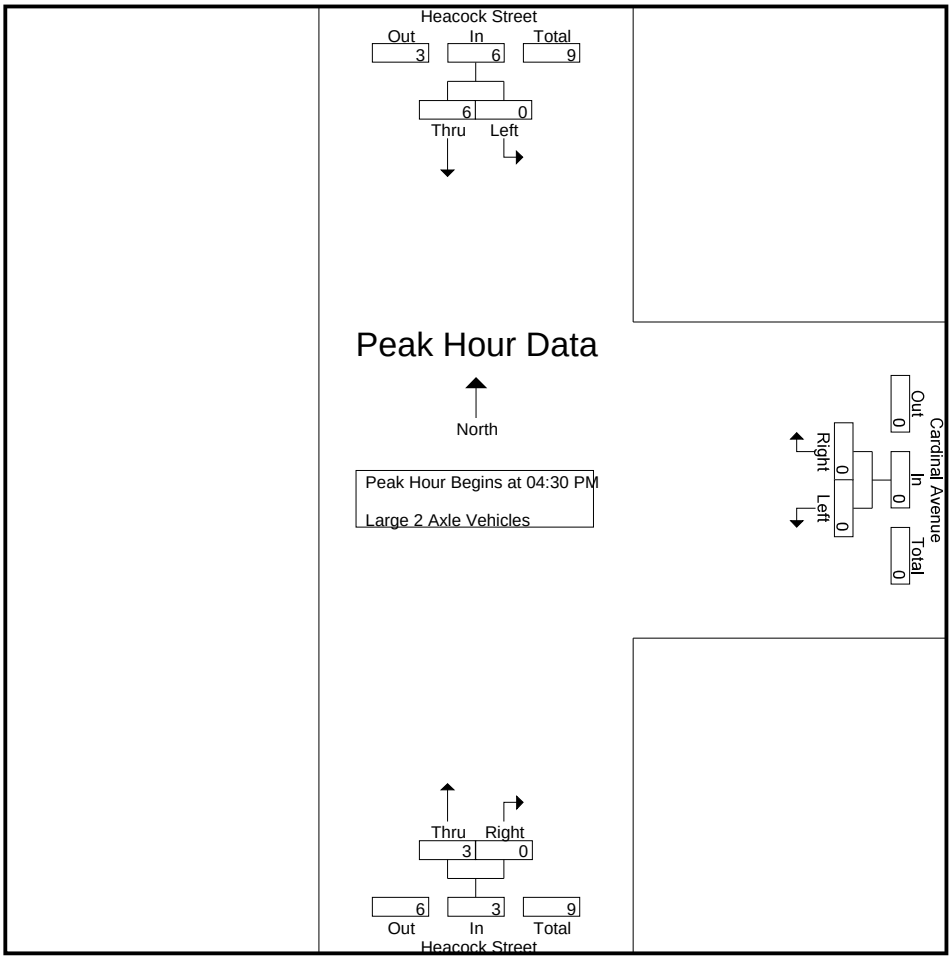
	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	2	0	1	1	2	0	2	5
04:15 PM	0	1	1	0	0	0	0	0	0	1
04:30 PM	0	3	3	0	0	0	1	0	1	4
04:45 PM	0	1	1	0	0	0	1	0	1	2
Total	0	7	7	0	1	1	4	0	4	12
05:00 PM	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	2	2	0	0	0	0	0	0	2
05:30 PM	0	1	1	0	0	0	0	0	0	1
05:45 PM	0	1	1	0	0	0	1	0	1	2
Total	0	4	4	0	0	0	2	0	2	6
Grand Total	0	11	11	0	1	1	6	0	6	18
Apprch %	0	100		0	100		100	0		
Total %	0	61.1	61.1	0	5.6	5.6	33.3	0	33.3	

	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	3	3	0	0	0	1	0	1	4
04:45 PM	0	1	1	0	0	0	1	0	1	2
05:00 PM	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	2	2	0	0	0	0	0	0	2
Total Volume	0	6	6	0	0	0	3	0	3	9
% App. Total	0	100		0	0		100	0		
PHF	.000	.500	.500	.000	.000	.000	.750	.000	.750	.563

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File Name : MRVHECDPM
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	3	3	0	0	0	1	0	1
+15 mins.	0	1	1	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	1	0	1
+45 mins.	0	2	2	0	0	0	0	0	0
Total Volume	0	6	6	0	0	0	3	0	3
% App. Total	0	100		0	0		100	0	
PHF	.000	.500	.500	.000	.000	.000	.750	.000	.750

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City of Moreno Valley
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File Name : MRVHECDPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

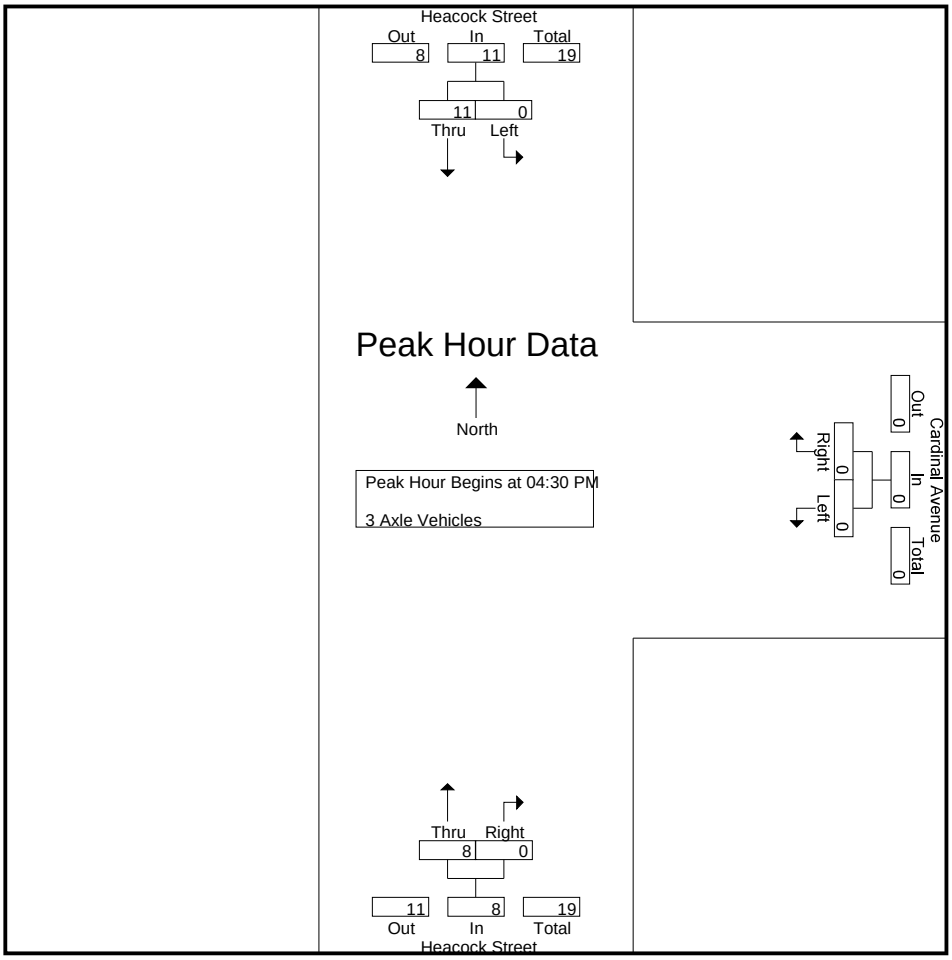
	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	2	2	0	0	0	1	0	1	3
04:30 PM	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	2	2	0	0	0	3	0	3	5
Total	0	4	4	0	0	0	5	0	5	9
05:00 PM	0	4	4	0	0	0	1	0	1	5
05:15 PM	0	5	5	0	0	0	3	0	3	8
05:30 PM	0	3	3	0	0	0	2	0	2	5
05:45 PM	0	1	1	0	0	0	1	0	1	2
Total	0	13	13	0	0	0	7	0	7	20
Grand Total	0	17	17	0	0	0	12	0	12	29
Apprch %	0	100		0	0		100	0		
Total %	0	58.6	58.6	0	0	0	41.4	0	41.4	

	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	2	2	0	0	0	3	0	3	5
05:00 PM	0	4	4	0	0	0	1	0	1	5
05:15 PM	0	5	5	0	0	0	3	0	3	8
Total Volume	0	11	11	0	0	0	8	0	8	19
% App. Total	0	100		0	0		100	0		
PHF	.000	.550	.550	.000	.000	.000	.667	.000	.667	.594

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File Name : MRVHECDPM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	0	0	0	0	0	1	0	1
+15 mins.	0	2	2	0	0	0	3	0	3
+30 mins.	0	4	4	0	0	0	1	0	1
+45 mins.	0	5	5	0	0	0	3	0	3
Total Volume	0	11	11	0	0	0	8	0	8
% App. Total	0	100		0	0		100	0	
PHF	.000	.550	.550	.000	.000	.000	.667	.000	.667

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File Name : MRVHECDPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

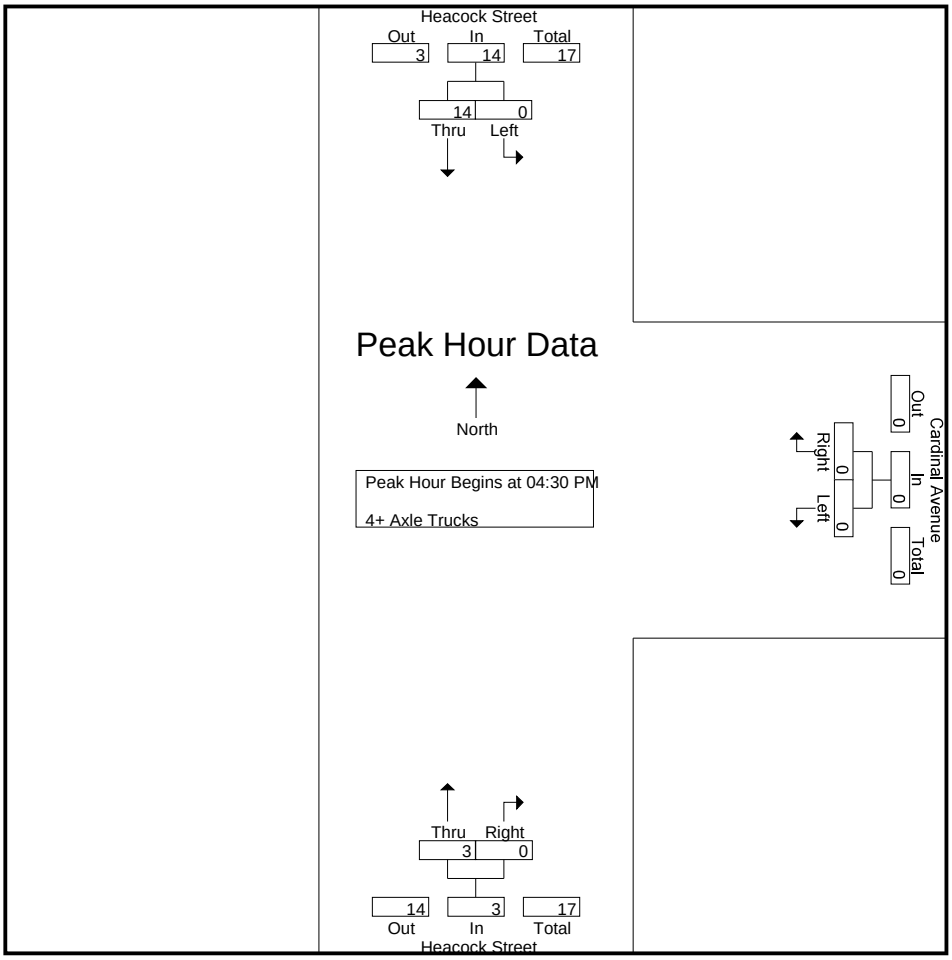
	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	2	0	0	0	1	0	1	3
04:15 PM	0	2	2	0	0	0	0	0	0	2
04:30 PM	0	6	6	0	0	0	0	0	0	6
04:45 PM	0	2	2	0	0	0	3	0	3	5
Total	0	12	12	0	0	0	4	0	4	16
05:00 PM	0	2	2	0	0	0	0	0	0	2
05:15 PM	0	4	4	0	0	0	0	0	0	4
05:30 PM	0	2	2	0	0	0	1	0	1	3
05:45 PM	0	0	0	0	0	0	1	0	1	1
Total	0	8	8	0	0	0	2	0	2	10
Grand Total	0	20	20	0	0	0	6	0	6	26
Apprch %	0	100		0	0		100	0		
Total %	0	76.9	76.9	0	0	0	23.1	0	23.1	

	Heacock Street Southbound			Cardinal Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	6	6	0	0	0	0	0	0	6
04:45 PM	0	2	2	0	0	0	3	0	3	5
05:00 PM	0	2	2	0	0	0	0	0	0	2
05:15 PM	0	4	4	0	0	0	0	0	0	4
Total Volume	0	14	14	0	0	0	3	0	3	17
% App. Total	0	100		0	0		100	0		
PHF	.000	.583	.583	.000	.000	.000	.250	.000	.250	.708

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City of Moreno Valley
N/S: Heacock Street
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File Name : MRVHECDPM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	6	6	0	0	0	0	0	0
+15 mins.	0	2	2	0	0	0	3	0	3
+30 mins.	0	2	2	0	0	0	0	0	0
+45 mins.	0	4	4	0	0	0	0	0	0
Total Volume	0	14	14	0	0	0	3	0	3
% App. Total	0	100		0	0		100	0	
PHF	.000	.583	.583	.000	.000	.000	.250	.000	.250

Location: Moreno Valley
N/S: Heacock Street
E/W: Cardinal Avenue

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Heacock Street	East Leg Cardinal Avenue	South Leg Heacock Street	West Leg Cardinal Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Heacock Street	East Leg Cardinal Avenue	South Leg Heacock Street	West Leg Cardinal Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	1	0	0	1
5:00 PM	0	1	0	0	1
5:15 PM	0	1	0	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	3	0	0	3

Location: Moreno Valley
N/S: Heacock Street
E/W: Cardinal Avenue

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Heacock Street	East Leg Cardinal Avenue	South Leg Heacock Street	West Leg Cardinal Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Heacock Street	East Leg Cardinal Avenue	South Leg Heacock Street	West Leg Cardinal Avenue	TOTAL
4:00 PM	0	1	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1

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City of Moreno Valley
N/S: Heacock Street
E/W: San Michele Road
Weather: Clear

File Name : MRVHESMAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

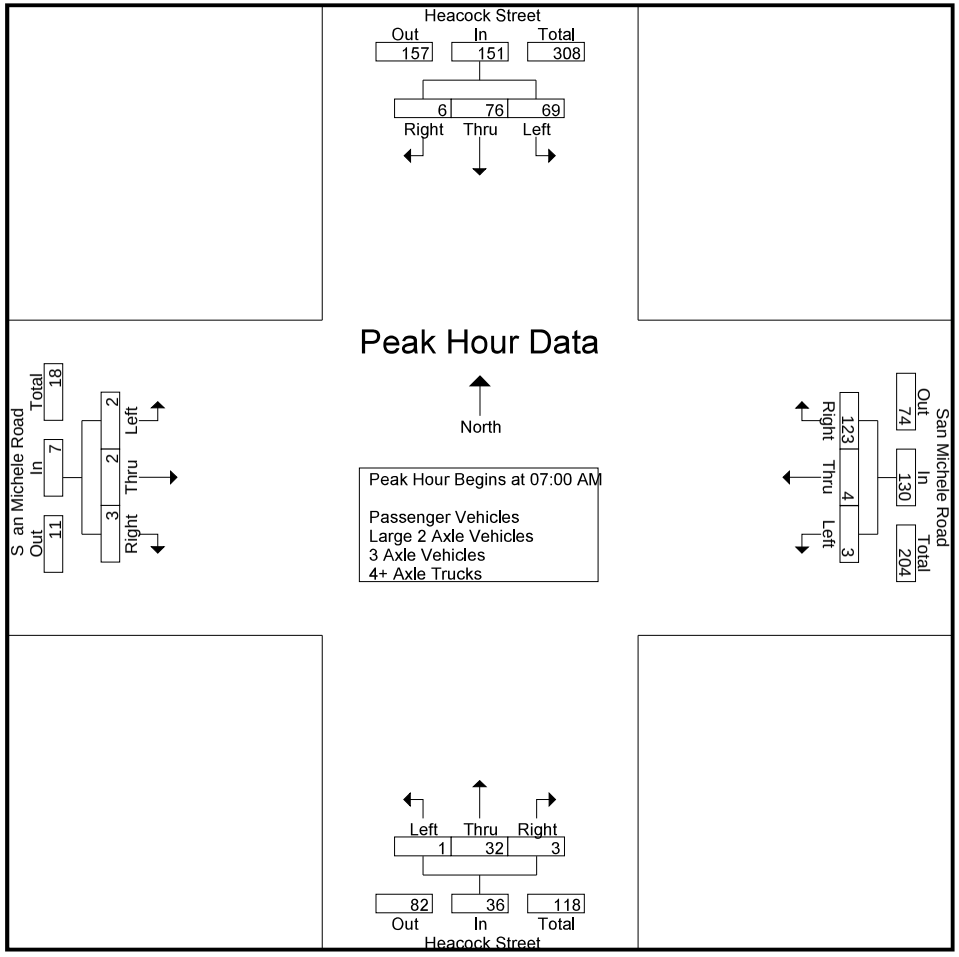
	Heacock Street Southbound					San Michele Road Westbound					Heacock Street Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	7	17	2	0	26	1	2	20	6	23	1	8	2	0	11	0	2	1	1	3	7	63
07:15 AM	30	24	2	1	56	1	0	41	21	42	0	7	0	0	7	2	0	1	0	3	22	108
07:30 AM	14	17	2	0	33	1	1	31	11	33	0	6	0	0	6	0	0	1	1	1	12	73
07:45 AM	18	18	0	0	36	0	1	31	12	32	0	11	1	0	12	0	0	0	0	0	12	80
Total	69	76	6	1	151	3	4	123	50	130	1	32	3	0	36	2	2	3	2	7	53	324
08:00 AM	12	8	0	0	20	0	0	23	3	23	0	5	1	0	6	0	0	0	0	0	3	49
08:15 AM	9	9	1	1	19	1	1	16	7	18	0	6	0	0	6	0	0	1	0	1	8	44
08:30 AM	11	7	2	1	20	0	1	10	2	11	0	1	0	0	1	0	0	0	0	0	3	32
08:45 AM	6	10	1	0	17	1	1	11	5	13	0	4	1	0	5	0	0	1	0	1	5	36
Total	38	34	4	2	76	2	3	60	17	65	0	16	2	0	18	0	0	2	0	2	19	161
Grand Total	107	110	10	3	227	5	7	183	67	195	1	48	5	0	54	2	2	5	2	9	72	485
Apprch %	47.1	48.5	4.4			2.6	3.6	93.8			1.9	88.9	9.3			22.2	22.2	55.6				
Total %	22.1	22.7	2.1		46.8	1	1.4	37.7		40.2	0.2	9.9	1		11.1	0.4	0.4	1		1.9	12.9	87.1
Passenger Vehicles	96	93	8		200	2	5	170		237	1	39	3		43	2	0	4		8	0	0
% Passenger Vehicles	89.7	84.5	80	100	87	40	71.4	92.9	89.6	90.5	100	81.2	60	0	79.6	100	0	80	100	72.7	0	0
Large 2 Axle Vehicles	1	5	2		8	1	2	3		8	0	5	1		6	0	0	1		1	0	0
% Large 2 Axle Vehicles	0.9	4.5	20	0	3.5	20	28.6	1.6	3	3.1	0	10.4	20	0	11.1	0	0	20	0	9.1	0	0
3 Axle Vehicles	2	4	0		6	0	0	1		1	0	0	0		0	0	2	0		2	0	0
% 3 Axle Vehicles	1.9	3.6	0	0	2.6	0	0	0.5	0	0.4	0	0	0	0	0	0	100	0	0	18.2	0	0
4+ Axle Trucks	8	8	0		16	2	0	9		16	0	4	1		5	0	0	0		0	0	0
% 4+ Axle Trucks	7.5	7.3	0	0	7	40	0	4.9	7.5	6.1	0	8.3	20	0	9.3	0	0	0	0	0	0	0

	Heacock Street Southbound				San Michele Road Westbound				Heacock Street Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	7	17	**2**	26	**1**	**2**	20	23	**1**	8	**2**	11	0	**2**	**1**	**3**	63
07:15 AM	**30**	**24**	2	**56**	1	0	**41**	**42**	0	7	0	7	**2**	0	1	3	**108**
07:30 AM	14	17	2	33	1	1	31	33	0	6	0	6	0	0	1	1	73
07:45 AM	18	18	0	36	0	1	31	32	0	**11**	1	**12**	0	0	0	0	80
Total Volume	69	76	6	151	3	4	123	130	1	32	3	36	2	2	3	7	324
% App. Total	45.7	50.3	4		2.3	3.1	94.6		2.8	88.9	8.3		28.6	28.6	42.9		
PHF	.575	.792	.750	.674	.750	.500	.750	.774	.250	.727	.375	.750	.250	.250	.750	.583	.750

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City of Moreno Valley
N/S: Heacock Street
E/W: San Michele Road
Weather: Clear

File Name : MRVHESMAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Heacock Street
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Weather: Clear

File Name : MRVHESMAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

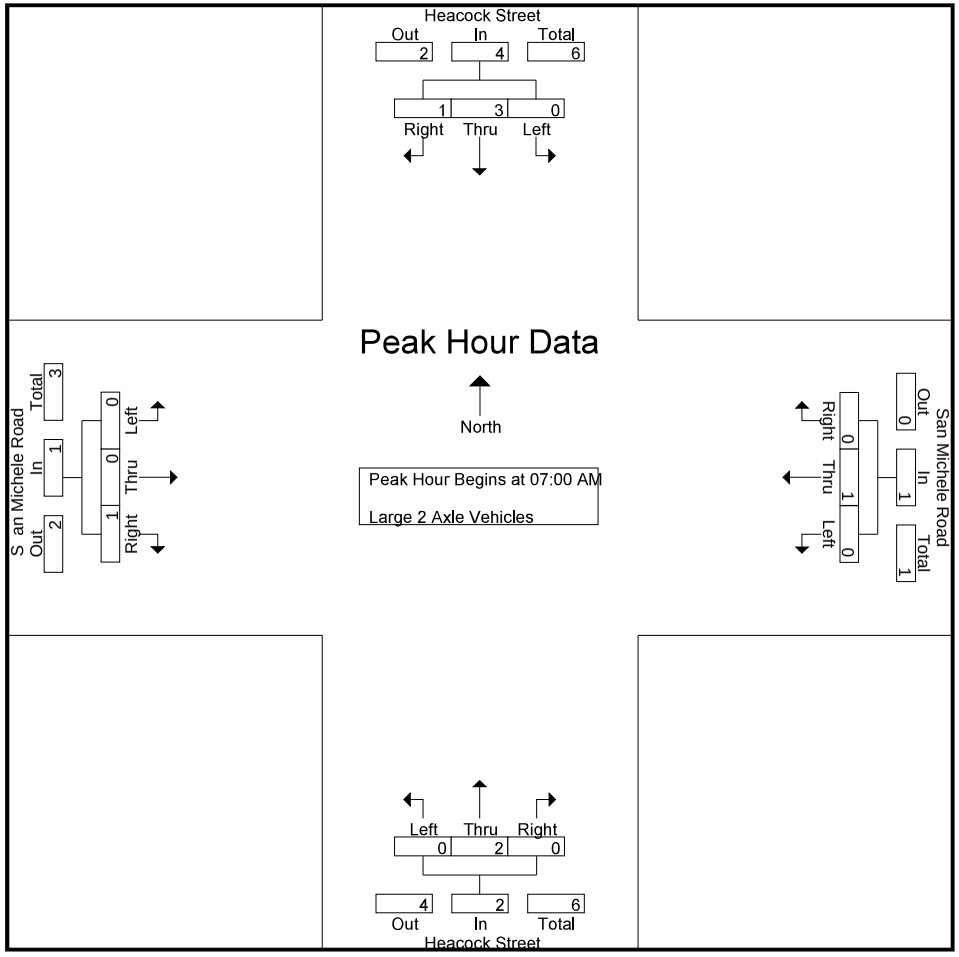
	Heacock Street Southbound					San Michele Road Westbound					Heacock Street Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
07:45 AM	0	3	0	0	3	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	5
Total	0	3	1	0	4	0	1	0	1	1	0	2	0	0	2	0	0	1	0	1	1	8
08:00 AM	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	3
08:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	2	1	0	3	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	6
08:45 AM	0	0	0	0	0	1	0	0	1	1	0	1	1	0	2	0	0	0	0	0	1	3
Total	1	2	1	0	4	1	1	3	1	5	0	3	1	0	4	0	0	0	0	0	1	13
Grand Total	1	5	2	0	8	1	2	3	2	6	0	5	1	0	6	0	0	1	0	1	2	21
Apprch %	12.5	62.5	25			16.7	33.3	50			0	83.3	16.7			0	0	100				
Total %	4.8	23.8	9.5		38.1	4.8	9.5	14.3		28.6	0	23.8	4.8		28.6	0	0	4.8		4.8	8.7	91.3

	Heacock Street Southbound				San Michele Road Westbound				Heacock Street Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	**1**	1	0	0	0	0	0	**1**	0	**1**	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	**3**	0	**3**	0	**1**	0	**1**	0	1	0	1	0	0	0	0	**5**
Total Volume	0	3	1	4	0	1	0	1	0	2	0	2	0	0	1	1	8
% App. Total	0	75	25		0	100	0		0	100	0		0	0	100		
PHF	.000	.250	.250	.333	.000	.250	.000	.250	.000	.500	.000	.500	.000	.000	.250	.250	.400

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City of Moreno Valley
N/S: Heacock Street
E/W: San Michele Road
Weather: Clear

File Name : MRVHESMAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Heacock Street
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File Name : MRVHESMAM
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Groups Printed- 3 Axle Vehicles

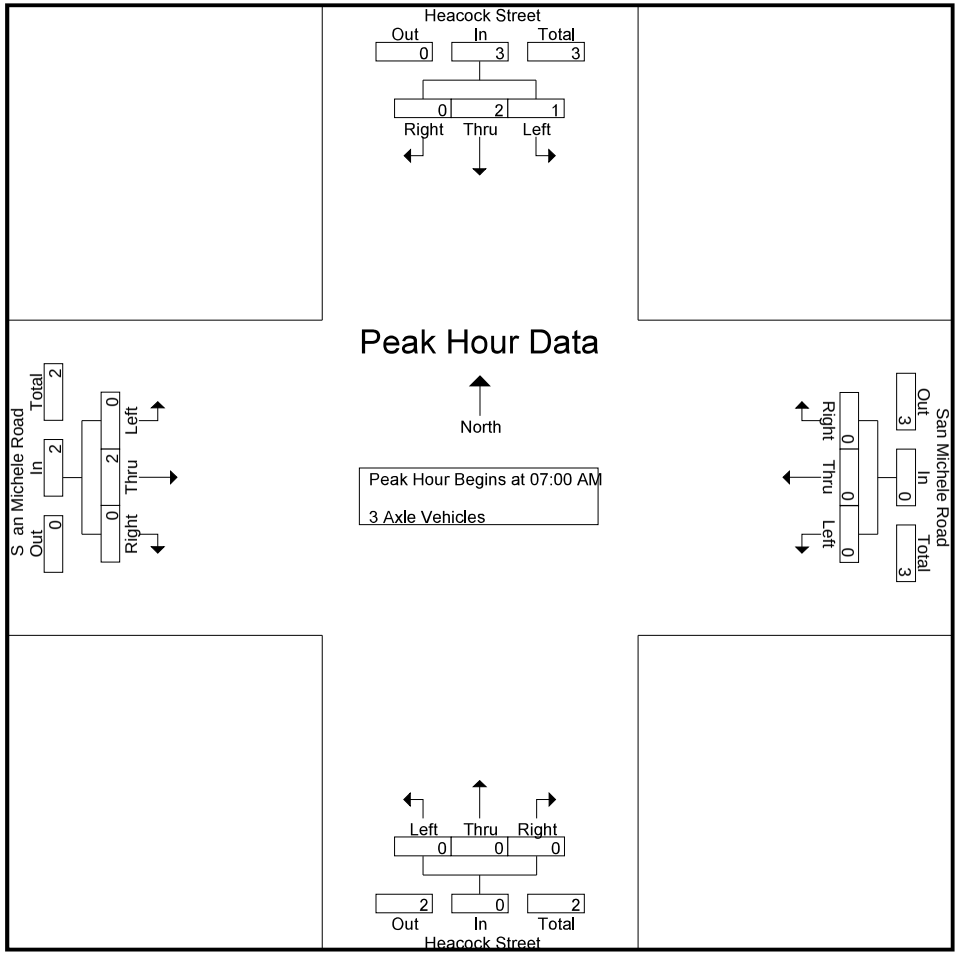
	Heacock Street Southbound					San Michele Road Westbound					Heacock Street Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	3
07:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	5
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
Total	1	2	0	0	3	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	4
Grand Total	2	4	0	0	6	0	0	1	0	1	0	0	0	0	0	0	2	0	0	2	0	9
Apprch %	33.3	66.7	0			0	0	100			0	0	0			0	100	0				
Total %	22.2	44.4	0		66.7	0	0	11.1		11.1	0	0	0		0	0	22.2	0		22.2	0	100

	Heacock Street Southbound				San Michele Road Westbound				Heacock Street Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**1**	0	0	**1**	0	0	0	0	0	0	0	0	0	**2**	0	**2**	**3**
07:15 AM	0	**1**	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	2	0	3	0	0	0	0	0	0	0	0	0	2	0	2	5
% App. Total	33.3	66.7	0		0	0	0		0	0	0		0	100	0		
PHF	.250	.500	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.417

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City of Moreno Valley
N/S: Heacock Street
E/W: San Michele Road
Weather: Clear

File Name : MRVHESMAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Heacock Street
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File Name : MRVHESMAM
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Groups Printed- 4+ Axle Trucks

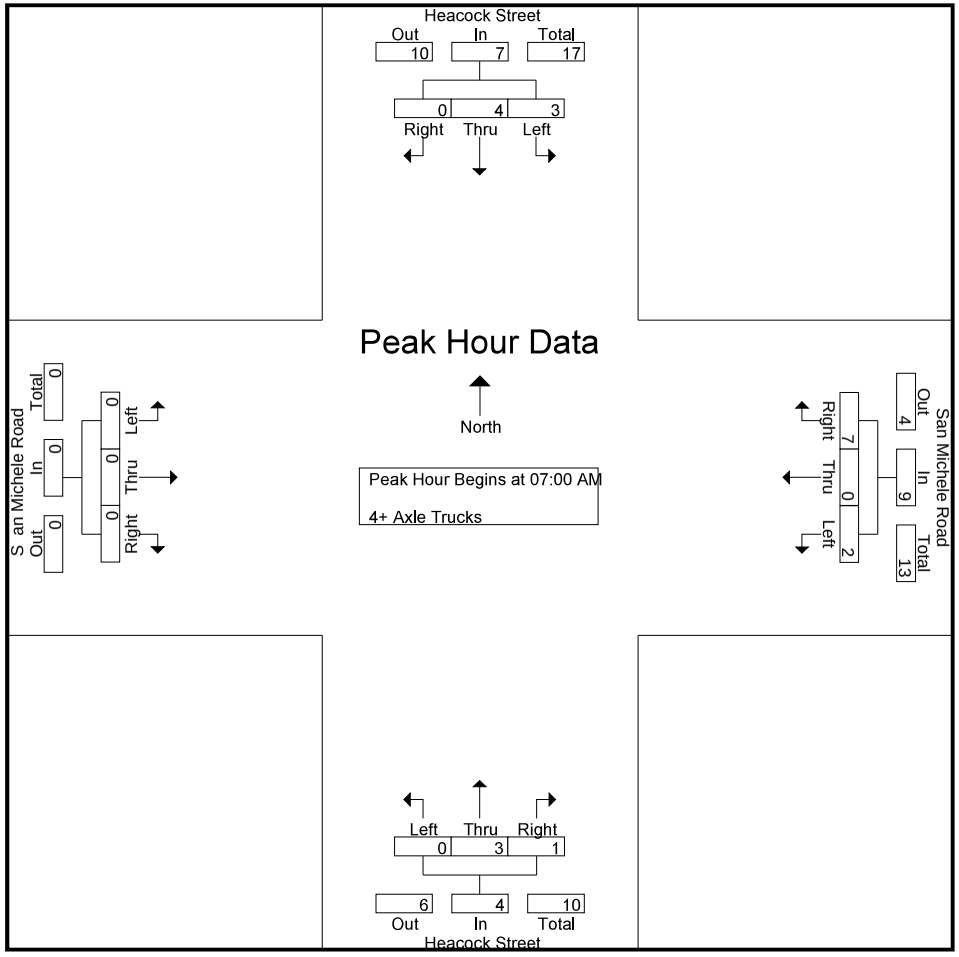
	Heacock Street Southbound					San Michele Road Westbound					Heacock Street Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	1	2	0	0	3	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	5
07:15 AM	0	0	0	0	0	1	0	3	1	4	0	1	0	0	1	0	0	0	0	0	1	5
07:30 AM	1	2	0	0	3	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4
07:45 AM	1	0	0	0	1	0	0	4	3	4	0	1	0	0	1	0	0	0	0	0	3	6
Total	3	4	0	0	7	2	0	7	4	9	0	3	1	0	4	0	0	0	0	0	4	20
08:00 AM	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:15 AM	2	0	0	0	2	0	0	2	1	2	0	0	0	0	0	0	0	0	0	0	1	4
08:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	1	2	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4
Total	5	4	0	0	9	0	0	2	1	2	0	1	0	0	1	0	0	0	0	0	1	12
Grand Total	8	8	0	0	16	2	0	9	5	11	0	4	1	0	5	0	0	0	0	0	5	32
Apprch %	50	50	0			18.2	0	81.8			0	80	20			0	0	0				
Total %	25	25	0		50	6.2	0	28.1		34.4	0	12.5	3.1		15.6	0	0	0		0	13.5	86.5

	Heacock Street Southbound				San Michele Road Westbound				Heacock Street Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**1**	**2**	0	**3**	0	0	0	0	0	**1**	**1**	**2**	0	0	0	0	5
07:15 AM	0	0	0	0	**1**	0	3	**4**	0	1	0	1	0	0	0	0	5
07:30 AM	1	2	0	3	1	0	0	1	0	0	0	0	0	0	0	0	4
07:45 AM	1	0	0	1	0	0	**4**	4	0	1	0	1	0	0	0	0	**6**
Total Volume	3	**4**	0	7	2	0	7	9	0	3	1	4	0	0	0	0	20
% App. Total	42.9	57.1	0		22.2	0	77.8		0	75	25		0	0	0		
PHF	.750	.500	.000	.583	.500	.000	.438	.563	.000	.750	.250	.500	.000	.000	.000	.000	.833

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City of Moreno Valley
N/S: Heacock Street
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File Name : MRVHESMAM
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City of Moreno Valley
N/S: Heacock Street
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File Name : MRVHESMPM
Site Code : 05115223
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

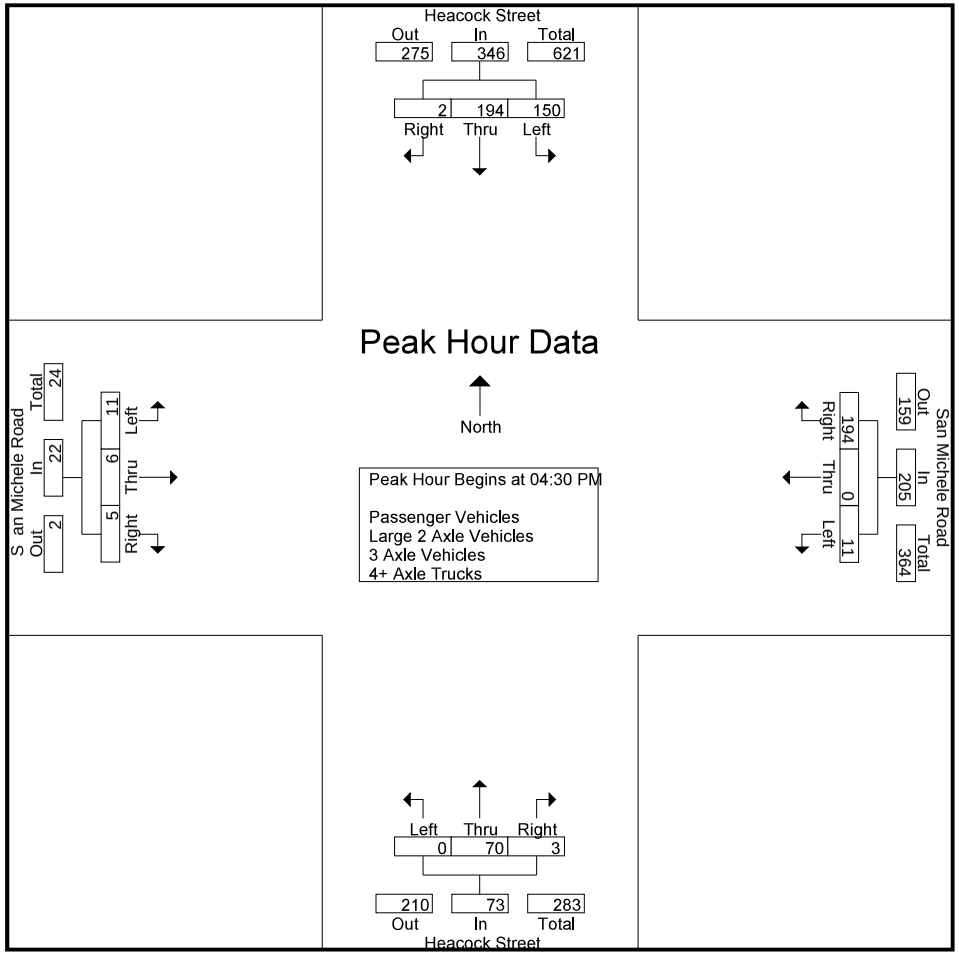
	Heacock Street Southbound					San Michele Road Westbound					Heacock Street Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	19	24	0	0	43	1	0	24	0	25	0	3	2	0	5	1	2	1	0	4	0	77
04:15 PM	26	20	1	0	47	0	0	24	0	24	0	12	0	0	12	0	0	2	0	2	0	85
04:30 PM	50	45	1	0	96	7	0	81	0	88	0	33	1	2	34	9	2	2	0	13	2	231
04:45 PM	46	55	1	0	102	4	0	56	0	60	0	26	1	0	27	1	3	2	0	6	0	195
Total	141	144	3	0	288	12	0	185	0	197	0	74	4	2	78	11	7	7	0	25	2	588
05:00 PM	25	51	0	0	76	0	0	33	0	33	0	9	0	0	9	0	0	0	0	0	0	118
05:15 PM	29	43	0	0	72	0	0	24	0	24	0	2	1	1	3	1	1	1	0	3	1	102
05:30 PM	28	51	0	0	79	3	0	53	0	56	0	11	0	1	11	0	0	0	0	0	1	146
05:45 PM	28	39	0	0	67	0	0	31	2	31	0	8	0	0	8	0	0	1	0	1	2	107
Total	110	184	0	0	294	3	0	141	2	144	0	30	1	2	31	1	1	2	0	4	4	473
Grand Total	251	328	3	0	582	15	0	326	2	341	0	104	5	4	109	12	8	9	0	29	6	1061
Apprch %	43.1	56.4	0.5			4.4	0	95.6			0	95.4	4.6			41.4	27.6	31				
Total %	23.7	30.9	0.3		54.9	1.4	0	30.7		32.1	0	9.8	0.5		10.3	1.1	0.8	0.8		2.7	0.6	99.4
Passenger Vehicles	248	309	3		560	15	0	309		326	0	100	5		109	12	8	9		29	0	0
% Passenger Vehicles	98.8	94.2	100	0	96.2	100	0	94.8	100	95	0	96.2	100	100	96.5	100	100	100	0	100	0	0
Large 2 Axle Vehicles	1	5	0		6	0	0	6		6	0	3	0		3	0	0	0		0	0	0
% Large 2 Axle Vehicles	0.4	1.5	0	0	1	0	0	1.8	0	1.7	0	2.9	0	0	2.7	0	0	0	0	0	0	0
3 Axle Vehicles	0	6	0		6	0	0	7		7	0	1	0		1	0	0	0		0	0	0
% 3 Axle Vehicles	0	1.8	0	0	1	0	0	2.1	0	2	0	1	0	0	0.9	0	0	0	0	0	0	0
4+ Axle Trucks	2	8	0		10	0	0	4		4	0	0	0		0	0	0	0		0	0	0
% 4+ Axle Trucks	0.8	2.4	0	0	1.7	0	0	1.2	0	1.2	0	0	0	0	0	0	0	0	0	0	0	0

	Heacock Street Southbound				San Michele Road Westbound				Heacock Street Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**50**	45	**1**	96	**7**	0	**81**	**88**	0	**33**	**1**	**34**	**9**	2	**2**	**13**	**231**
04:45 PM	46	**55**	1	**102**	4	0	56	60	0	26	1	27	1	**3**	2	6	195
05:00 PM	25	51	0	76	0	0	33	33	0	9	0	9	0	0	0	0	118
05:15 PM	29	43	0	72	0	0	24	24	0	2	1	3	1	1	1	3	102
Total Volume	150	194	2	346	11	0	194	205	0	70	3	73	11	6	5	22	646
% App. Total	43.4	56.1	0.6		5.4	0	94.6		0	95.9	4.1		50	27.3	22.7		
PHF	.750	.882	.500	.848	.393	.000	.599	.582	.000	.530	.750	.537	.306	.500	.625	.423	.699

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City of Moreno Valley
N/S: Heacock Street
E/W: San Michele Road
Weather: Clear

File Name : MRVHESMPM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Heacock Street
E/W: San Michele Road
Weather: Clear

File Name : MRVHESMPM
Site Code : 05115223
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Page No : 1

Groups Printed- Large 2 Axle Vehicles

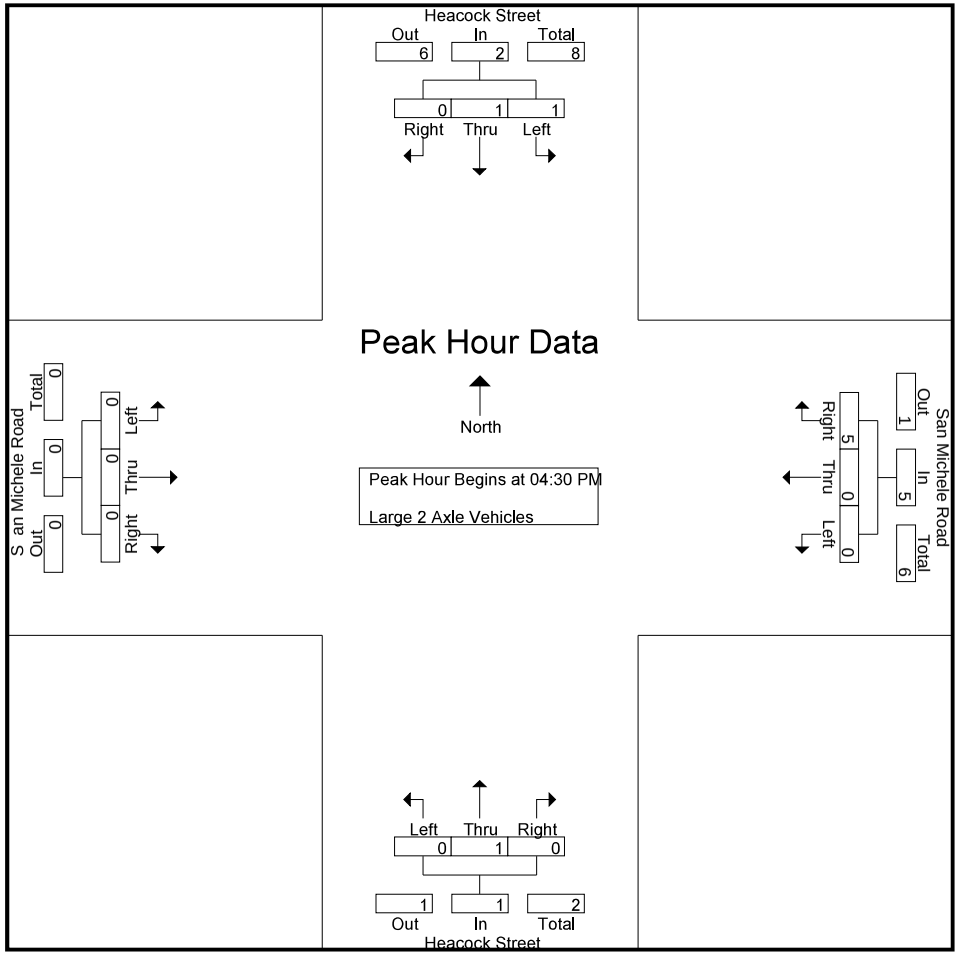
	Heacock Street Southbound					San Michele Road Westbound					Heacock Street Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	1	1	0	0	2	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	4
04:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	2	0	0	3	0	0	3	0	3	0	1	0	0	1	0	0	0	0	0	0	7
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:30 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
05:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
Total	0	3	0	0	3	0	0	3	0	3	0	2	0	0	2	0	0	0	0	0	0	8
Grand Total	1	5	0	0	6	0	0	6	0	6	0	3	0	0	3	0	0	0	0	0	0	15
Apprch %	16.7	83.3	0			0	0	100			0	100	0			0	0	0				
Total %	6.7	33.3	0		40	0	0	40		40	0	20	0		20	0	0	0		0	0	100

	Heacock Street Southbound				San Michele Road Westbound				Heacock Street Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**1**	**1**	0	**2**	0	0	1	1	0	**1**	0	**1**	0	0	0	0	**4**
04:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	**2**	**2**	0	0	0	0	0	0	0	0	2
Total Volume	1	1	0	2	0	0	5	5	0	1	0	1	0	0	0	0	8
% App. Total	50	50	0		0	0	100		0	100	0		0	0	0		
PHF	.250	.250	.000	.250	.000	.000	.625	.625	.000	.250	.000	.250	.000	.000	.000	.000	.500

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E/W: San Michele Road
Weather: Clear

File Name : MRVHESMPM
Site Code : 05115223
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Weather: Clear

File Name : MRVHESMPM
Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- 3 Axle Vehicles

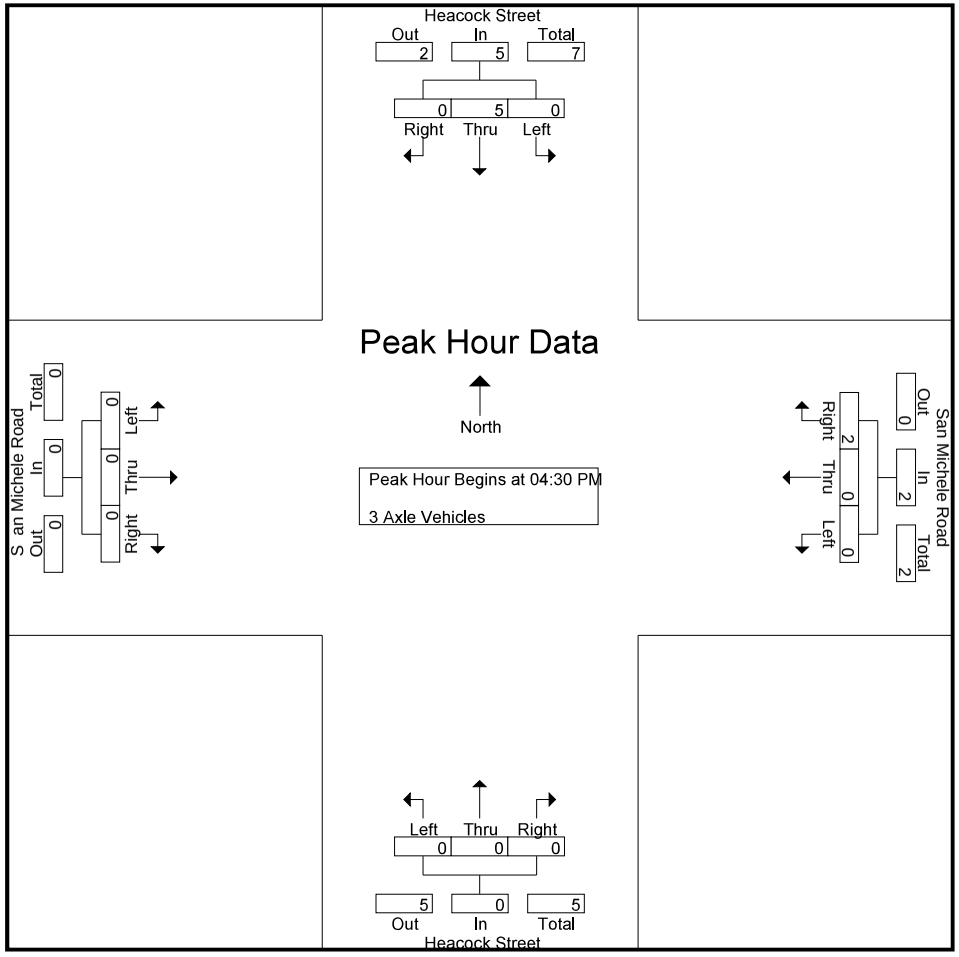
	Heacock Street Southbound					San Michele Road Westbound					Heacock Street Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	2	0	0	2	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	4
05:00 PM	0	2	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	1	0	0	1	0	0	3	0	3	0	1	0	0	1	0	0	0	0	0	0	5
Total	0	4	0	0	4	0	0	5	0	5	0	1	0	0	1	0	0	0	0	0	0	10
Grand Total	0	6	0	0	6	0	0	7	0	7	0	1	0	0	1	0	0	0	0	0	0	14
Apprch %	0	100	0			0	0	100			0	100	0			0	0	0				
Total %	0	42.9	0		42.9	0	0	50		50	0	7.1	0		7.1	0	0	0		0	0	100

	Heacock Street Southbound				San Michele Road Westbound				Heacock Street Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	**1**	**1**	0	0	0	0	0	0	0	0	1
04:45 PM	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00 PM	0	2	0	2	0	0	1	1	0	0	0	0	0	0	0	0	**3**
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	5	0	5	0	0	2	2	0	0	0	0	0	0	0	0	7
% App. Total	0	100	0		0	0	100		0	0	0		0	0	0		
PHF	.000	.625	.000	.625	.000	.000	.500	.500	.000	.000	.000	.000	.000	.000	.000	.000	.583

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City of Moreno Valley
N/S: Heacock Street
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File Name : MRVHESMPM
Site Code : 05115223
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City of Moreno Valley
N/S: Heacock Street
E/W: San Michele Road
Weather: Clear

File Name : MRVHESMPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

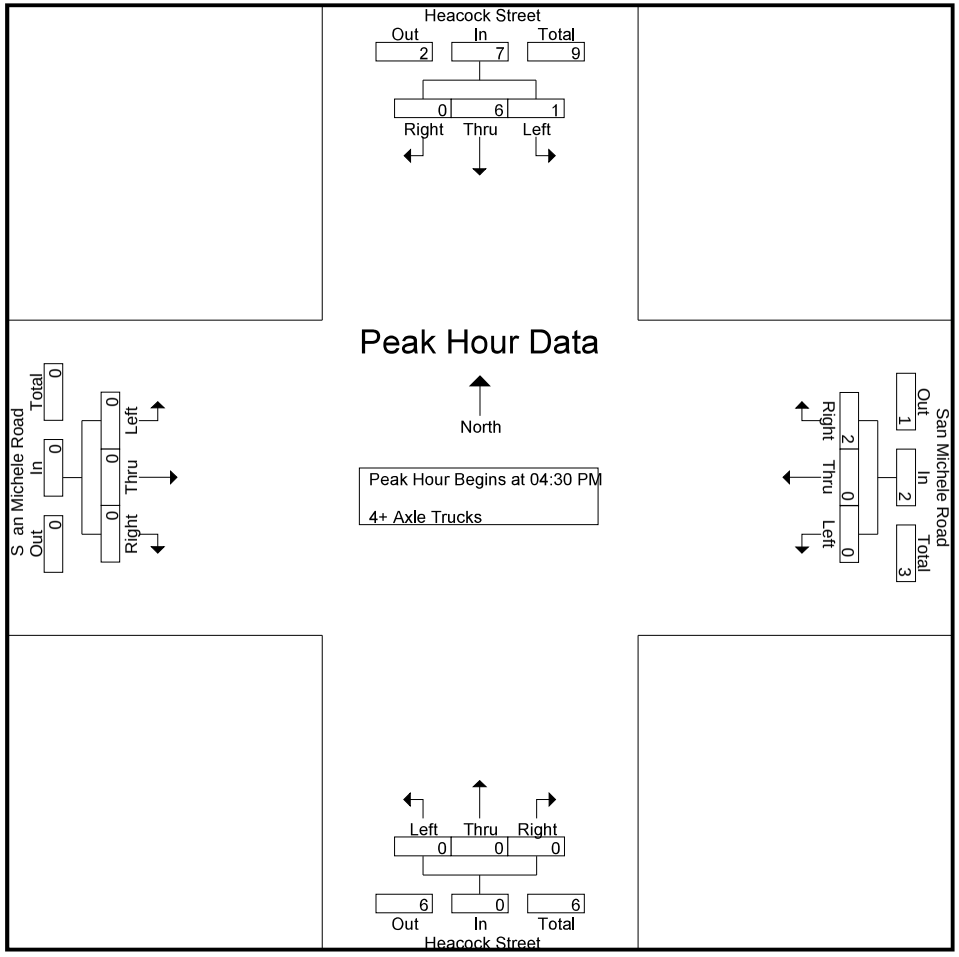
	Heacock Street Southbound					San Michele Road Westbound					Heacock Street Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:45 PM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Total	2	3	0	0	5	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	7
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:30 PM	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	5	0	0	5	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	7
Grand Total	2	8	0	0	10	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	14
Apprch %	20	80	0			0	0	100			0	0	0			0	0	0				
Total %	14.3	57.1	0		71.4	0	0	28.6		28.6	0	0	0		0	0	0	0		0	0	100

	Heacock Street Southbound				San Michele Road Westbound				Heacock Street Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**1**	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:45 PM	0	0	0	0	0	0	**2**	**2**	0	0	0	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	**4**	0	**4**	0	0	0	0	0	0	0	0	0	0	0	0	**4**
Total Volume	1	6	0	7	0	0	2	2	0	0	0	0	0	0	0	0	9
% App. Total	14.3	85.7	0		0	0	100		0	0	0		0	0	0		
PHF	.250	.375	.000	.438	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.563

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N/S: Heacock Street
E/W: San Michele Road
Weather: Clear

File Name : MRVHESMPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



Location: Moreno Valley
N/S: Heacock Street
E/W: San Michele Road

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Heacock Street	East Leg San Michele Road	South Leg Heacock Street	West Leg San Michele Road	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Heacock Street	East Leg San Michele Road	South Leg Heacock Street	West Leg San Michele Road	TOTAL
4:00 PM	0	1	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	1	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	1	0	1
TOTAL VOLUMES:	0	1	2	0	3

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Location: Moreno Valley
N/S: Heacock Street
E/W: San Michele Road

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Heacock Street	East Leg San Michele Road	South Leg Heacock Street	West Leg San Michele Road	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Heacock Street	East Leg San Michele Road	South Leg Heacock Street	West Leg San Michele Road	TOTAL
4:00 PM	0	1	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	1	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	1	0	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	3	0	0	3

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City of Moreno Valley
N/S: Heacock Street
E/W: Nandina Avenue
Weather: Clear

File Name : MRVHENAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

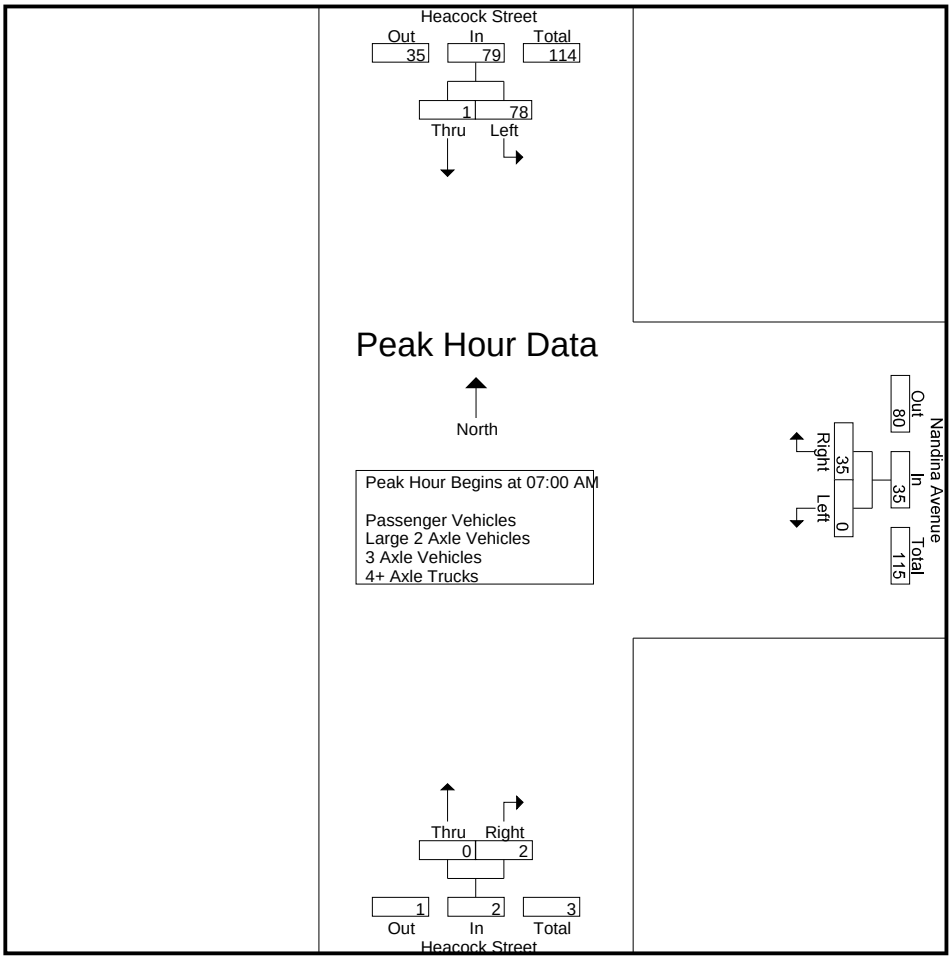
	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	17	0	17	0	9	9	0	1	1	27
07:15 AM	23	0	23	0	8	8	0	0	0	31
07:30 AM	20	1	21	0	6	6	0	1	1	28
07:45 AM	18	0	18	0	12	12	0	0	0	30
Total	78	1	79	0	35	35	0	2	2	116
08:00 AM	8	0	8	0	5	5	0	0	0	13
08:15 AM	9	2	11	1	6	7	0	2	2	20
08:30 AM	7	2	9	0	1	1	0	2	2	12
08:45 AM	10	0	10	1	7	8	0	1	1	19
Total	34	4	38	2	19	21	0	5	5	64
Grand Total	112	5	117	2	54	56	0	7	7	180
Apprch %	95.7	4.3		3.6	96.4		0	100		
Total %	62.2	2.8	65	1.1	30	31.1	0	3.9	3.9	
Passenger Vehicles	99	4	103	1	48	49	0	5	5	157
% Passenger Vehicles	88.4	80	88	50	88.9	87.5	0	71.4	71.4	87.2
Large 2 Axle Vehicles	2	1	3	1	3	4	0	1	1	8
% Large 2 Axle Vehicles	1.8	20	2.6	50	5.6	7.1	0	14.3	14.3	4.4
3 Axle Vehicles	4	0	4	0	0	0	0	0	0	4
% 3 Axle Vehicles	3.6	0	3.4	0	0	0	0	0	0	2.2
4+ Axle Trucks	7	0	7	0	3	3	0	1	1	11
% 4+ Axle Trucks	6.2	0	6	0	5.6	5.4	0	14.3	14.3	6.1

	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	17	0	17	0	9	9	0	1	1	27
07:15 AM	23	0	23	0	8	8	0	0	0	31
07:30 AM	20	1	21	0	6	6	0	1	1	28
07:45 AM	18	0	18	0	12	12	0	0	0	30
Total Volume	78	1	79	0	35	35	0	2	2	116
% App. Total	98.7	1.3		0	100		0	100		
PHF	.848	.250	.859	.000	.729	.729	.000	.500	.500	.935

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City of Moreno Valley
N/S: Heacock Street
E/W: Nandina Avenue
Weather: Clear

File Name : MRVHENAAM
Site Code : 05115223
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			08:00 AM		
+0 mins.	17	0	17	0	9	9	0	0	0
+15 mins.	23	0	23	0	8	8	0	2	2
+30 mins.	20	1	21	0	6	6	0	2	2
+45 mins.	18	0	18	0	12	12	0	1	1
Total Volume	78	1	79	0	35	35	0	5	5
% App. Total	98.7	1.3		0	100		0	100	
PHF	.848	.250	.859	.000	.729	.729	.000	.625	.625

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City of Moreno Valley
N/S: Heacock Street
E/W: Nandina Avenue
Weather: Clear

File Name : MRVHENAAM
Site Code : 05115223
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Groups Printed- Large 2 Axle Vehicles

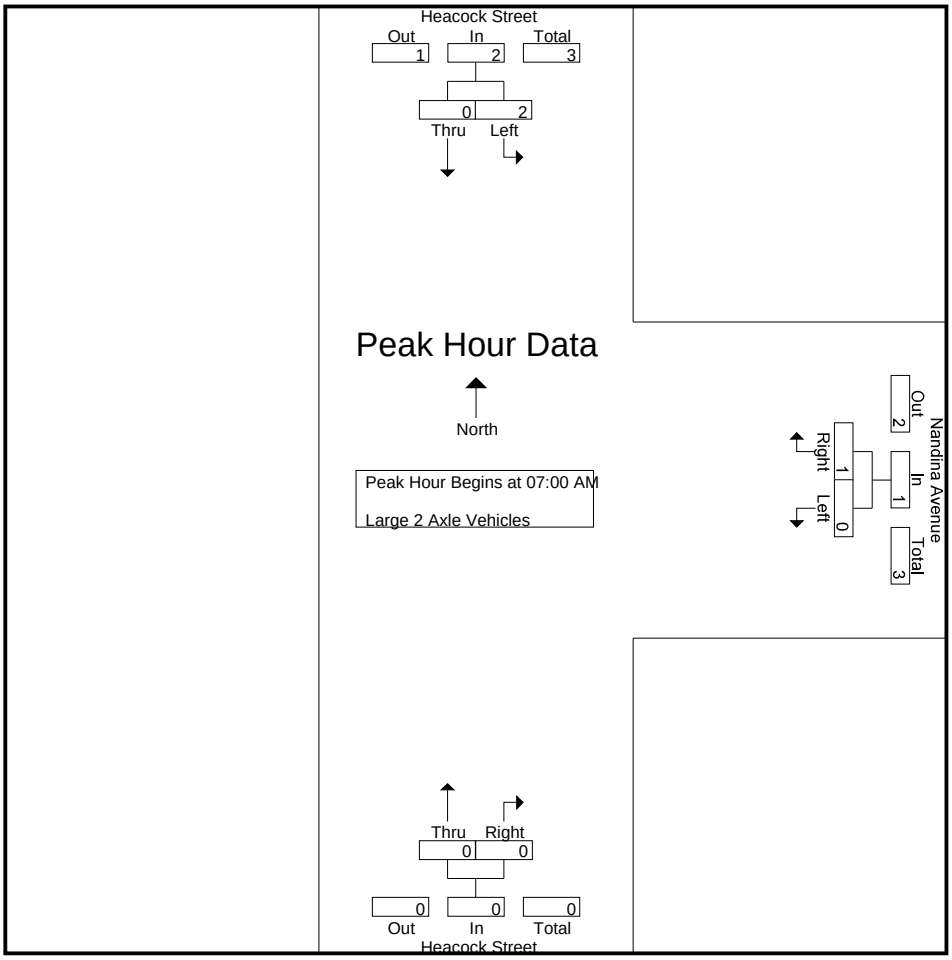
	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	2	0	2	0	1	1	0	0	0	3
Total	2	0	2	0	1	1	0	0	0	3
08:00 AM	0	0	0	0	1	1	0	0	0	1
08:15 AM	0	0	0	1	0	1	0	1	1	2
08:30 AM	0	1	1	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	1	1	0	0	0	1
Total	0	1	1	1	2	3	0	1	1	5
Grand Total	2	1	3	1	3	4	0	1	1	8
Apprch %	66.7	33.3		25	75		0	100		
Total %	25	12.5	37.5	12.5	37.5	50	0	12.5	12.5	

	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	2	0	2	0	1	1	0	0	0	3
Total Volume	2	0	2	0	1	1	0	0	0	3
% App. Total	100	0		0	100		0	0		
PHF	.250	.000	.250	.000	.250	.250	.000	.000	.000	.250

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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	2	0	2	0	1	1	0	0	0
Total Volume	2	0	2	0	1	1	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.250	.000	.250	.000	.250	.250	.000	.000	.000

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City of Moreno Valley
N/S: Heacock Street
E/W: Nandina Avenue
Weather: Clear

File Name : MRVHENAAM
Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- 3 Axle Vehicles

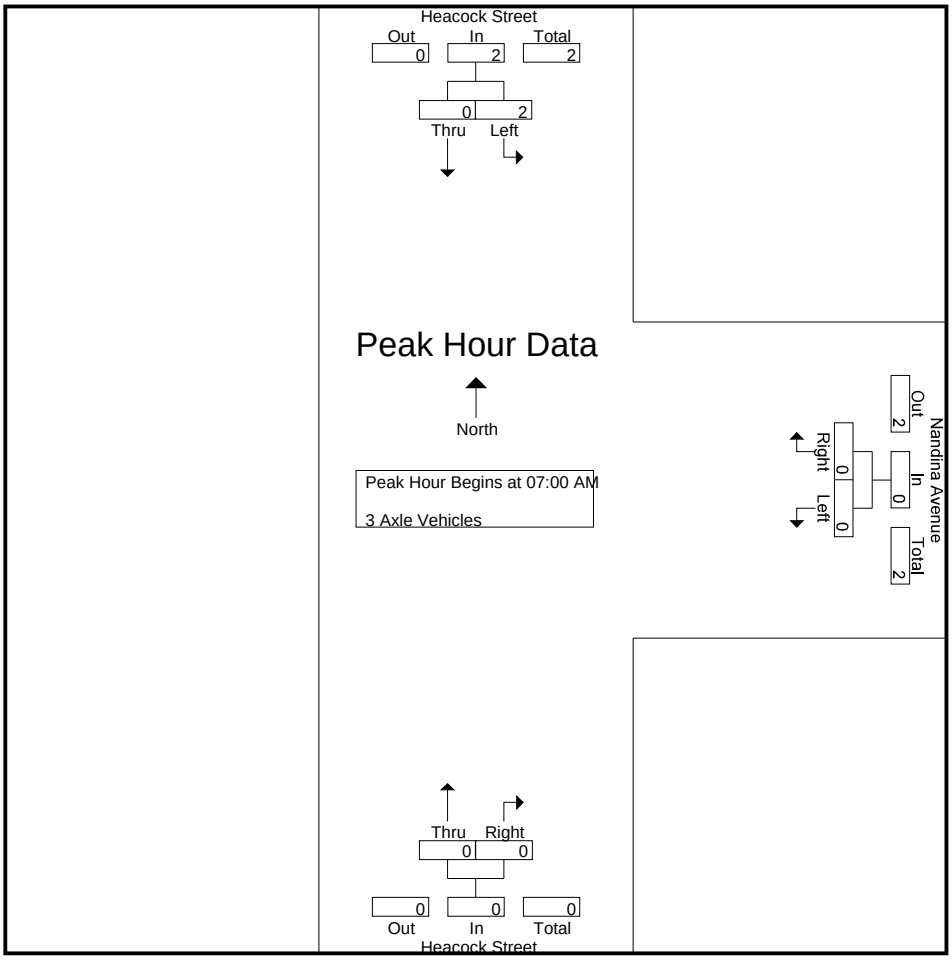
	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	1	0	0	0	0	0	0	1
07:30 AM	1	0	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	2	0	2	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	0	1	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	1	0	1	0	0	0	0	0	0	1
Total	2	0	2	0	0	0	0	0	0	2
Grand Total	4	0	4	0	0	0	0	0	0	4
Apprch %	100	0		0	0		0	0		
Total %	100	0	100	0	0	0	0	0	0	

	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	1	0	0	0	0	0	0	1
07:30 AM	1	0	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	2	0	0	0	0	0	0	2
% App. Total	100	0		0	0		0	0		
PHF	.500	.000	.500	.000	.000	.000	.000	.000	.000	.500

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

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	1	0	1	0	0	0	0	0	0
+30 mins.	1	0	1	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	2	0	2	0	0	0	0	0	0
% App. Total	100	0		0	0		0	0	
PHF	.500	.000	.500	.000	.000	.000	.000	.000	.000

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City of Moreno Valley
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Weather: Clear

File Name : MRVHENAAM
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Groups Printed- 4+ Axle Trucks

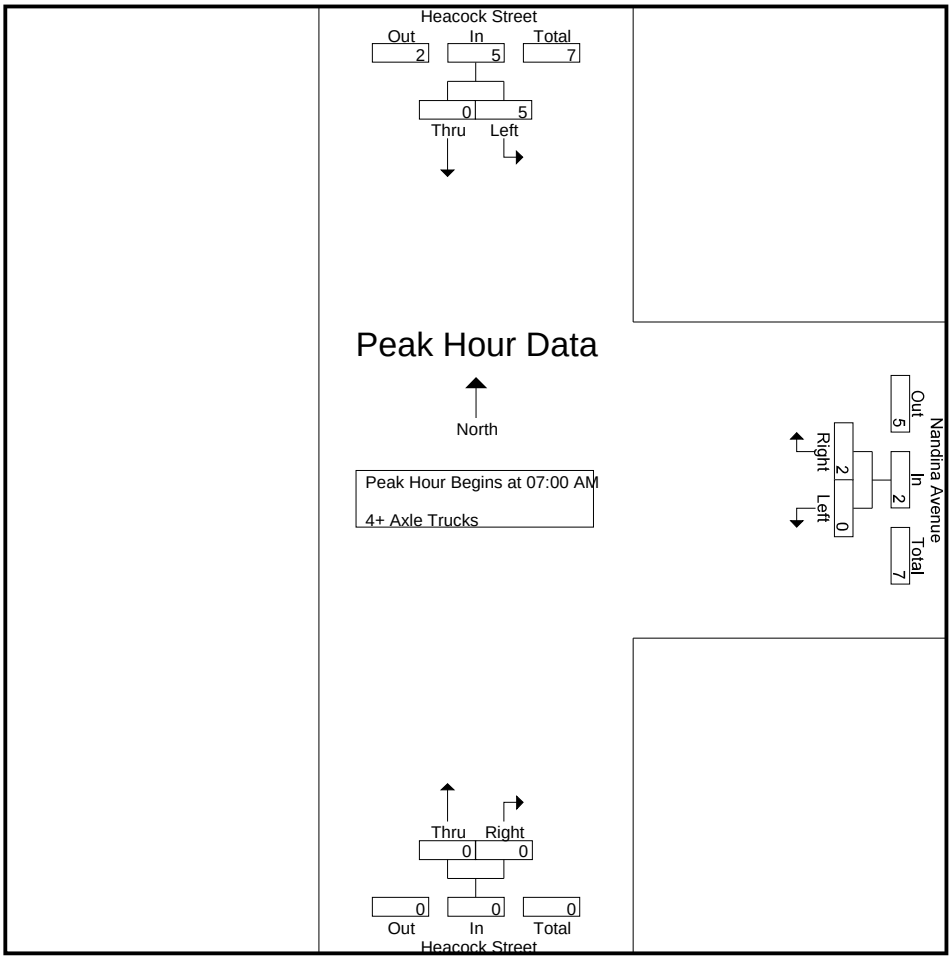
	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	1	0	1	0	1	1	0	0	0	2
07:15 AM	1	0	1	0	1	1	0	0	0	2
07:30 AM	3	0	3	0	0	0	0	0	0	3
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	5	0	5	0	2	2	0	0	0	7
08:00 AM	1	0	1	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	1	0	1	0	1	1	0	1	1	3
Total	2	0	2	0	1	1	0	1	1	4
Grand Total	7	0	7	0	3	3	0	1	1	11
Apprch %	100	0		0	100		0	100		
Total %	63.6	0	63.6	0	27.3	27.3	0	9.1	9.1	

	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	1	0	1	0	1	1	0	0	0	2
07:15 AM	1	0	1	0	1	1	0	0	0	2
07:30 AM	3	0	3	0	0	0	0	0	0	3
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	5	0	5	0	2	2	0	0	0	7
% App. Total	100	0		0	100		0	0		
PHF	.417	.000	.417	.000	.500	.500	.000	.000	.000	.583

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City of Moreno Valley
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File Name : MRVHENAAM
Site Code : 05115223
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Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	1	0	1	0	1	1	0	0	0
+15 mins.	1	0	1	0	1	1	0	0	0
+30 mins.	3	0	3	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	5	0	5	0	2	2	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.417	.000	.417	.000	.500	.500	.000	.000	.000

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City of Moreno Valley
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File Name : MRVHENAPM
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

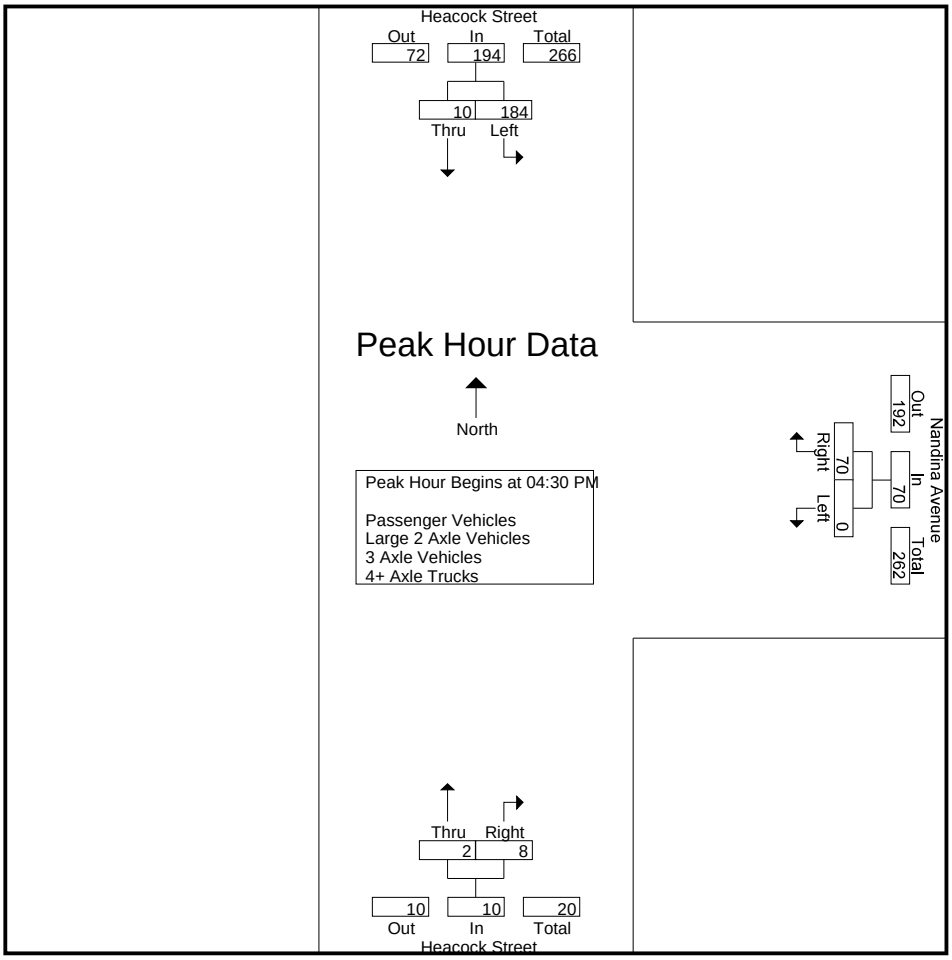
	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	17	2	19	0	2	2	1	1	2	23
04:15 PM	21	1	22	0	12	12	0	1	1	35
04:30 PM	39	4	43	0	34	34	0	4	4	81
04:45 PM	60	4	64	0	23	23	2	2	4	91
Total	137	11	148	0	71	71	3	8	11	230
05:00 PM	44	2	46	0	9	9	0	1	1	56
05:15 PM	41	0	41	0	4	4	0	1	1	46
05:30 PM	47	4	51	1	9	10	2	1	3	64
05:45 PM	43	1	44	0	9	9	0	2	2	55
Total	175	7	182	1	31	32	2	5	7	221
Grand Total	312	18	330	1	102	103	5	13	18	451
Apprch %	94.5	5.5		1	99		27.8	72.2		
Total %	69.2	4	73.2	0.2	22.6	22.8	1.1	2.9	4	
Passenger Vehicles	294	18	312	1	101	102	5	13	18	432
% Passenger Vehicles	94.2	100	94.5	100	99	99	100	100	100	95.8
Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0
% Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0
3 Axle Vehicles	18	0	18	0	1	1	0	0	0	19
% 3 Axle Vehicles	5.8	0	5.5	0	1	1	0	0	0	4.2
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0

	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	39	4	43	0	34	34	0	4	4	81
04:45 PM	60	4	64	0	23	23	2	2	4	91
05:00 PM	44	2	46	0	9	9	0	1	1	56
05:15 PM	41	0	41	0	4	4	0	1	1	46
Total Volume	184	10	194	0	70	70	2	8	10	274
% App. Total	94.8	5.2		0	100		20	80		
PHF	.767	.625	.758	.000	.515	.515	.250	.500	.625	.753

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

	04:45 PM			04:15 PM			04:00 PM		
+0 mins.	60	4	64	0	12	12	1	1	2
+15 mins.	44	2	46	0	34	34	0	1	1
+30 mins.	41	0	41	0	23	23	0	4	4
+45 mins.	47	4	51	0	9	9	2	2	4
Total Volume	192	10	202	0	78	78	3	8	11
% App. Total	95	5		0	100		27.3	72.7	
PHF	.800	.625	.789	.000	.574	.574	.375	.500	.688

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Groups Printed- Large 2 Axle Vehicles

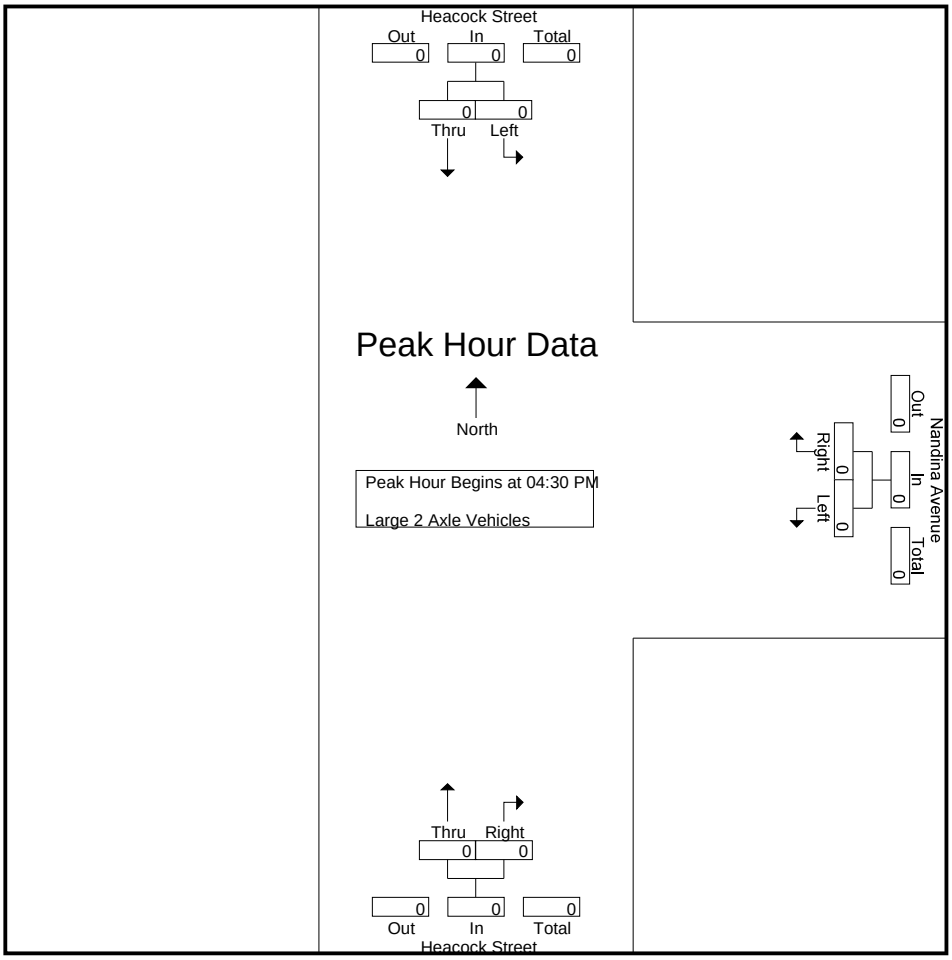
	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 3 Axle Vehicles

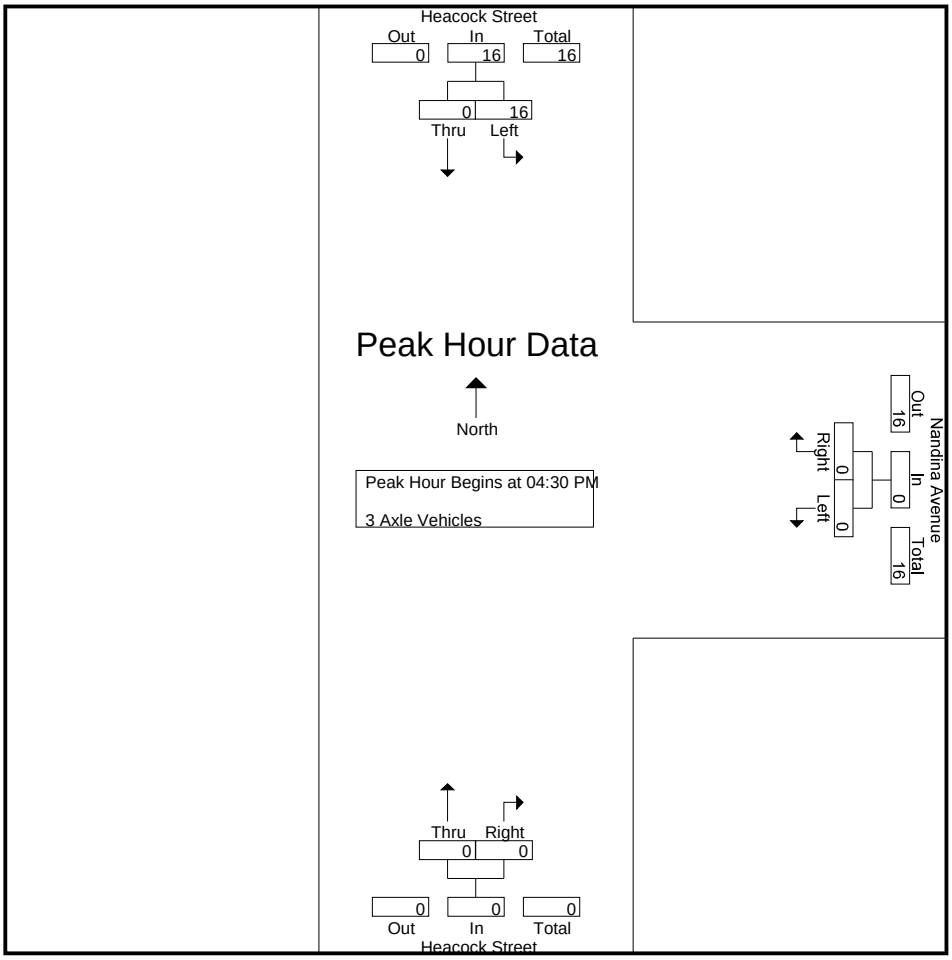
	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	1	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	2	0	2	0	0	0	0	0	0	2
04:45 PM	4	0	4	0	0	0	0	0	0	4
Total	7	0	7	0	0	0	0	0	0	7
05:00 PM	5	0	5	0	0	0	0	0	0	5
05:15 PM	5	0	5	0	0	0	0	0	0	5
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	1	0	1	0	1	1	0	0	0	2
Total	11	0	11	0	1	1	0	0	0	12
Grand Total	18	0	18	0	1	1	0	0	0	19
Apprch %	100	0		0	100		0	0		
Total %	94.7	0	94.7	0	5.3	5.3	0	0	0	

	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	2	0	2	0	0	0	0	0	0	2
04:45 PM	4	0	4	0	0	0	0	0	0	4
05:00 PM	5	0	5	0	0	0	0	0	0	5
05:15 PM	5	0	5	0	0	0	0	0	0	5
Total Volume	16	0	16	0	0	0	0	0	0	16
% App. Total	100	0		0	0		0	0		
PHF	.800	.000	.800	.000	.000	.000	.000	.000	.000	.800

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Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	2	0	2	0	0	0	0	0	0
+15 mins.	4	0	4	0	0	0	0	0	0
+30 mins.	5	0	5	0	0	0	0	0	0
+45 mins.	5	0	5	0	0	0	0	0	0
Total Volume	16	0	16	0	0	0	0	0	0
% App. Total	100	0		0	0		0	0	
PHF	.800	.000	.800	.000	.000	.000	.000	.000	.000

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City of Moreno Valley
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File Name : MRVHENAPM
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Groups Printed- 4+ Axle Trucks

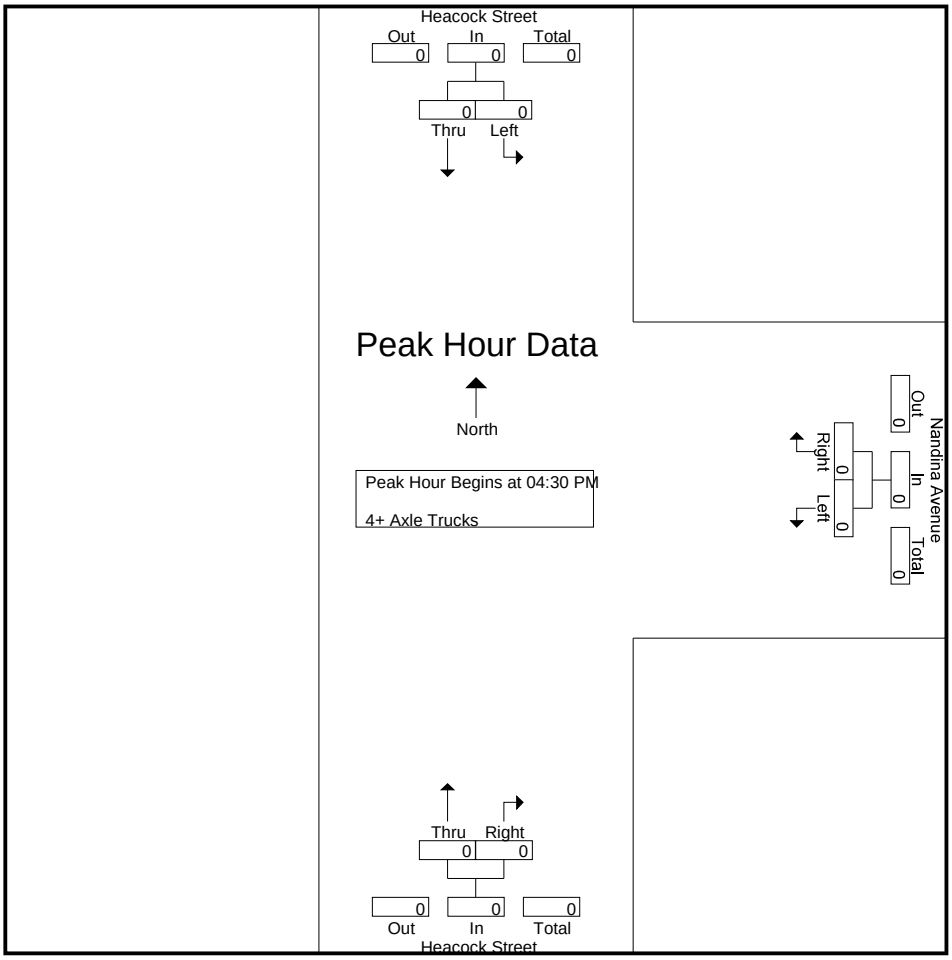
	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Heacock Street Southbound			Nandina Avenue Westbound			Heacock Street Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Moreno Valley
N/S: Heacock Street
E/W: Nandina Avenue
Weather: Clear

File Name : MRVHENAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

Location: Moreno Valley
N/S: Heacock Street
E/W: Nandina Avenue

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Heacock Street	East Leg Nandina Avenue	South Leg Heacock Street	West Leg Nandina Avenue	TOTAL
7:00 AM	0	0	0		0
7:15 AM	0	0	0		0
7:30 AM	0	0	0		0
7:45 AM	0	0	0		0
8:00 AM	0	0	0		0
8:15 AM	0	0	0		0
8:30 AM	0	0	0		0
8:45 AM	0	0	0		0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Heacock Street	East Leg Nandina Avenue	South Leg Heacock Street	West Leg Nandina Avenue	TOTAL
4:00 PM	0	0	0		0
4:15 PM	0	0	0		0
4:30 PM	0	0	0		0
4:45 PM	0	0	0		0
5:00 PM	0	0	0		0
5:15 PM	0	0	0		0
5:30 PM	0	0	0		0
5:45 PM	0	0	0		0
TOTAL VOLUMES:	0	0	0	0	0

Location: Moreno Valley
N/S: Heacock Street
E/W: Nandina Avenue

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Heacock Street	East Leg Nandina Avenue	South Leg Heacock Street	West Leg Nandina Avenue	TOTAL
7:00 AM	0	0	0		0
7:15 AM	0	0	0		0
7:30 AM	0	0	0		0
7:45 AM	0	0	0		0
8:00 AM	0	0	0		0
8:15 AM	0	0	0		0
8:30 AM	0	0	0		0
8:45 AM	0	0	0		0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Heacock Street	East Leg Nandina Avenue	South Leg Heacock Street	West Leg Nandina Avenue	TOTAL
4:00 PM	0	0	0		0
4:15 PM	0	0	0		0
4:30 PM	0	0	0		0
4:45 PM	0	0	0		0
5:00 PM	0	0	0		0
5:15 PM	0	0	0		0
5:30 PM	0	0	0		0
5:45 PM	0	0	0		0
TOTAL VOLUMES:	0	0	0	0	0

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City of Moreno Valley
N/S: Heacok Street
E/W: Harley Knox Boulevard
Weather: Sunny

File Name : MRVHEHKAM
Site Code : 00000097
Start Date : 5/16/2013
Page No : 1

Ù®±«°- Ð®·²¬»¼ó Ì±¬¿´ Ê±´«³»

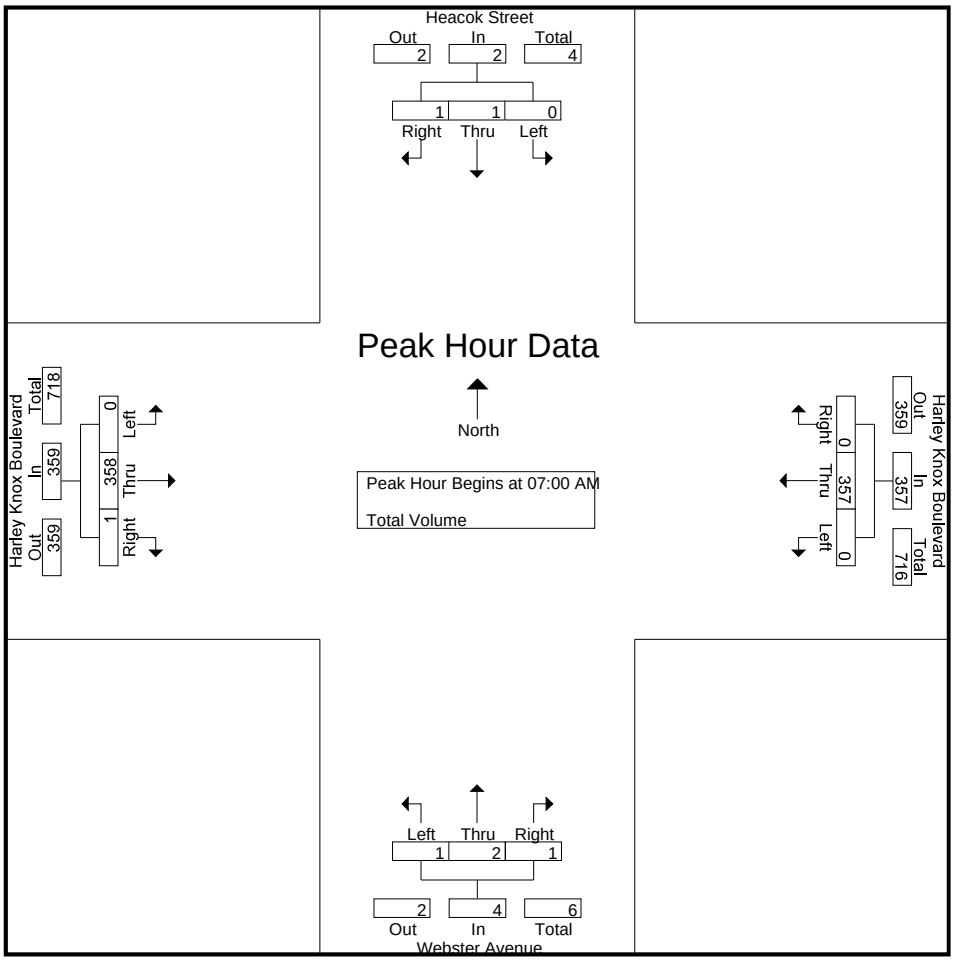
	Ø»¿½±µ Í¬®»»¬ Í±«¬¸¾±«²¼				Ø¿®´»§ Õ²±¨ Þ±«´»ª¿®¼ É»¬¬±«²				É»¾¬-»® ßª»²«» Ò±®¬¸¾±«²¼				Ø¿®´»§ Õ²±¨ Þ±«´»ª¿®¼ Û¿¬¾±«²				
Í¬¿®¬ Ì·³»	Ô»ºº	Ì¸®»	Î·¹¸¬	ß°°´ Ì±¿´	Ô»ºº	Ì¸®»	Î·¹¸¬	ß°°´ Ì±¿´	Ô»ºº	Ì¸®»	Î·¹¸¬	ß°°´ Ì±¿´	Ô»ºº	Ì¸®»	Î·¹¸¬	ß°°´ Ì±¿´	¸²·´ Ì±¿´
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ß°°®½¸ û	ð	ëð	ëð		ð	ïðð	ð		ëð	îë	îë		ð	çç ò é	ðò í		
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Í¬¿®¬ Ì·³»	Ô»ºº	Ì¸®»	Î·¹¸¬	ß°°´ Ì±¿´	Ô»ºº	Ì¸®»	Î·¹¸¬	ß°°´ Ì±¿´	Ô»ºº	Ì¸®»	Î·¹¸¬	ß°°´ Ì±¿´	Ô»ºº	Ì¸®»	Î·¹¸¬	ß°°´ Ì±¿´	¸²·´ Ì±¿´
Ð»¿µ Ø±«® ß²¿´§·-- Ú®±³ ðéžðð ßÓ ¬± ðèžìë ßÓ ó Ð»¿µ ï ±º ï																	
Ð»¿µ Ø±«® º±® Û²¬»®»¼ Þ»¹·²² ¿¬ ðéžðð ßÓ																	
ðéžðð ßÓ	ð	ï	ï	î	ð	ïîî	ð	ïîî	ð	î	ð	î	ð	çç	ð	çç	îîë
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City of Moreno Valley
N/S: Heacok Street
E/W: Harley Knox Boulevard
Weather: Sunny

File Name : MRVHEHKAM
Site Code : 00000097
Start Date : 5/16/2013
Page No : 2



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

Ð»¿µ Ø±«® º±® Û¿½¸ ß°°®±¿½¸ Þ»¹²- ¿¬ð

	ðéžðð ßÓ				ðéžðð ßÓ				ðéžíð ßÓ				ðéžðð ßÓ			
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Ì±¬¿´ Ê±´«³»	ð	ï	ï	î	ð	íëé	ð	íëé	í	ð	î	ë	ð	íëè	ï	íëç
û ß°°ò Ì±¬¿´	ð	ëð	ëð		ð	ïðð	ð		êð	ð	ìð		ð	çç¿é	ðòí	
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City of Moreno Valley
N/S: Heacok Street
E/W: Harley Knox Boulevard
Weather: Sunny

File Name : MRVHEHKPM
Site Code : 00000097
Start Date : 5/16/2013
Page No : 1

Ù®±«°- Ð®·²¬»¼ó Ì±¬¿´ Ê±´«³»

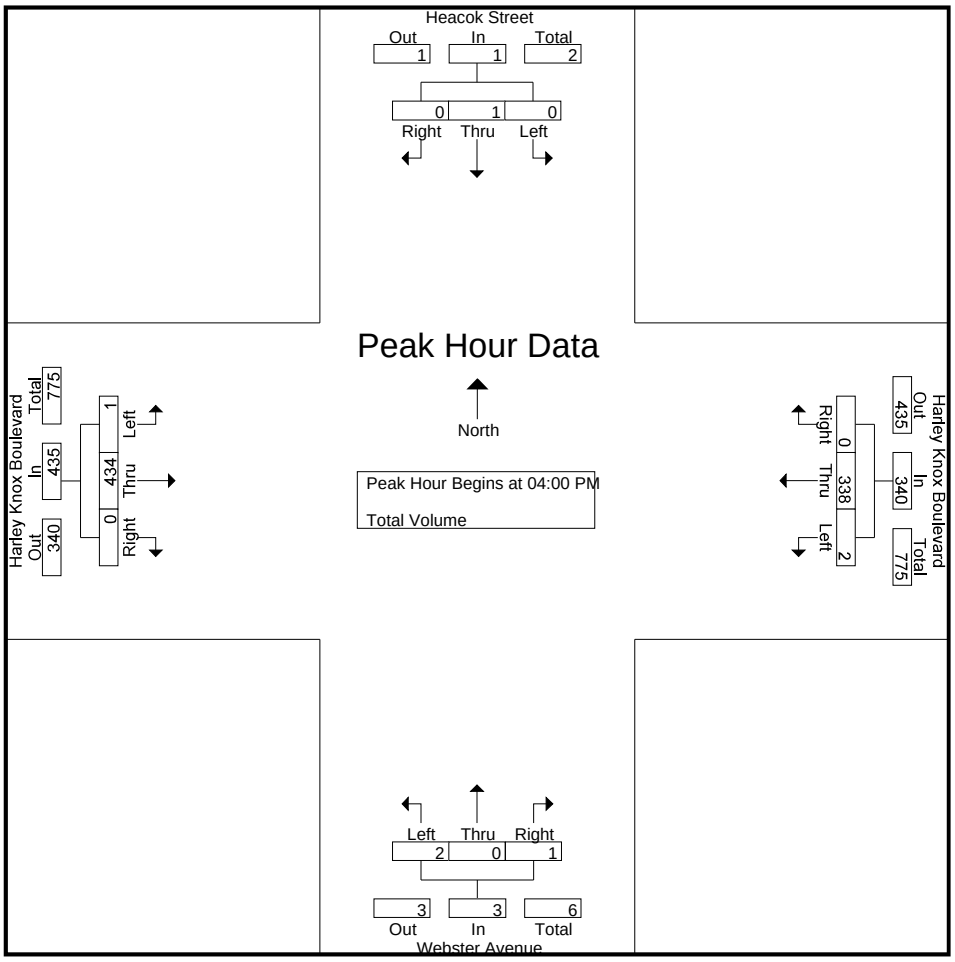
	Ø»¿½±µ Í¬®»»¬ Í±«¬¸¾±«²¼				Ø¿®´»§ Õ²±¨ Þ±«´»ª¿®¼ É»¬¬´»³»²¬				É»¾¬-»® ßª»²«» Ò±®¬¸¾±«²¼				Ø¿®´»§ Õ²±¨ Þ±«´»ª¿®¼ Û¿-¬¾±«²¼				
Í¬¿®¬ Ì·³»	Ô»º¬	Ì¸®®«	Î·¹¸¬	ß°°´ ·±¿´	Ô»º¬	Ì¸®®«	Î·¹¸¬	ß°°´ ·±¿´	Ô»º¬	Ì¸®®«	Î·¹¸¬	ß°°´ ·±¿´	Ô»º¬	Ì¸®®«	Î·¹¸¬	ß°°´ ·±¿´	¸²·´ Ì±¬¿´
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	Ø»¿½±µ Í¬®»»¬ Í±«¬¸¾±«²¼				Ø¿®´»§ Õ²±¨ Þ±«´»ª¿®¼ É»¬¬´»³»²¬				É»¾¬-»® ßª»²«» Ò±®¬¸¾±«²¼				Ø¿®´»§ Õ²±¨ Þ±«´»ª¿®¼ Û¿-¬¾±«²¼				
Í¬¿®¬ Ì·³»	Ô»º¬	Ì¸®®«	Î·¹¸¬	ß°°´ ·±¿´	Ô»º¬	Ì¸®®«	Î·¹¸¬	ß°°´ ·±¿´	Ô»º¬	Ì¸®®«	Î·¹¸¬	ß°°´ ·±¿´	Ô»º¬	Ì¸®®«	Î·¹¸¬	ß°°´ ·±¿´	¸²·´ Ì±¬¿´
Ð»µ Ø±«® ß²¿´§·-· Ú®±³ ðÌ¥ðð ÐÓ ¬± ðë¥ìë ÐÓ ó Ð»µ ï ±º ï																	
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City of Moreno Valley
N/S: Heacok Street
E/W: Harley Knox Boulevard
Weather: Sunny

File Name : MRVHEHKPM
Site Code : 00000097
Start Date : 5/16/2013
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Ð»¿µ Ø±«® º±® Û¿½¸ ß°°®±¿½¸ Þ»¹²- ¿¬¢

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRAM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

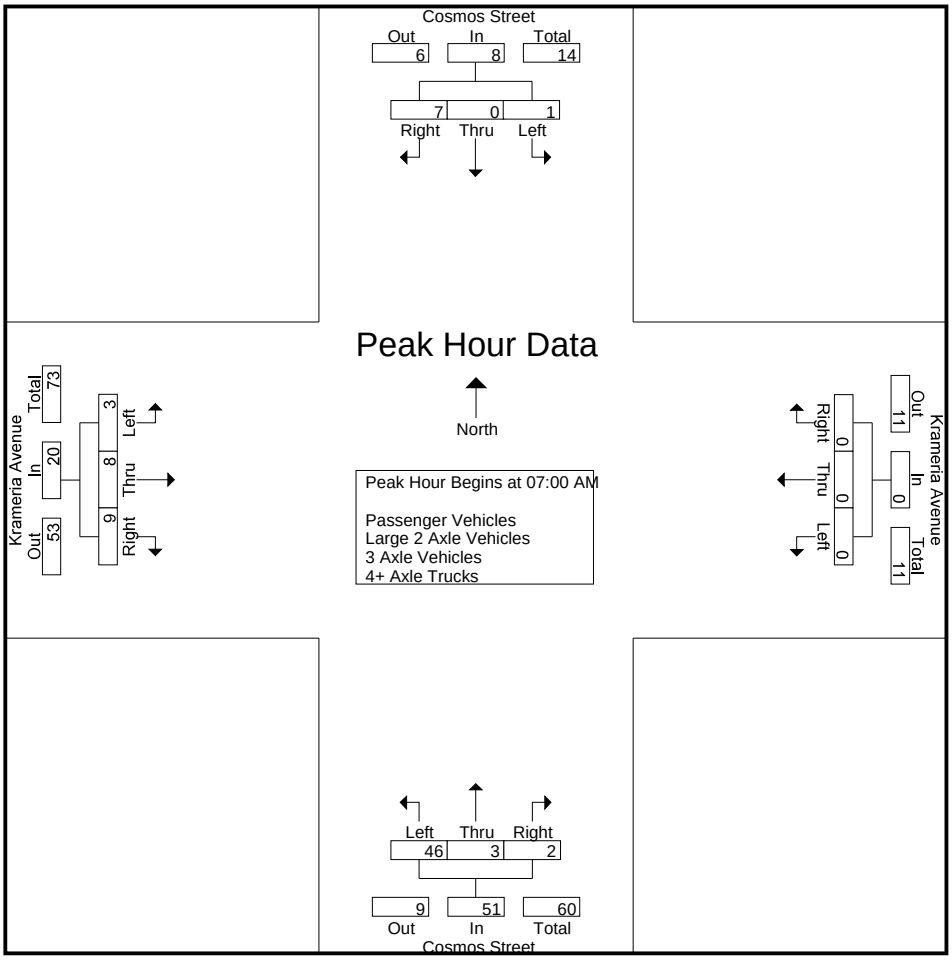
	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	2	2	0	0	0	0	16	1	0	17	1	2	2	5	24
07:15 AM	0	0	1	1	0	0	0	0	12	2	0	14	0	3	3	6	21
07:30 AM	1	0	1	2	0	0	0	0	12	0	2	14	1	0	1	2	18
07:45 AM	0	0	3	3	0	0	0	0	6	0	0	6	1	3	3	7	16
Total	1	0	7	8	0	0	0	0	46	3	2	51	3	8	9	20	79
08:00 AM	0	0	3	3	0	0	0	0	5	0	0	5	0	1	1	2	10
08:15 AM	0	0	1	1	0	0	0	0	3	0	0	3	0	1	1	2	6
08:30 AM	0	0	2	2	0	0	0	0	4	1	0	5	1	0	2	3	10
08:45 AM	0	0	2	2	0	0	0	0	4	0	0	4	0	0	2	2	8
Total	0	0	8	8	0	0	0	0	16	1	0	17	1	2	6	9	34
Grand Total	1	0	15	16	0	0	0	0	62	4	2	68	4	10	15	29	113
Apprch %	6.2	0	93.8		0	0	0		91.2	5.9	2.9		13.8	34.5	51.7		
Total %	0.9	0	13.3	14.2	0	0	0	0	54.9	3.5	1.8	60.2	3.5	8.8	13.3	25.7	
Passenger Vehicles	0	0	5	5	0	0	0	0	60	4	0	64	3	0	13	16	85
% Passenger Vehicles	0	0	33.3	31.2	0	0	0	0	96.8	100	0	94.1	75	0	86.7	55.2	75.2
Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	1	3
% Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	3.2	0	0	2.9	0	0	6.7	3.4	2.7
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	3.4	0.9
4+ Axle Trucks	1	0	10	11	0	0	0	0	0	0	2	2	1	9	1	11	24
% 4+ Axle Trucks	100	0	66.7	68.8	0	0	0	0	0	0	100	2.9	25	90	6.7	37.9	21.2

	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	2	2	0	0	0	0	16	1	0	17	1	2	2	5	24
07:15 AM	0	0	1	1	0	0	0	0	12	2	0	14	0	3	3	6	21
07:30 AM	1	0	1	2	0	0	0	0	12	0	2	14	1	0	1	2	18
07:45 AM	0	0	3	3	0	0	0	0	6	0	0	6	1	3	3	7	16
Total Volume	1	0	7	8	0	0	0	0	46	3	2	51	3	8	9	20	79
% App. Total	12.5	0	87.5		0	0	0		90.2	5.9	3.9		15	40	45		
PHF	.250	.000	.583	.667	.000	.000	.000	.000	.719	.375	.250	.750	.750	.667	.750	.714	.823

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRAM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 2



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

	07:15 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	1	1	0	0	0	0	16	1	0	17	1	2	2	5
+15 mins.	1	0	1	2	0	0	0	0	12	2	0	14	0	3	3	6
+30 mins.	0	0	3	3	0	0	0	0	12	0	2	14	1	0	1	2
+45 mins.	0	0	3	3	0	0	0	0	6	0	0	6	1	3	3	7
Total Volume	1	0	8	9	0	0	0	0	46	3	2	51	3	8	9	20
% App. Total	11.1	0	88.9		0	0	0		90.2	5.9	3.9		15	40	45	
PHF	.250	.000	.667	.750	.000	.000	.000	.000	.719	.375	.250	.750	.750	.667	.750	.714

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRAM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

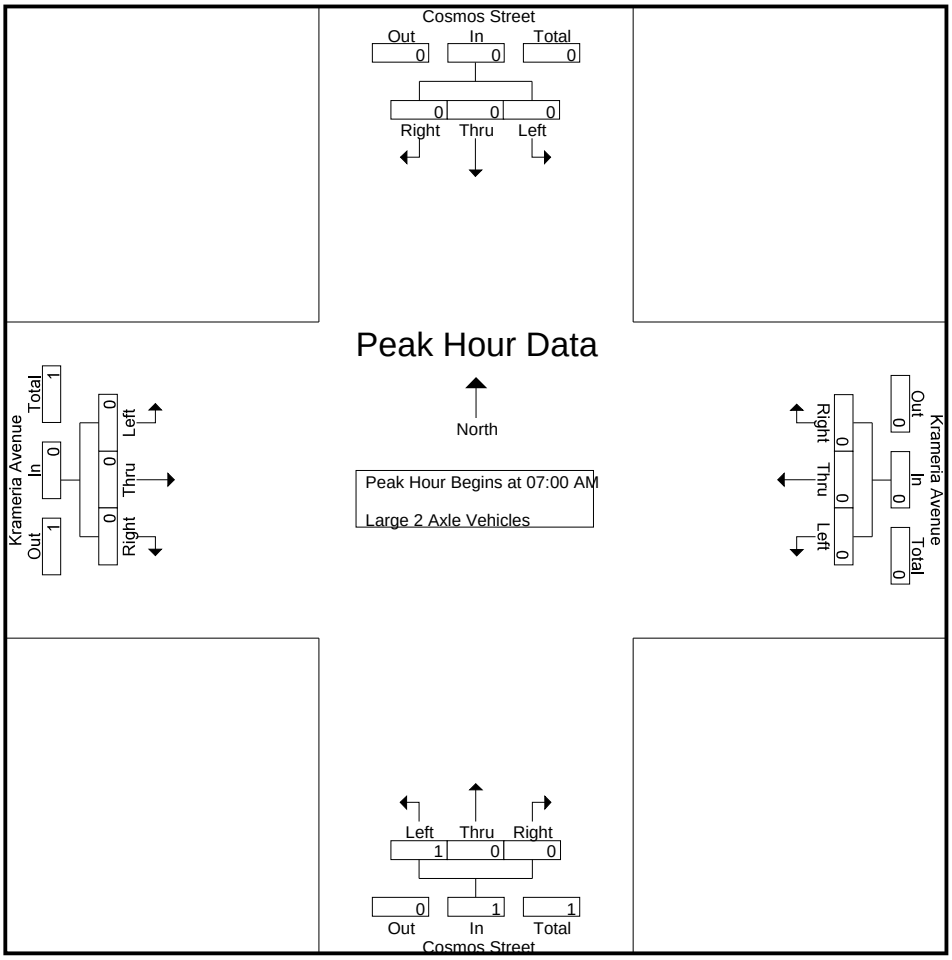
	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	2
Grand Total	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	1	3
Apprch %	0	0	0		0	0	0		100	0	0		0	0	100		
Total %	0	0	0	0	0	0	0	0	66.7	0	0	66.7	0	0	33.3	33.3	

	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		100	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.250

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRAM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 2



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

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
% App. Total	0	0	0		0	0	0		100	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRAM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

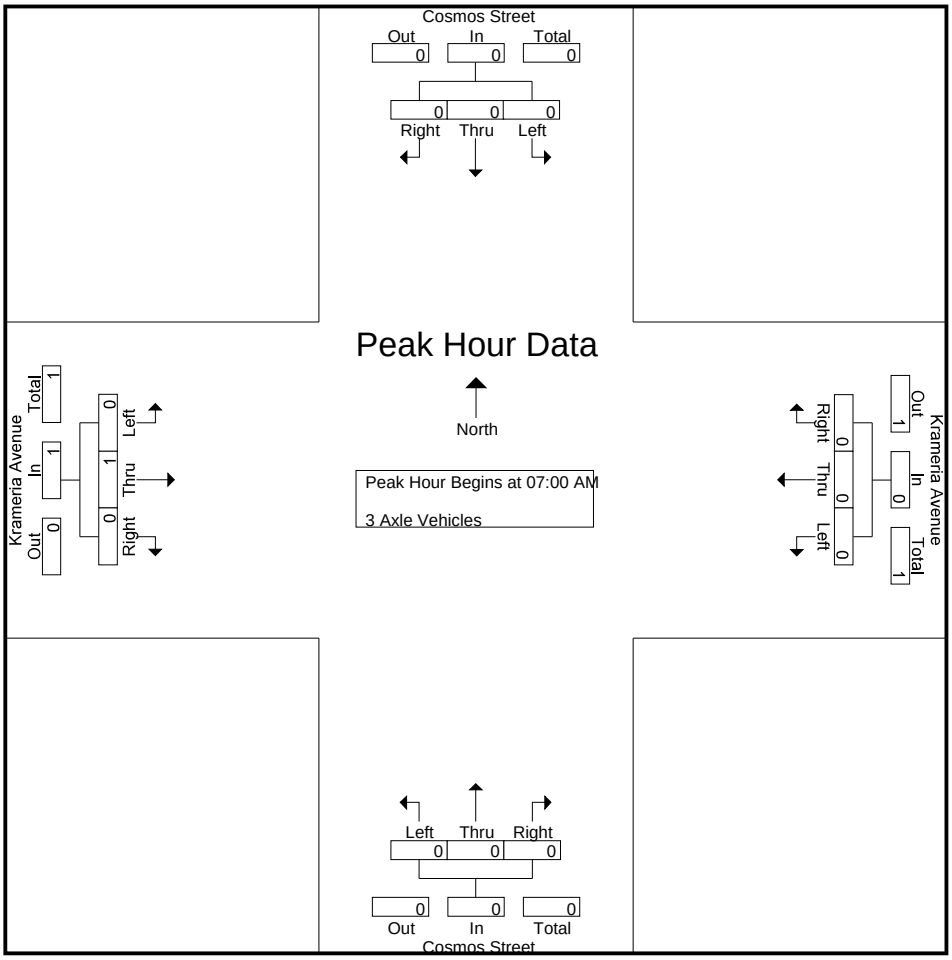
	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Apprch %	0	0	0		0	0	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	100	

	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250

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City of Moreno Valley
N/S: Cosmos Street
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Weather: Clear

File Name : MRVUNKRAM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 2



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

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRAM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

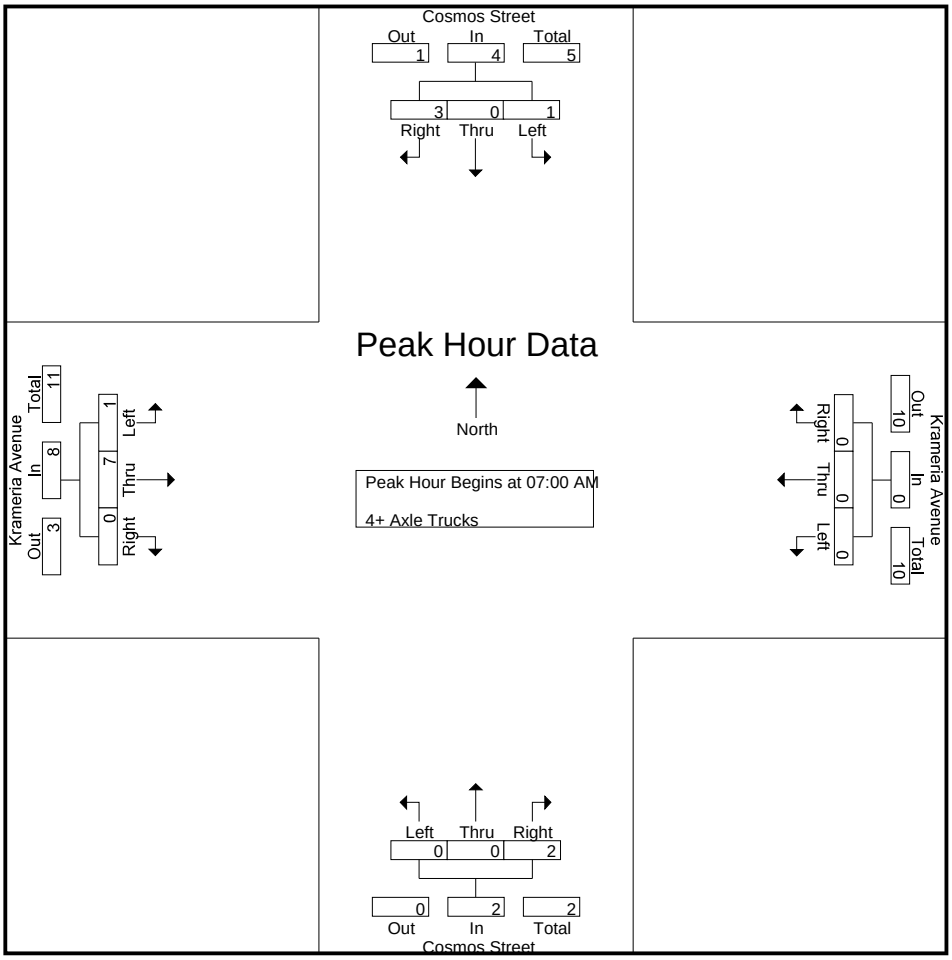
	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	2	3
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
07:30 AM	1	0	0	1	0	0	0	0	0	0	2	2	0	0	0	0	3
07:45 AM	0	0	2	2	0	0	0	0	0	0	0	0	1	3	0	4	6
Total	1	0	3	4	0	0	0	0	0	0	2	2	1	7	0	8	14
08:00 AM	0	0	3	3	0	0	0	0	0	0	0	0	0	1	0	1	4
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:30 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:45 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	1	1	3
Total	0	0	7	7	0	0	0	0	0	0	0	0	0	2	1	3	10
Grand Total	1	0	10	11	0	0	0	0	0	0	2	2	1	9	1	11	24
Apprch %	9.1	0	90.9		0	0	0		0	0	100		9.1	81.8	9.1		
Total %	4.2	0	41.7	45.8	0	0	0	0	0	0	8.3	8.3	4.2	37.5	4.2	45.8	

	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	2	3
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
07:30 AM	1	0	0	1	0	0	0	0	0	0	2	2	0	0	0	0	3
07:45 AM	0	0	2	2	0	0	0	0	0	0	0	0	1	3	0	4	6
Total Volume	1	0	3	4	0	0	0	0	0	0	2	2	1	7	0	8	14
% App. Total	25	0	75		0	0	0		0	0	100		12.5	87.5	0		
PHF	.250	.000	.375	.500	.000	.000	.000	.000	.000	.000	.250	.250	.250	.583	.000	.500	.583

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRAM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 2



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

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	2
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
+30 mins.	1	0	0	1	0	0	0	0	0	0	2	2	0	0	0	0
+45 mins.	0	0	2	2	0	0	0	0	0	0	0	0	1	3	0	4
Total Volume	1	0	3	4	0	0	0	0	0	0	2	2	1	7	0	8
% App. Total	25	0	75		0	0	0		0	0	100		12.5	87.5	0	
PHF	.250	.000	.375	.500	.000	.000	.000	.000	.000	.000	.250	.250	.250	.583	.000	.500

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRPM
Site Code : 05115223
Start Date : 5/5/2015
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

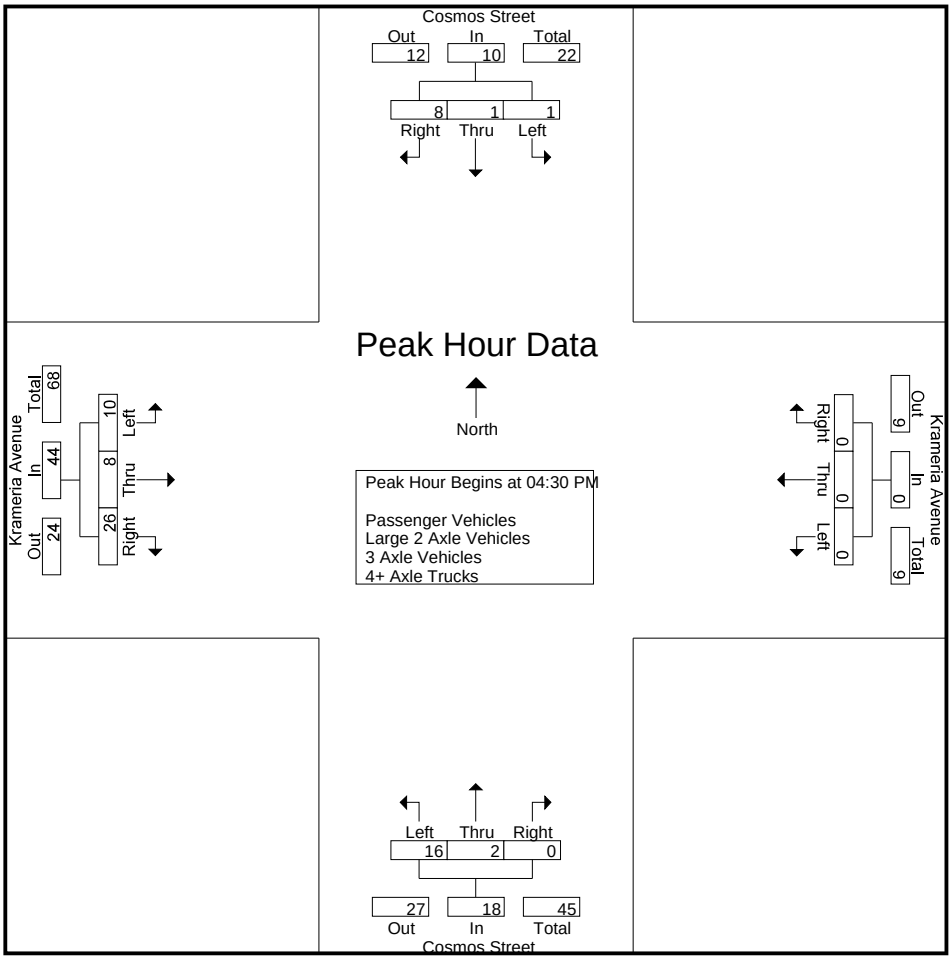
	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	2	2	0	0	0	0	3	0	0	3	3	1	7	11	16
04:15 PM	0	0	2	2	0	0	0	0	5	0	0	5	0	0	6	6	13
04:30 PM	0	0	2	2	0	0	0	0	6	0	0	6	2	1	5	8	16
04:45 PM	1	0	1	2	0	0	0	0	2	1	0	3	6	4	11	21	26
Total	1	0	7	8	0	0	0	0	16	1	0	17	11	6	29	46	71
05:00 PM	0	0	2	2	0	0	0	0	4	0	0	4	1	1	7	9	15
05:15 PM	0	1	3	4	0	0	0	0	4	1	0	5	1	2	3	6	15
05:30 PM	0	0	1	1	0	0	0	0	3	0	0	3	2	2	3	7	11
05:45 PM	0	2	0	2	0	0	0	0	6	1	0	7	1	1	1	3	12
Total	0	3	6	9	0	0	0	0	17	2	0	19	5	6	14	25	53
Grand Total	1	3	13	17	0	0	0	0	33	3	0	36	16	12	43	71	124
Apprch %	5.9	17.6	76.5		0	0	0		91.7	8.3	0		22.5	16.9	60.6		
Total %	0.8	2.4	10.5	13.7	0	0	0	0	26.6	2.4	0	29	12.9	9.7	34.7	57.3	
Passenger Vehicles	0	0	5	5	0	0	0	0	25	2	0	27	15	1	39	55	87
% Passenger Vehicles	0	0	38.5	29.4	0	0	0	0	75.8	66.7	0	75	93.8	8.3	90.7	77.5	70.2
Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
% Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.3	1.4	0.8
3 Axle Vehicles	0	1	1	2	0	0	0	0	0	0	0	0	1	1	0	2	4
% 3 Axle Vehicles	0	33.3	7.7	11.8	0	0	0	0	0	0	0	0	6.2	8.3	0	2.8	3.2
4+ Axle Trucks	1	2	7	10	0	0	0	0	8	1	0	9	0	10	3	13	32
% 4+ Axle Trucks	100	66.7	53.8	58.8	0	0	0	0	24.2	33.3	0	25	0	83.3	7	18.3	25.8

	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	2	2	0	0	0	0	6	0	0	6	2	1	5	8	16
04:45 PM	1	0	1	2	0	0	0	0	2	1	0	3	6	4	11	21	26
05:00 PM	0	0	2	2	0	0	0	0	4	0	0	4	1	1	7	9	15
05:15 PM	0	1	3	4	0	0	0	0	4	1	0	5	1	2	3	6	15
Total Volume	1	1	8	10	0	0	0	0	16	2	0	18	10	8	26	44	72
% App. Total	10	10	80		0	0	0		88.9	11.1	0		22.7	18.2	59.1		
PHF	.250	.250	.667	.625	.000	.000	.000	.000	.667	.500	.000	.750	.417	.500	.591	.524	.692

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRPM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 2



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

	04:30 PM				04:00 PM				05:00 PM				04:00 PM			
+0 mins.	0	0	2	2	0	0	0	0	4	0	0	4	3	1	7	11
+15 mins.	1	0	1	2	0	0	0	0	4	1	0	5	0	0	6	6
+30 mins.	0	0	2	2	0	0	0	0	3	0	0	3	2	1	5	8
+45 mins.	0	1	3	4	0	0	0	0	6	1	0	7	6	4	11	21
Total Volume	1	1	8	10	0	0	0	0	17	2	0	19	11	6	29	46
% App. Total	10	10	80		0	0	0		89.5	10.5	0		23.9	13	63	
PHF	.250	.250	.667	.625	.000	.000	.000	.000	.708	.500	.000	.679	.458	.375	.659	.548

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRPM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

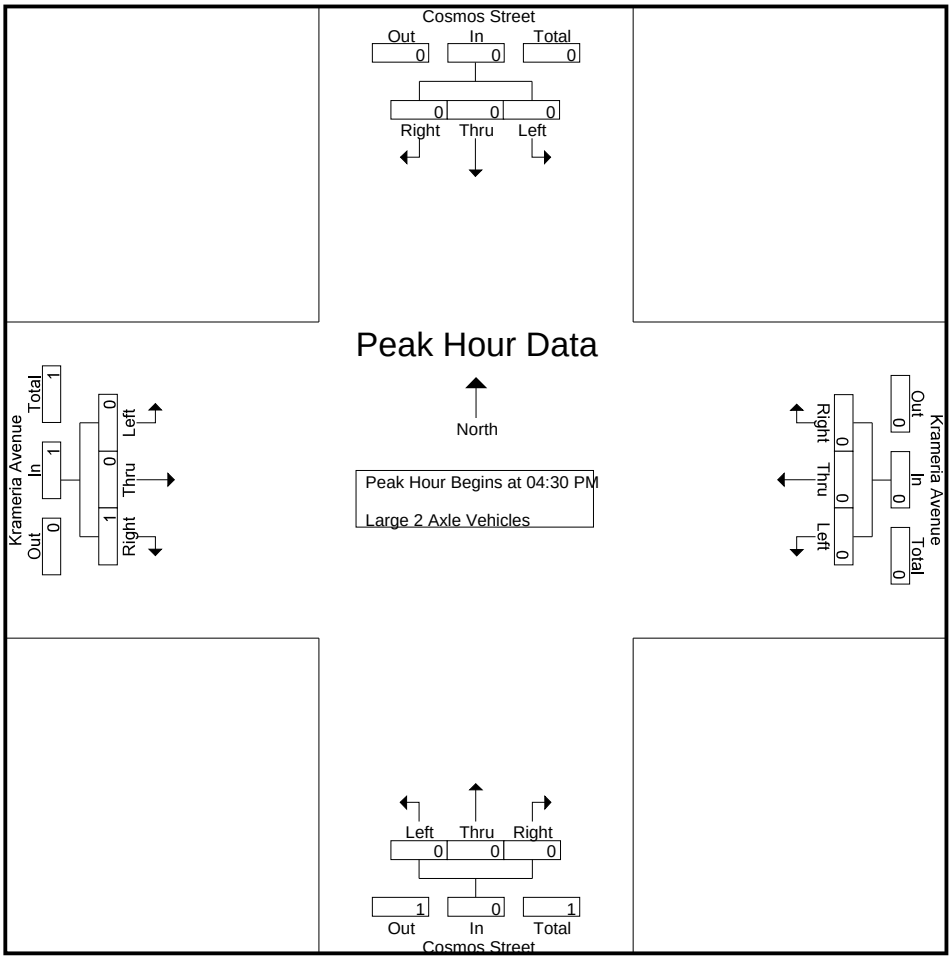
	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Apprch %	0	0	0		0	0	0		0	0	0		0	0	100		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	

	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
% App. Total	0	0	0		0	0	0		0	0	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.250

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRPM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRPM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

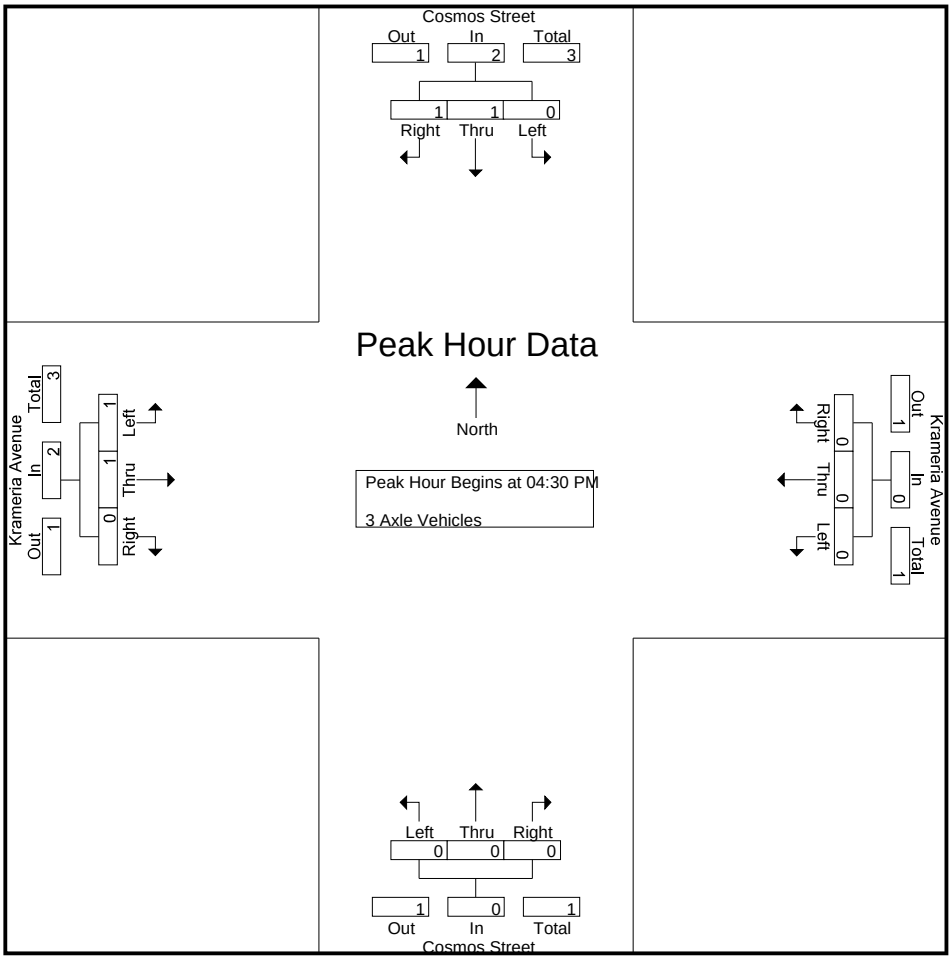
	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	2
Total	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
Grand Total	0	1	1	2	0	0	0	0	0	0	0	0	1	1	0	2	4
Apprch %	0	50	50		0	0	0		0	0	0		50	50	0		
Total %	0	25	25	50	0	0	0	0	0	0	0	0	25	25	0	50	

	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
Total Volume	0	1	1	2	0	0	0	0	0	0	0	0	1	1	0	2	4
% App. Total	0	50	50		0	0	0		0	0	0		50	50	0		
PHF	.000	.250	.250	.500	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.500	.500

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRPM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1
Total Volume	0	1	1	2	0	0	0	0	0	0	0	0	1	1	0	2
% App. Total	0	50	50		0	0	0		0	0	0		50	50	0	
PHF	.000	.250	.250	.500	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.500

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRPM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

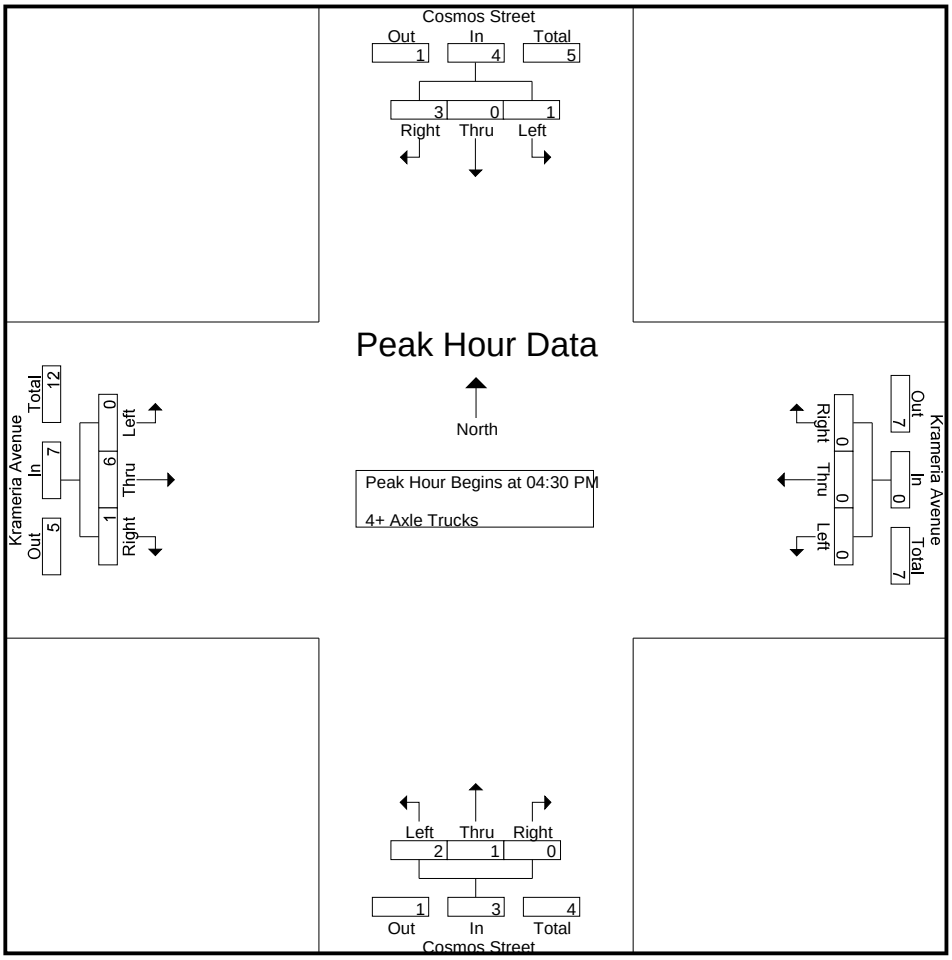
	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	1	2	3	4
04:15 PM	0	0	2	2	0	0	0	0	4	0	0	4	0	0	0	0	6
04:30 PM	0	0	1	1	0	0	0	0	2	0	0	2	0	1	0	1	4
04:45 PM	1	0	0	1	0	0	0	0	0	1	0	1	0	2	0	2	4
Total	1	0	4	5	0	0	0	0	6	1	0	7	0	4	2	6	18
05:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	2
05:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	1	3	4
05:30 PM	0	0	1	1	0	0	0	0	1	0	0	1	0	2	0	2	4
05:45 PM	0	2	0	2	0	0	0	0	1	0	0	1	0	1	0	1	4
Total	0	2	3	5	0	0	0	0	2	0	0	2	0	6	1	7	14
Grand Total	1	2	7	10	0	0	0	0	8	1	0	9	0	10	3	13	32
Apprch %	10	20	70		0	0	0		88.9	11.1	0		0	76.9	23.1		
Total %	3.1	6.2	21.9	31.2	0	0	0	0	25	3.1	0	28.1	0	31.2	9.4	40.6	

	Cosmos Street Southbound				Krameria Avenue Westbound				Cosmos Street Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	1	1	0	0	0	0	2	0	0	2	0	1	0	1	4
04:45 PM	1	0	0	1	0	0	0	0	0	1	0	1	0	2	0	2	4
05:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	2
05:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	1	3	4
Total Volume	1	0	3	4	0	0	0	0	2	1	0	3	0	6	1	7	14
% App. Total	25	0	75		0	0	0		66.7	33.3	0		0	85.7	14.3		
PHF	.250	.000	.750	1.00	.000	.000	.000	.000	.250	.250	.000	.375	.000	.750	.250	.583	.875

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City of Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue
Weather: Clear

File Name : MRVUNKRPM
Site Code : 05115223
Start Date : 5/5/2015
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	1	1	0	0	0	0	2	0	0	2	0	1	0	1
+15 mins.	1	0	0	1	0	0	0	0	0	1	0	1	0	2	0	2
+30 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	2	1	3
Total Volume	1	0	3	4	0	0	0	0	2	1	0	3	0	6	1	7
% App. Total	25	0	75		0	0	0		66.7	33.3	0		0	85.7	14.3	
PHF	.250	.000	.750	1.000	.000	.000	.000	.000	.250	.250	.000	.375	.000	.750	.250	.583

Location: Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue

Date: 5/5/2015
Weather: Clear

PEDESTRIANS

	North Leg Cosmos Street	East Leg Krameria Avenue	South Leg Cosmos Street	West Leg Krameria Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Cosmos Street	East Leg Krameria Avenue	South Leg Cosmos Street	West Leg Krameria Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Moreno Valley
N/S: Cosmos Street
E/W: Krameria Avenue

Date: 5/5/2015
Weather: Clear

BICYCLES

	North Leg Cosmos Street	East Leg Krameria Avenue	South Leg Cosmos Street	West Leg Krameria Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Cosmos Street	East Leg Krameria Avenue	South Leg Cosmos Street	West Leg Krameria Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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City of Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue
Weather: Clear

File Name : MRVINKRAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

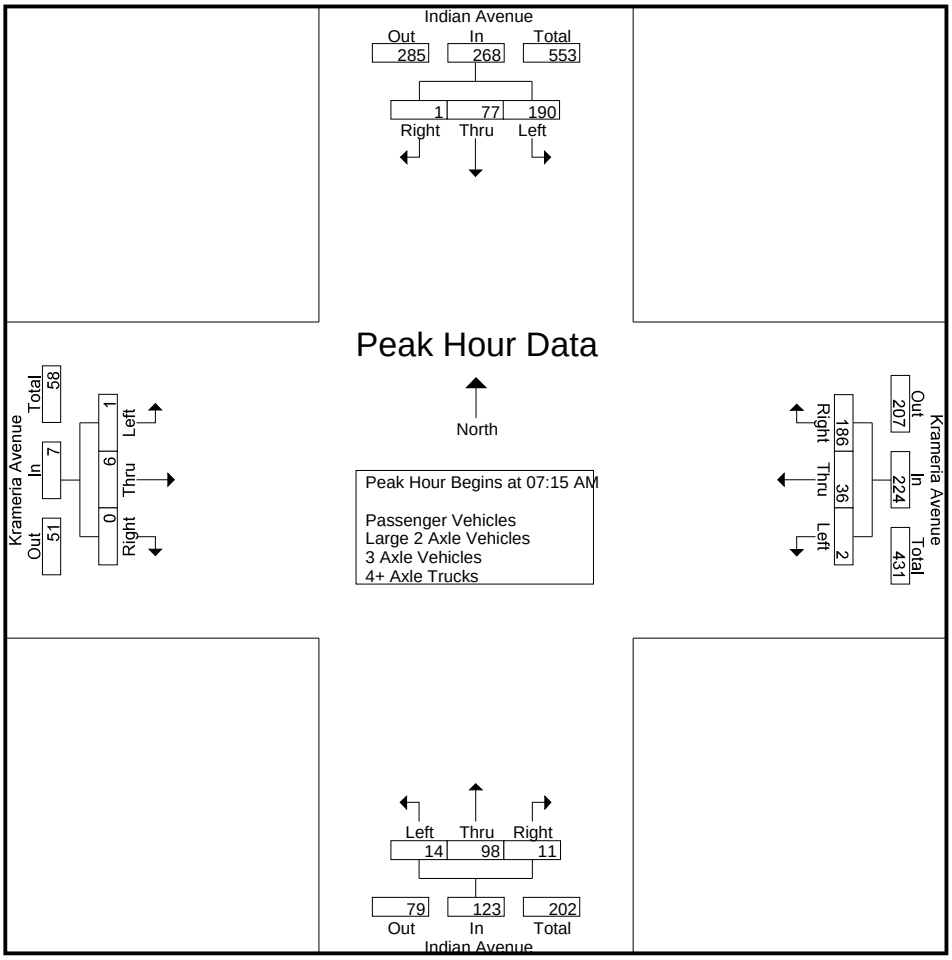
	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	22	6	2	30	0	10	21	31	4	27	0	31	0	2	0	2	94
07:15 AM	46	18	0	64	0	10	61	71	5	33	3	41	0	2	0	2	178
07:30 AM	45	28	0	73	1	8	55	64	5	36	2	43	1	1	0	2	182
07:45 AM	68	18	1	87	0	8	43	51	1	15	3	19	0	2	0	2	159
Total	181	70	3	254	1	36	180	217	15	111	8	134	1	7	0	8	613
08:00 AM	31	13	0	44	1	10	27	38	3	14	3	20	0	1	0	1	103
08:15 AM	10	6	0	16	1	2	14	17	0	12	1	13	0	1	0	1	47
08:30 AM	7	7	0	14	1	6	17	24	0	5	1	6	0	2	0	2	46
08:45 AM	14	8	0	22	0	0	13	13	0	6	1	7	0	1	2	3	45
Total	62	34	0	96	3	18	71	92	3	37	6	46	0	5	2	7	241
Grand Total	243	104	3	350	4	54	251	309	18	148	14	180	1	12	2	15	854
Apprch %	69.4	29.7	0.9		1.3	17.5	81.2		10	82.2	7.8		6.7	80	13.3		
Total %	28.5	12.2	0.4	41	0.5	6.3	29.4	36.2	2.1	17.3	1.6	21.1	0.1	1.4	0.2	1.8	
Passenger Vehicles	239	101	1	341	4	53	247	304	18	143	13	174	1	11	2	14	833
% Passenger Vehicles	98.4	97.1	33.3	97.4	100	98.1	98.4	98.4	100	96.6	92.9	96.7	100	91.7	100	93.3	97.5
Large 2 Axle Vehicles	4	3	0	7	0	1	4	5	0	5	1	6	0	1	0	1	19
% Large 2 Axle Vehicles	1.6	2.9	0	2	0	1.9	1.6	1.6	0	3.4	7.1	3.3	0	8.3	0	6.7	2.2
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% 4+ Axle Trucks	0	0	66.7	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0.2

	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	46	18	0	64	0	10	61	71	5	33	3	41	0	2	0	2	178
07:30 AM	45	28	0	73	1	8	55	64	5	36	2	43	1	1	0	2	182
07:45 AM	68	18	1	87	0	8	43	51	1	15	3	19	0	2	0	2	159
08:00 AM	31	13	0	44	1	10	27	38	3	14	3	20	0	1	0	1	103
Total Volume	190	77	1	268	2	36	186	224	14	98	11	123	1	6	0	7	622
% App. Total	70.9	28.7	0.4		0.9	16.1	83		11.4	79.7	8.9		14.3	85.7	0		
PHF	.699	.688	.250	.770	.500	.900	.762	.789	.700	.681	.917	.715	.250	.750	.000	.875	.854

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City of Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue
Weather: Clear

File Name : MRVINKRAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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

	07:15 AM				07:15 AM				07:00 AM				07:00 AM			
+0 mins.	46	18	0	64	0	10	61	71	4	27	0	31	0	2	0	2
+15 mins.	45	28	0	73	1	8	55	64	5	33	3	41	0	2	0	2
+30 mins.	68	18	1	87	0	8	43	51	5	36	2	43	1	1	0	2
+45 mins.	31	13	0	44	1	10	27	38	1	15	3	19	0	2	0	2
Total Volume	190	77	1	268	2	36	186	224	15	111	8	134	1	7	0	8
% App. Total	70.9	28.7	0.4		0.9	16.1	83		11.2	82.8	6		12.5	87.5	0	
PHF	.699	.688	.250	.770	.500	.900	.762	.789	.750	.771	.667	.779	.250	.875	.000	1.000

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City of Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue
Weather: Clear

File Name : MRVINKRAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

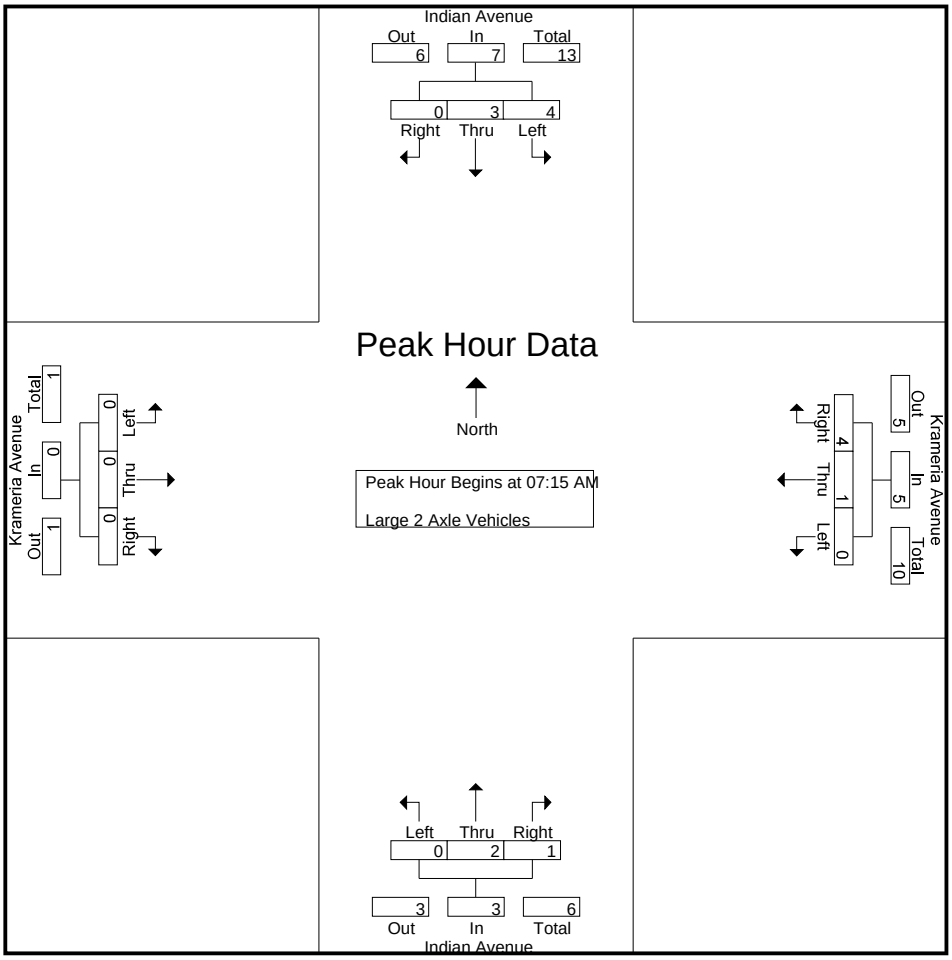
	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
07:30 AM	1	1	0	2	0	0	3	3	0	1	0	1	0	0	0	0	6
07:45 AM	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	2	3	0	5	0	0	4	4	0	3	0	3	0	0	0	0	12
08:00 AM	2	0	0	2	0	1	0	1	0	1	1	2	0	0	0	0	5
08:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	2	0	0	2	0	1	0	1	0	2	1	3	0	1	0	1	7
Grand Total	4	3	0	7	0	1	4	5	0	5	1	6	0	1	0	1	19
Apprch %	57.1	42.9	0		0	20	80		0	83.3	16.7		0	100	0		
Total %	21.1	15.8	0	36.8	0	5.3	21.1	26.3	0	26.3	5.3	31.6	0	5.3	0	5.3	

	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
07:30 AM	1	1	0	2	0	0	3	3	0	1	0	1	0	0	0	0	6
07:45 AM	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
08:00 AM	2	0	0	2	0	1	0	1	0	1	1	2	0	0	0	0	5
Total Volume	4	3	0	7	0	1	4	5	0	2	1	3	0	0	0	0	15
% App. Total	57.1	42.9	0		0	20	80		0	66.7	33.3		0	0	0		
PHF	.500	.375	.000	.583	.000	.250	.333	.417	.000	.500	.250	.375	.000	.000	.000	.000	.625

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City of Moreno Valley
N/S: Indian Avenue
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Weather: Clear

File Name : MRVINKRAM
Site Code : 05115223
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
+15 mins.	1	1	0	2	0	0	3	3	0	1	0	1	0	0	0	0
+30 mins.	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	2	0	0	2	0	1	0	1	0	1	1	2	0	0	0	0
Total Volume	4	3	0	7	0	1	4	5	0	2	1	3	0	0	0	0
% App. Total	57.1	42.9	0		0	20	80		0	66.7	33.3		0	0	0	
PHF	.500	.375	.000	.583	.000	.250	.333	.417	.000	.500	.250	.375	.000	.000	.000	.000

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City of Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue
Weather: Clear

File Name : MRVINKRAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

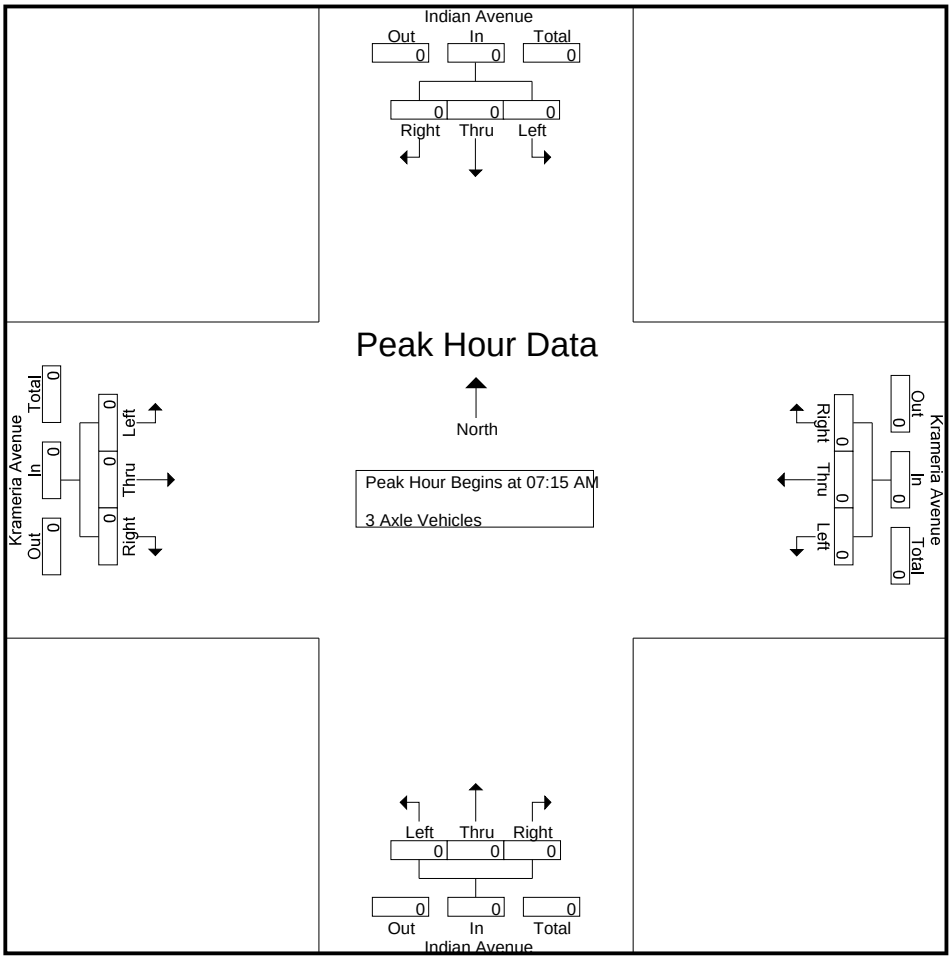
	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Moreno Valley
N/S: Indian Avenue
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Weather: Clear

File Name : MRVINKRAM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue
Weather: Clear

File Name : MRVINKRAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

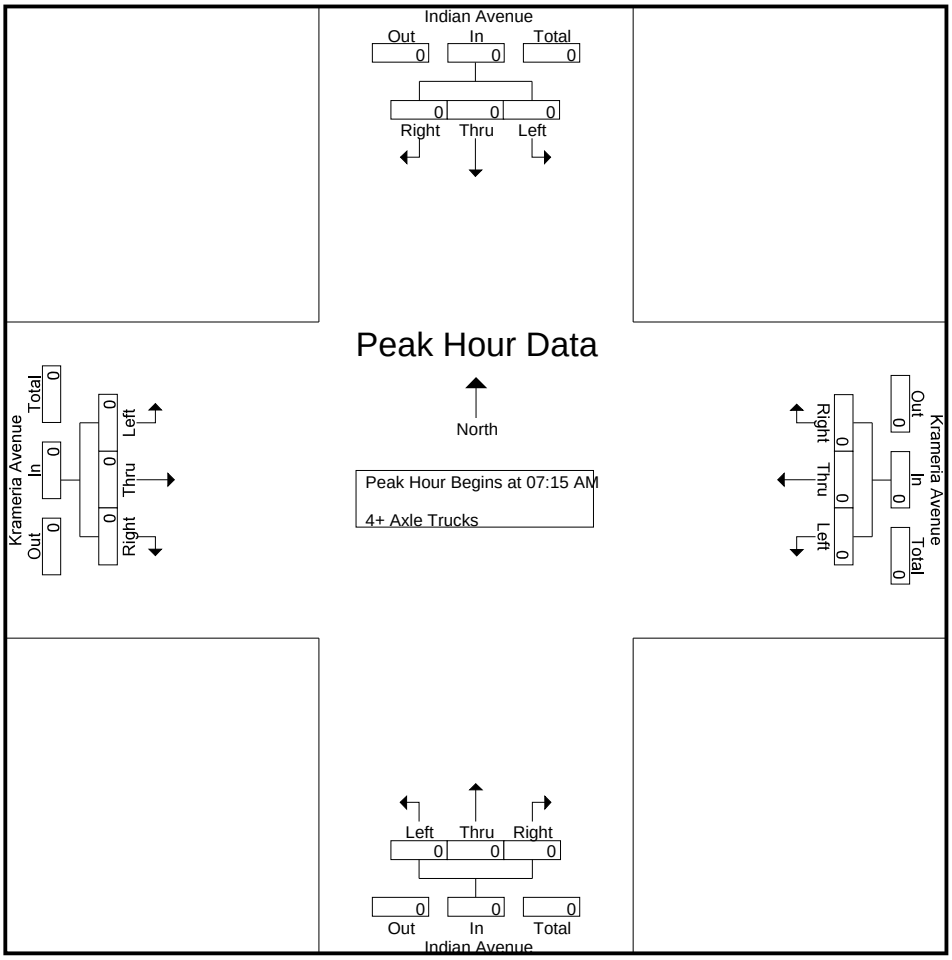
	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Apprch %	0	0	100		0	0	0		0	0	0		0	0	0		
Total %	0	0	100	100	0	0	0	0	0	0	0	0	0	0	0	0	

	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue
Weather: Clear

File Name : MRVINKRAM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue
Weather: Clear

File Name : MRVINKRPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

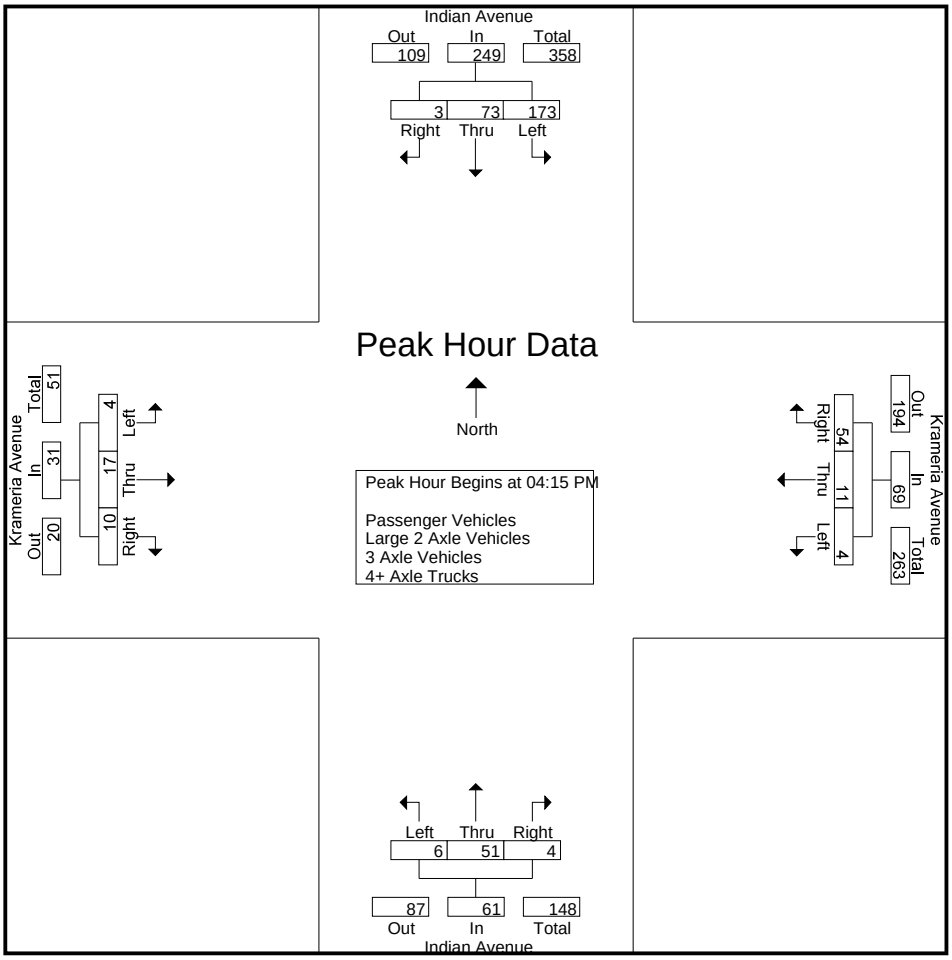
	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	30	12	0	42	3	4	17	24	0	7	1	8	1	4	1	6	80
04:15 PM	42	21	0	63	1	4	14	19	0	14	2	16	1	3	1	5	103
04:30 PM	42	22	2	66	1	4	22	27	4	10	1	15	0	4	3	7	115
04:45 PM	41	15	1	57	0	2	10	12	1	13	1	15	2	7	4	13	97
Total	155	70	3	228	5	14	63	82	5	44	5	54	4	18	9	31	395
05:00 PM	48	15	0	63	2	1	8	11	1	14	0	15	1	3	2	6	95
05:15 PM	35	22	1	58	1	3	14	18	0	8	1	9	0	2	0	2	87
05:30 PM	35	19	0	54	1	4	16	21	0	6	1	7	0	6	0	6	88
05:45 PM	42	21	1	64	1	2	20	23	0	9	1	10	0	6	0	6	103
Total	160	77	2	239	5	10	58	73	1	37	3	41	1	17	2	20	373
Grand Total	315	147	5	467	10	24	121	155	6	81	8	95	5	35	11	51	768
Apprch %	67.5	31.5	1.1		6.5	15.5	78.1		6.3	85.3	8.4		9.8	68.6	21.6		
Total %	41	19.1	0.7	60.8	1.3	3.1	15.8	20.2	0.8	10.5	1	12.4	0.7	4.6	1.4	6.6	
Passenger Vehicles	310	146	5	461	10	24	119	153	6	80	8	94	3	35	11	49	757
% Passenger Vehicles	98.4	99.3	100	98.7	100	100	98.3	98.7	100	98.8	100	98.9	60	100	100	96.1	98.6
Large 2 Axle Vehicles	5	1	0	6	0	0	2	2	0	1	0	1	0	0	0	0	9
% Large 2 Axle Vehicles	1.6	0.7	0	1.3	0	0	1.7	1.3	0	1.2	0	1.1	0	0	0	0	1.2
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	40	0	0	3.9	0.3

	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	42	21	0	63	1	4	14	19	0	14	2	16	1	3	1	5	103
04:30 PM	42	22	2	66	1	4	22	27	4	10	1	15	0	4	3	7	115
04:45 PM	41	15	1	57	0	2	10	12	1	13	1	15	2	7	4	13	97
05:00 PM	48	15	0	63	2	1	8	11	1	14	0	15	1	3	2	6	95
Total Volume	173	73	3	249	4	11	54	69	6	51	4	61	4	17	10	31	410
% App. Total	69.5	29.3	1.2		5.8	15.9	78.3		9.8	83.6	6.6		12.9	54.8	32.3		
PHF	.901	.830	.375	.943	.500	.688	.614	.639	.375	.911	.500	.953	.500	.607	.625	.596	.891

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File Name : MRVINKRPM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:00 PM				04:15 PM				04:00 PM			
+0 mins.	42	21	0	63	3	4	17	24	0	14	2	16	1	4	1	6
+15 mins.	42	22	2	66	1	4	14	19	4	10	1	15	1	3	1	5
+30 mins.	41	15	1	57	1	4	22	27	1	13	1	15	0	4	3	7
+45 mins.	48	15	0	63	0	2	10	12	1	14	0	15	2	7	4	13
Total Volume	173	73	3	249	5	14	63	82	6	51	4	61	4	18	9	31
% App. Total	69.5	29.3	1.2		6.1	17.1	76.8		9.8	83.6	6.6		12.9	58.1	29	
PHF	.901	.830	.375	.943	.417	.875	.716	.759	.375	.911	.500	.953	.500	.643	.563	.596

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City of Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue
Weather: Clear

File Name : MRVINKRPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

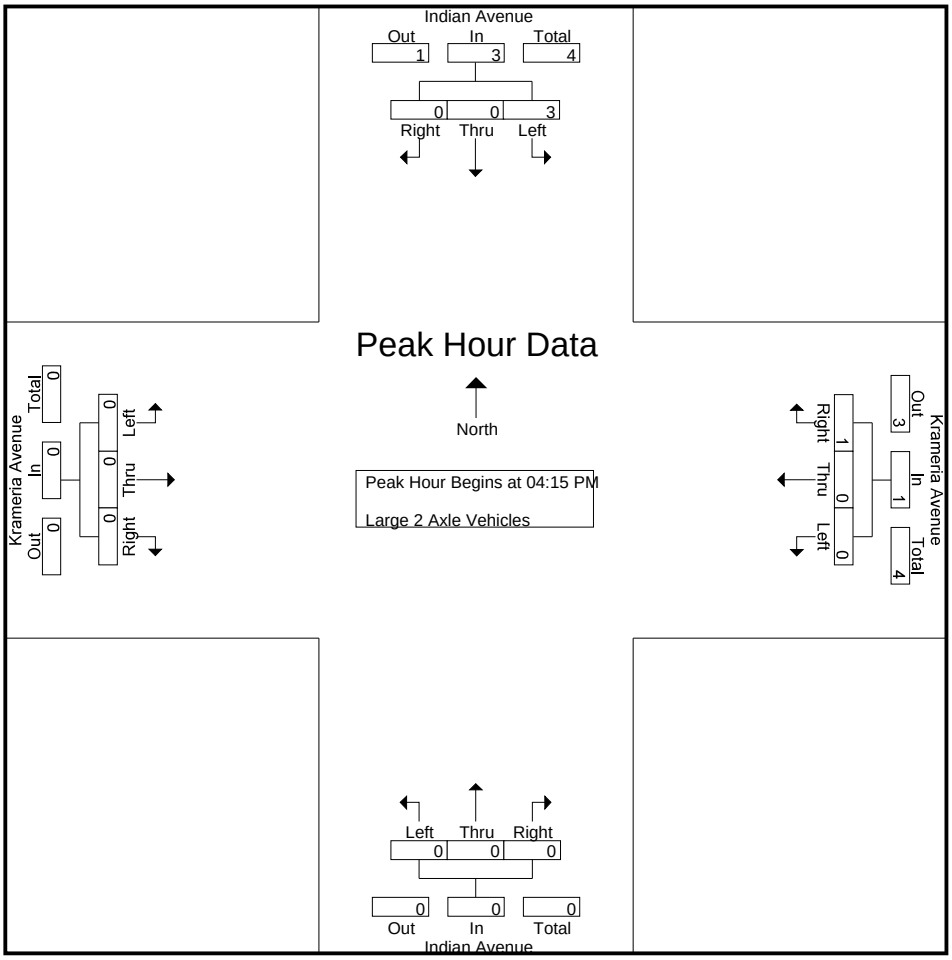
	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
04:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	2	2	0	0	0	0	0	0	0	0	3
05:00 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	1	1	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
05:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	4	1	0	5	0	0	0	0	0	1	0	1	0	0	0	0	6
Grand Total	5	1	0	6	0	0	2	2	0	1	0	1	0	0	0	0	9
Apprch %	83.3	16.7	0		0	0	100		0	100	0		0	0	0		
Total %	55.6	11.1	0	66.7	0	0	22.2	22.2	0	11.1	0	11.1	0	0	0	0	

	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
04:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	3	0	0	3	0	0	1	1	0	0	0	0	0	0	0	0	4
% App. Total	100	0	0		0	0	100		0	0	0		0	0	0		
PHF	.375	.000	.000	.375	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.500

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City of Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue
Weather: Clear

File Name : MRVINKRPM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
+15 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	3	0	0	3	0	0	1	1	0	0	0	0	0	0	0	0
% App. Total	100	0	0		0	0	100		0	0	0		0	0	0	
PHF	.375	.000	.000	.375	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000

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City of Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue
Weather: Clear

File Name : MRVINKRPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

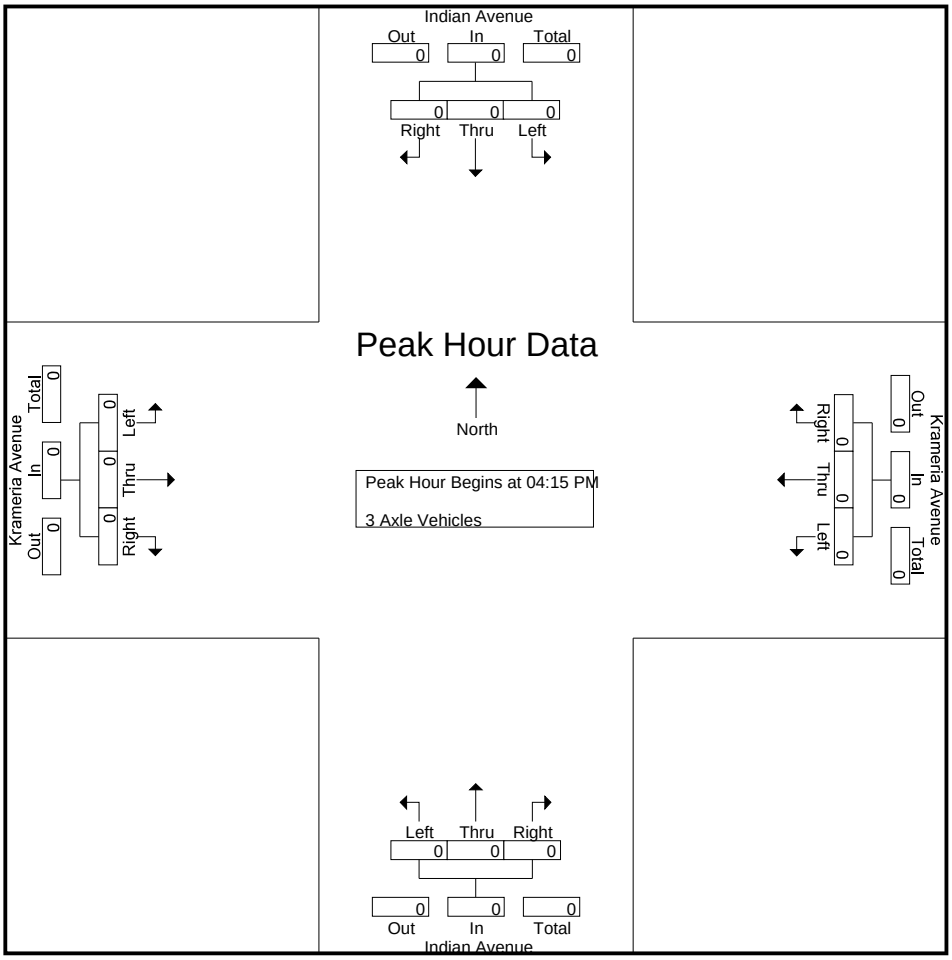
	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue
Weather: Clear

File Name : MRVINKRPM
Site Code : 05115223
Start Date : 4/28/2015
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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue
Weather: Clear

File Name : MRVINKRPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

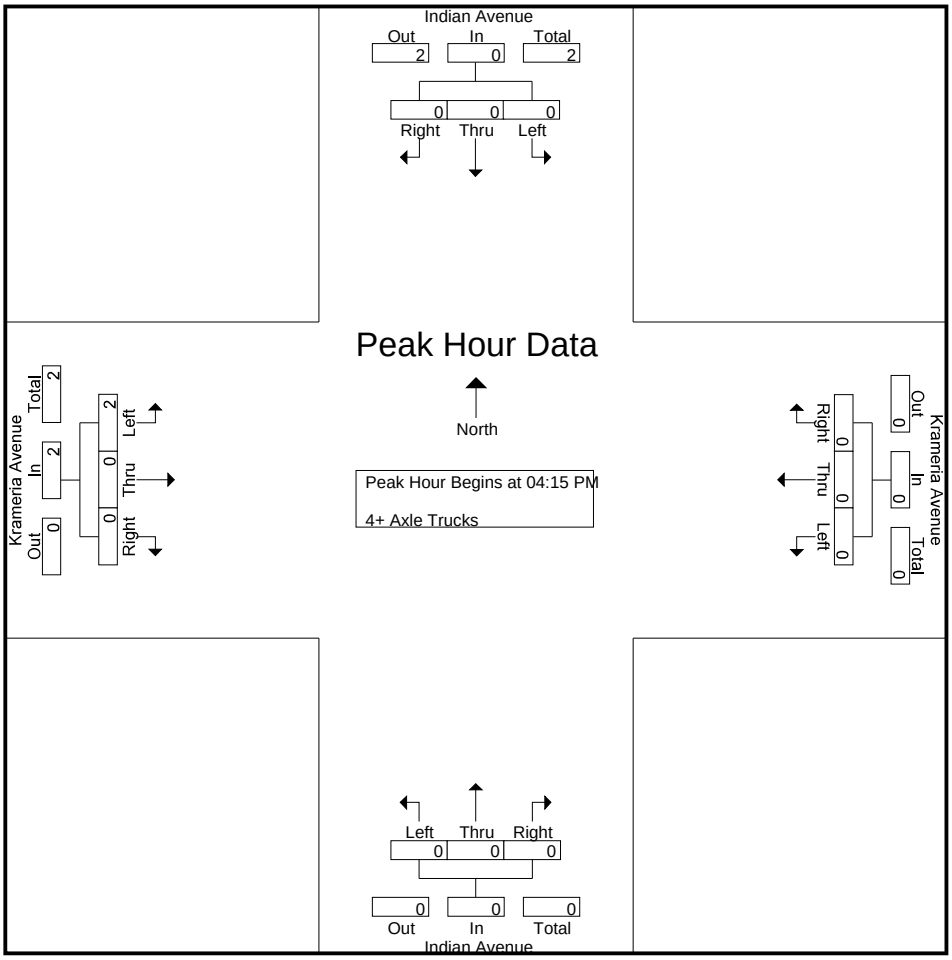
	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Apprch %	0	0	0		0	0	0		0	0	0		100	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	100	

	Indian Avenue Southbound				Krameria Avenue Westbound				Indian Avenue Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.500

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City of Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue
Weather: Clear

File Name : MRVINKRPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500

Location: Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Indian Avenue	East Leg Krameria Avenue	South Leg Indian Avenue	West Leg Krameria Avenue	TOTAL
7:00 AM	1	0	3	3	7
7:15 AM	0	0	0	0	0
7:30 AM	1	2	0	0	3
7:45 AM	2	0	0	0	2
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	4	2	3	3	12

	North Leg Indian Avenue	East Leg Krameria Avenue	South Leg Indian Avenue	West Leg Krameria Avenue	TOTAL
4:00 PM	0	1	0	0	1
4:15 PM	1	1	0	1	3
4:30 PM	0	0	1	1	2
4:45 PM	1	0	0	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	1	0	0	1
TOTAL VOLUMES:	2	3	1	2	8

Location: Moreno Valley
N/S: Indian Avenue
E/W: Krameria Avenue

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Indian Avenue	East Leg Krameria Avenue	South Leg Indian Avenue	West Leg Krameria Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Indian Avenue	East Leg Krameria Avenue	South Leg Indian Avenue	West Leg Krameria Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	1	1	2
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	1	1	2

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City of Moreno Valley
N/S: Indian Avenue
E/W: San Michele Road
Weather: Clear

File Name : MRVINSMAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

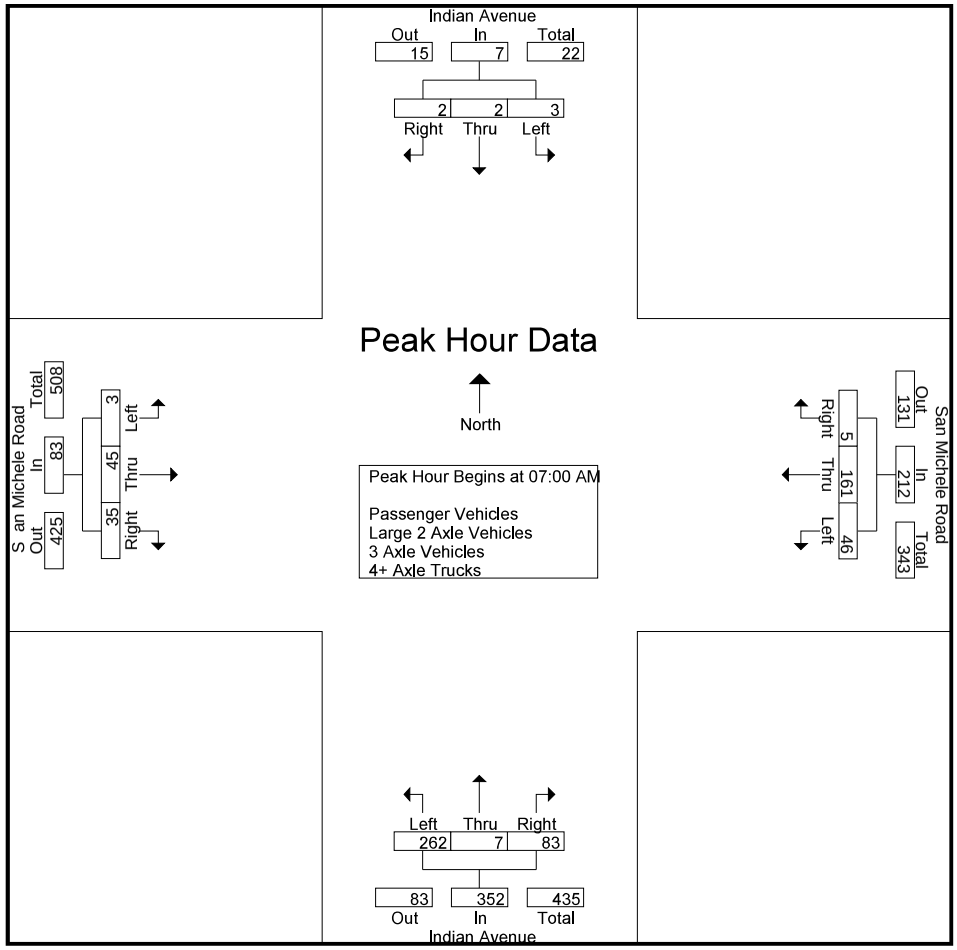
	Indian Avenue Southbound					San Michele Road Westbound					Indian Avenue Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	1	0	0	0	1	12	40	0	0	52	88	1	17	3	106	0	10	11	0	21	3	180
07:15 AM	1	0	0	0	1	10	84	3	1	97	90	2	16	6	108	0	9	10	5	19	12	225
07:30 AM	1	0	1	1	2	12	18	2	1	32	48	2	24	5	74	1	17	6	3	24	10	132
07:45 AM	0	2	1	1	3	12	19	0	0	31	36	2	26	9	64	2	9	8	1	19	11	117
Total	3	2	2	2	7	46	161	5	2	212	262	7	83	23	352	3	45	35	9	83	36	654
08:00 AM	2	1	2	2	5	6	10	0	0	16	26	7	14	2	47	0	8	9	3	17	7	85
08:15 AM	5	2	1	1	8	9	9	3	0	21	15	2	15	5	32	0	6	4	2	10	8	71
08:30 AM	2	0	1	0	3	5	4	3	0	12	24	1	9	1	34	0	5	13	0	18	1	67
08:45 AM	1	0	0	0	1	4	7	2	0	13	9	1	15	1	25	0	4	7	2	11	3	50
Total	10	3	4	3	17	24	30	8	0	62	74	11	53	9	138	0	23	33	7	56	19	273
Grand Total	13	5	6	5	24	70	191	13	2	274	336	18	136	32	490	3	68	68	16	139	55	927
Apprch %	54.2	20.8	25			25.5	69.7	4.7			68.6	3.7	27.8			2.2	48.9	48.9				
Total %	1.4	0.5	0.6		2.6	7.6	20.6	1.4		29.6	36.2	1.9	14.7		52.9	0.3	7.3	7.3		15	5.6	94.4
Passenger Vehicles	10	1	4		19	61	188	12		263	308	14	125		479	1	56	56		127	0	0
% Passenger Vehicles	76.9	20	66.7	80	65.5	87.1	98.4	92.3	100	95.3	91.7	77.8	91.9	100	91.8	33.3	82.4	82.4	87.5	81.9	0	0
Large 2 Axle Vehicles	0	1	1		2	4	0	0		4	19	1	7		27	1	0	10		13	0	0
% Large 2 Axle Vehicles	0	20	16.7	0	6.9	5.7	0	0	0	1.4	5.7	5.6	5.1	0	5.2	33.3	0	14.7	12.5	8.4	0	0
3 Axle Vehicles	0	2	0		2	0	0	0		0	1	1	0		2	0	3	0		3	0	0
% 3 Axle Vehicles	0	40	0	0	6.9	0	0	0	0	0	0.3	5.6	0	0	0.4	0	4.4	0	0	1.9	0	0
4+ Axle Trucks	3	1	1		6	5	3	1		9	8	2	4		14	1	9	2		12	0	0
% 4+ Axle Trucks	23.1	20	16.7	20	20.7	7.1	1.6	7.7	0	3.3	2.4	11.1	2.9	0	2.7	33.3	13.2	2.9	0	7.7	0	0

	Indian Avenue Southbound				San Michele Road Westbound				Indian Avenue Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	0	0	1	12	40	0	52	88	1	17	106	0	10	11	21	180
07:15 AM	1	0	0	1	10	84	3	97	90	2	16	108	0	9	10	19	225
07:30 AM	1	0	1	2	12	18	2	32	48	2	24	74	1	17	6	24	132
07:45 AM	0	2	1	3	12	19	0	31	36	2	26	64	2	9	8	19	117
Total Volume	3	2	2	7	46	161	5	212	262	7	83	352	3	45	35	83	654
% App. Total	42.9	28.6	28.6		21.7	75.9	2.4		74.4	2	23.6		3.6	54.2	42.2		
PHF	.750	.250	.500	.583	.958	.479	.417	.546	.728	.875	.798	.815	.375	.662	.795	.865	.727

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City of Moreno Valley
N/S: Indian Avenue
E/W: San Michele Road
Weather: Clear

File Name : MRVINSMAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Indian Avenue
E/W: San Michele Road
Weather: Clear

File Name : MRVINSMAM
Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- Large 2 Axle Vehicles

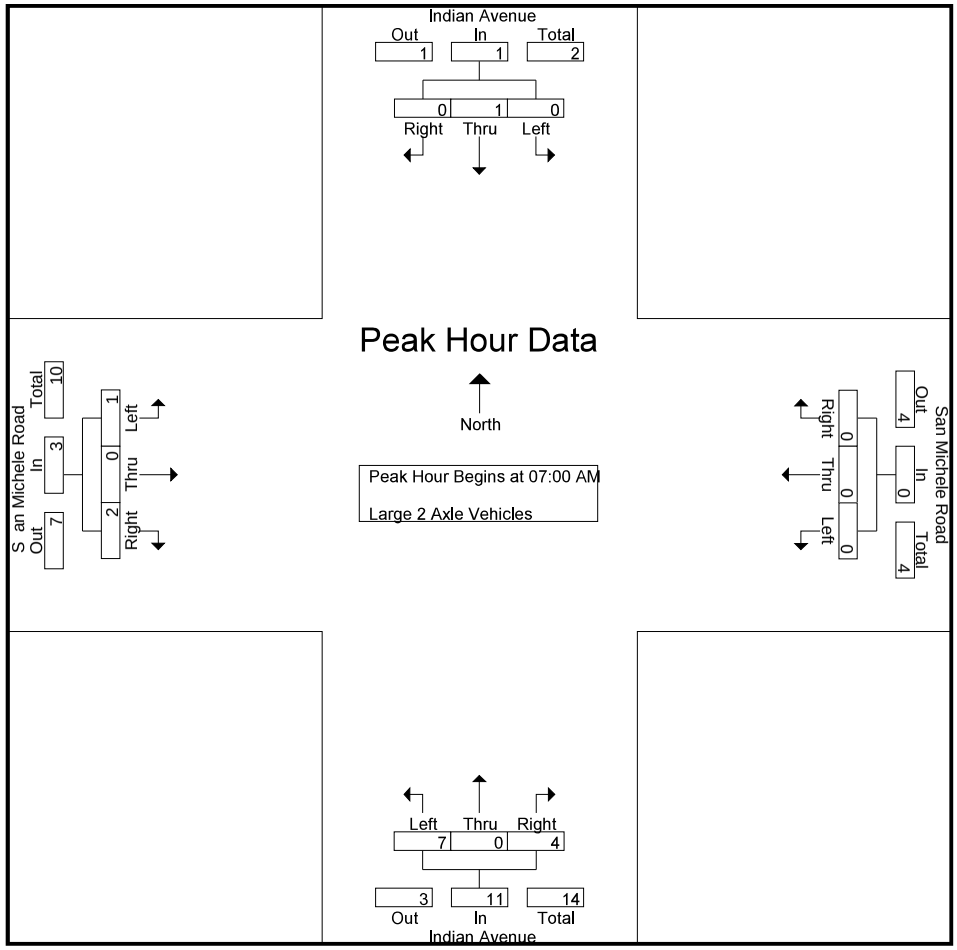
	Indian Avenue Southbound					San Michele Road Westbound					Indian Avenue Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	2	0	5	1	0	1	1	2	1	7
07:45 AM	0	1	0	0	1	0	0	0	0	0	2	0	1	0	3	0	0	0	0	0	0	4
Total	0	1	0	0	1	0	0	0	0	0	7	0	4	0	11	1	0	2	1	3	1	15
08:00 AM	0	0	0	0	0	1	0	0	0	1	4	1	1	0	6	0	0	3	1	3	1	10
08:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	3
08:30 AM	0	0	1	0	1	0	0	0	0	0	7	0	1	0	8	0	0	3	0	3	0	12
08:45 AM	0	0	0	0	0	2	0	0	0	2	1	0	0	0	1	0	0	1	0	1	0	4
Total	0	0	1	0	1	4	0	0	0	4	12	1	3	0	16	0	0	8	1	8	1	29
Grand Total	0	1	1	0	2	4	0	0	0	4	19	1	7	0	27	1	0	10	2	11	2	44
Apprch %	0	50	50			100	0	0			70.4	3.7	25.9			9.1	0	90.9				
Total %	0	2.3	2.3		4.5	9.1	0	0		9.1	43.2	2.3	15.9		61.4	2.3	0	22.7		25	4.3	95.7

	Indian Avenue Southbound				San Michele Road Westbound				Indian Avenue Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	2
07:15 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	3	0	2	5	1	0	1	2	7
07:45 AM	0	1	0	1	0	0	0	0	2	0	1	3	0	0	0	0	4
Total Volume	0	1	0	1	0	0	0	0	7	0	4	11	1	0	2	3	15
% App. Total	0	100	0		0	0	0		63.6	0	36.4		33.3	0	66.7		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.583	.000	.500	.550	.250	.000	.500	.375	.536

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City of Moreno Valley
N/S: Indian Avenue
E/W: San Michele Road
Weather: Clear

File Name : MRVINSMAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Indian Avenue
E/W: San Michele Road
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File Name : MRVINSMAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

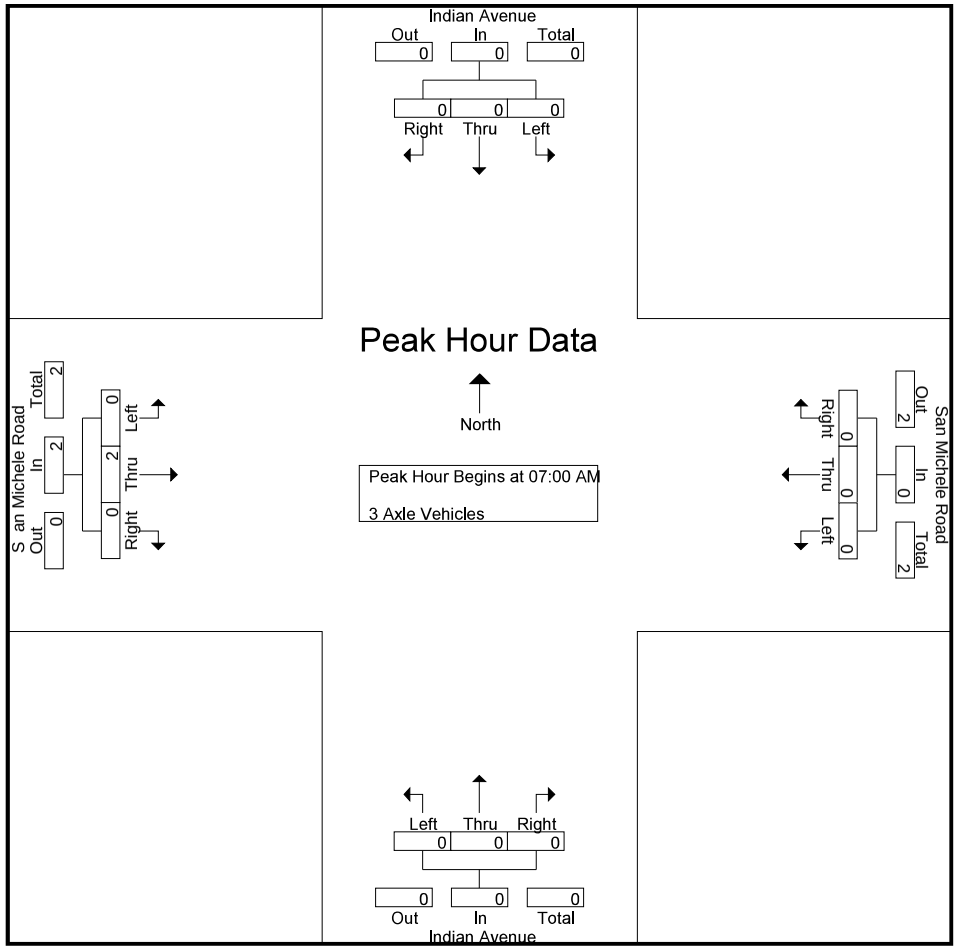
	Indian Avenue Southbound					San Michele Road Westbound					Indian Avenue Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
08:15 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	3
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Total	0	2	0	0	2	0	0	0	0	0	1	1	0	0	2	0	1	0	0	1	0	5
Grand Total	0	2	0	0	2	0	0	0	0	0	1	1	0	0	2	0	3	0	0	3	0	7
Apprch %	0	100	0			0	0	0			50	50	0			0	100	0				
Total %	0	28.6	0		28.6	0	0	0		0	14.3	14.3	0		28.6	0	42.9	0		42.9	0	100

	Indian Avenue Southbound				San Michele Road Westbound				Indian Avenue Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250

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City of Moreno Valley
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Weather: Clear

File Name : MRVINSMAM
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Start Date : 4/28/2015
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City of Moreno Valley
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Weather: Clear

File Name : MRVINSMAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

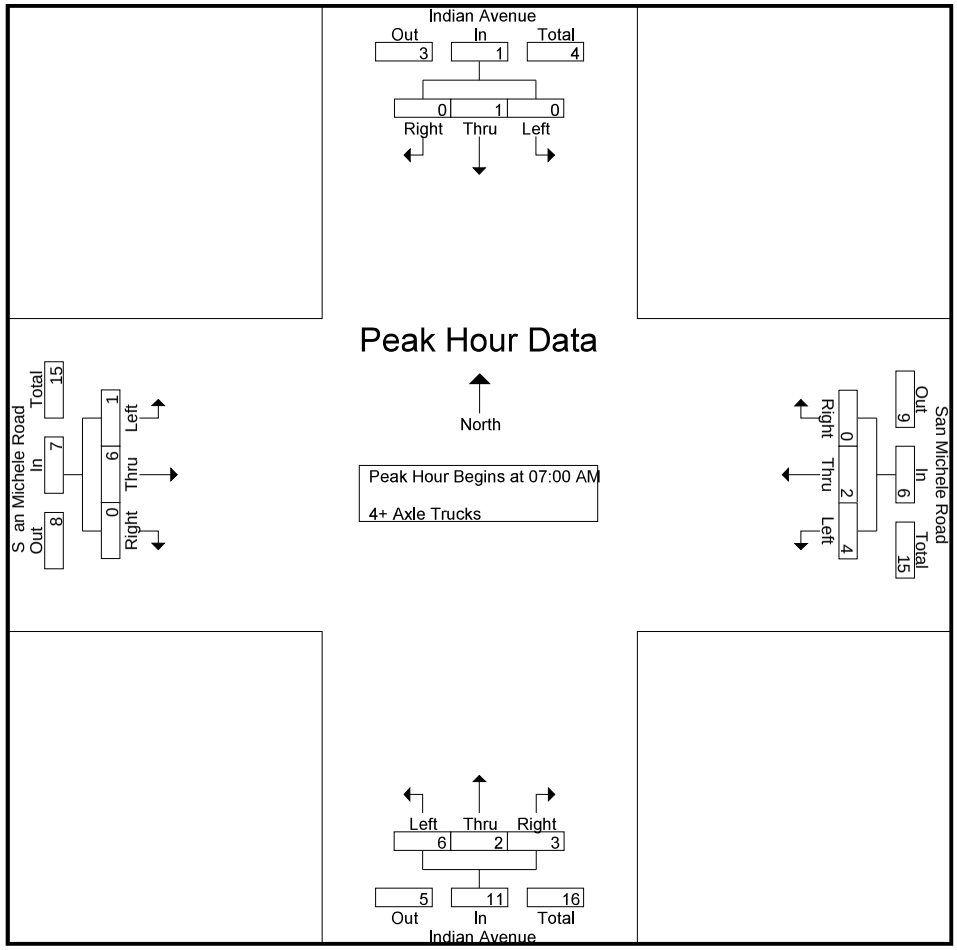
	Indian Avenue Southbound					San Michele Road Westbound					Indian Avenue Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3	0	1	0	0	1	0	4
07:15 AM	0	0	0	0	0	1	1	0	0	2	3	2	0	0	5	0	1	0	0	1	0	8
07:30 AM	0	0	0	0	0	2	0	0	0	2	1	0	0	0	1	0	2	0	0	2	0	5
07:45 AM	0	1	0	0	1	1	1	0	0	2	1	0	1	0	2	1	2	0	0	3	0	8
Total	0	1	0	0	1	4	2	0	0	6	6	2	3	0	11	1	6	0	0	7	0	25
08:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	1	2	0	3	0	5
08:15 AM	1	0	1	1	2	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	1	6
08:30 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
08:45 AM	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
Total	3	0	1	1	4	1	1	1	0	3	2	0	1	0	3	0	3	2	0	5	1	15
Grand Total	3	1	1	1	5	5	3	1	0	9	8	2	4	0	14	1	9	2	0	12	1	40
Apprch %	60	20	20			55.6	33.3	11.1			57.1	14.3	28.6			8.3	75	16.7				
Total %	7.5	2.5	2.5		12.5	12.5	7.5	2.5		22.5	20	5	10		35	2.5	22.5	5		30	2.4	97.6

	Indian Avenue Southbound				San Michele Road Westbound				Indian Avenue Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	1	0	2	3	0	1	0	1	4
07:15 AM	0	0	0	0	1	1	0	2	3	2	0	5	0	1	0	1	8
07:30 AM	0	0	0	0	2	0	0	2	1	0	0	1	0	2	0	2	5
07:45 AM	0	1	0	1	1	1	0	2	1	0	1	2	1	2	0	3	8
Total Volume	0	1	0	1	4	2	0	6	6	2	3	11	1	6	0	7	25
% App. Total	0	100	0		66.7	33.3	0		54.5	18.2	27.3		14.3	85.7	0		
PHF	.000	.250	.000	.250	.500	.500	.000	.750	.500	.250	.375	.550	.250	.750	.000	.583	.781

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File Name : MRVINSMAM
Site Code : 05115223
Start Date : 4/28/2015
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Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

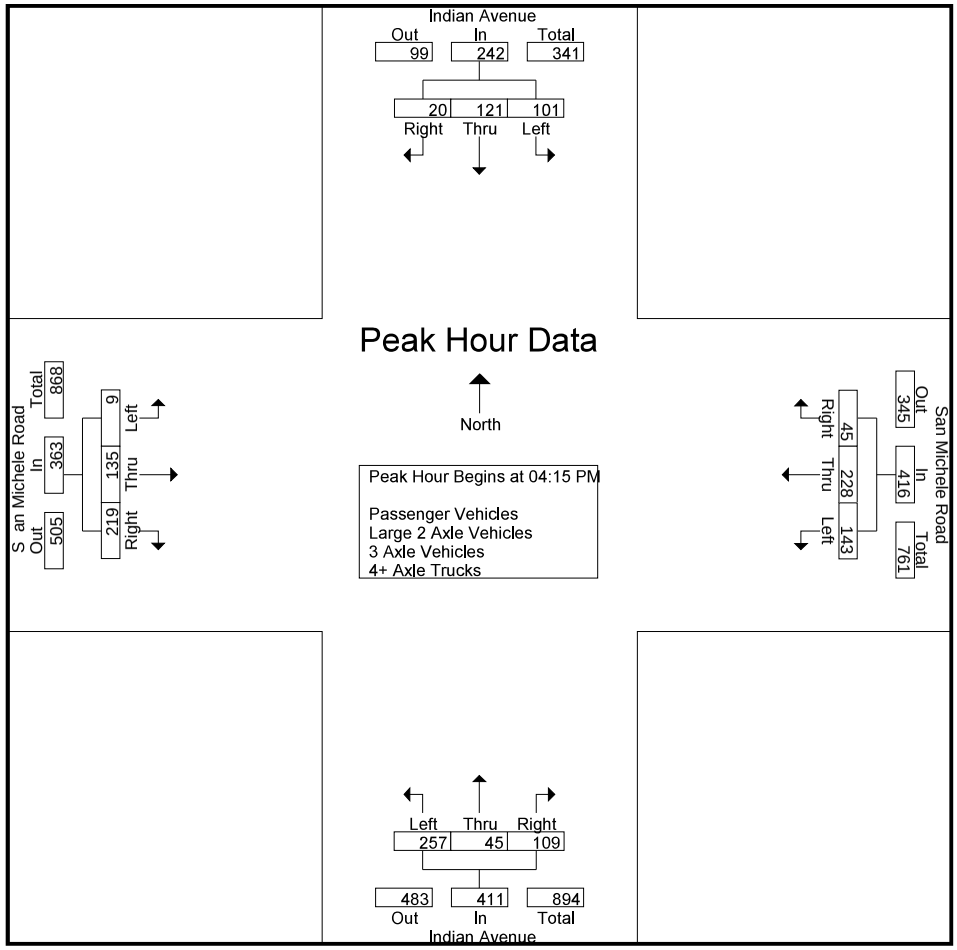
	Indian Avenue Southbound					San Michele Road Westbound					Indian Avenue Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	5	7	1	1	13	8	21	1	1	30	40	1	25	6	66	0	14	30	14	44	22	153
04:15 PM	4	4	3	1	11	27	39	3	1	69	46	5	14	4	65	4	11	20	7	35	13	180
04:30 PM	51	55	8	3	114	51	90	15	8	156	84	15	40	30	139	1	52	51	2	104	43	513
04:45 PM	37	54	4	2	95	51	77	25	5	153	77	17	37	13	131	3	54	107	19	164	39	543
Total	97	120	16	7	233	137	227	44	15	408	247	38	116	53	401	8	131	208	42	347	117	1389
05:00 PM	9	8	5	2	22	14	22	2	1	38	50	8	18	9	76	1	18	41	18	60	30	196
05:15 PM	1	6	2	0	9	9	23	1	0	33	29	6	14	5	49	0	10	28	15	38	20	129
05:30 PM	5	3	0	0	8	5	44	0	0	49	44	1	14	8	59	3	56	84	30	143	38	259
05:45 PM	4	9	0	0	13	9	67	7	2	83	55	2	20	11	77	0	32	38	10	70	23	243
Total	19	26	7	2	52	37	156	10	3	203	178	17	66	33	261	4	116	191	73	311	111	827
Grand Total	116	146	23	9	285	174	383	54	18	611	425	55	182	86	662	12	247	399	115	658	228	2216
Apprch %	40.7	51.2	8.1			28.5	62.7	8.8			64.2	8.3	27.5			1.8	37.5	60.6				
Total %	5.2	6.6	1		12.9	7.9	17.3	2.4		27.6	19.2	2.5	8.2		29.9	0.5	11.1	18		29.7	9.3	90.7
Passenger Vehicles	115	135	21		279	168	369	54		609	385	45	178		693	11	239	361		722	0	0
% Passenger Vehicles	99.1	92.5	91.3	88.9	94.9	96.6	96.3	100	100	96.8	90.6	81.8	97.8	98.8	92.6	91.7	96.8	90.5	96.5	93.4	0	0
Large 2 Axle Vehicles	0	4	0		4	2	4	0		6	35	2	1		38	0	3	38		45	0	0
% Large 2 Axle Vehicles	0	2.7	0	0	1.4	1.1	1	0	0	1	8.2	3.6	0.5	0	5.1	0	1.2	9.5	3.5	5.8	0	0
3 Axle Vehicles	0	1	0		1	1	7	0		8	4	4	0		8	0	0	0		0	0	0
% 3 Axle Vehicles	0	0.7	0	0	0.3	0.6	1.8	0	0	1.3	0.9	7.3	0	0	1.1	0	0	0	0	0	0	0
4+ Axle Trucks	1	6	2		10	3	3	0		6	1	4	3		9	1	5	0		6	0	0
% 4+ Axle Trucks	0.9	4.1	8.7	11.1	3.4	1.7	0.8	0	0	1	0.2	7.3	1.6	1.2	1.2	8.3	2	0	0	0.8	0	0

	Indian Avenue Southbound				San Michele Road Westbound				Indian Avenue Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	4	4	3	11	27	39	3	69	46	5	14	65	4	11	20	35	180
04:30 PM	51	55	8	114	51	90	15	156	84	15	40	139	1	52	51	104	513
04:45 PM	37	54	4	95	51	77	25	153	77	17	37	131	3	54	107	164	543
05:00 PM	9	8	5	22	14	22	2	38	50	8	18	76	1	18	41	60	196
Total Volume	101	121	20	242	143	228	45	416	257	45	109	411	9	135	219	363	1432
% App. Total	41.7	50	8.3		34.4	54.8	10.8		62.5	10.9	26.5		2.5	37.2	60.3		
PHF	.495	.550	.625	.531	.701	.633	.450	.667	.765	.662	.681	.739	.563	.625	.512	.553	.659

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File Name : MRVINSMPM
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File Name : MRVINSMPM
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Groups Printed- Large 2 Axle Vehicles

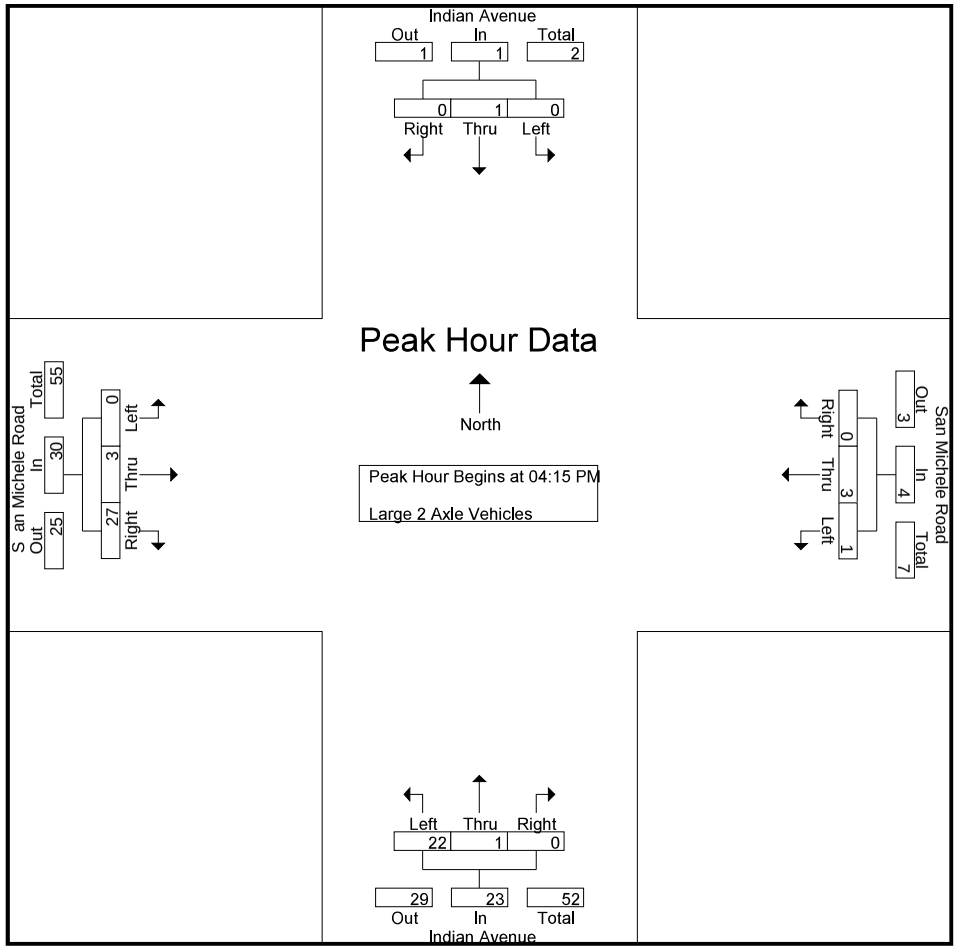
	Indian Avenue Southbound					San Michele Road Westbound					Indian Avenue Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	1	0	0	1	1	0	0	0	1	9	0	0	0	9	0	0	5	2	5	2	16
04:15 PM	0	1	0	0	1	1	2	0	0	3	4	0	0	0	4	0	0	7	1	7	1	15
04:30 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0	1	4	0	5	0	10
04:45 PM	0	0	0	0	0	0	1	0	0	1	5	0	0	0	5	0	1	12	1	13	1	19
Total	0	2	0	0	2	2	3	0	0	5	23	0	0	0	23	0	2	28	4	30	4	60
05:00 PM	0	0	0	0	0	0	0	0	0	0	8	1	0	0	9	0	1	4	0	5	0	14
05:15 PM	0	0	0	0	0	0	1	0	0	1	3	1	0	0	4	0	0	1	0	1	0	6
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	2	0	4
05:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	5
Total	0	2	0	0	2	0	1	0	0	1	12	2	1	0	15	0	1	10	0	11	0	29
Grand Total	0	4	0	0	4	2	4	0	0	6	35	2	1	0	38	0	3	38	4	41	4	89
Apprch %	0	100	0			33.3	66.7	0			92.1	5.3	2.6			0	7.3	92.7				
Total %	0	4.5	0		4.5	2.2	4.5	0		6.7	39.3	2.2	1.1		42.7	0	3.4	42.7		46.1	4.3	95.7

	Indian Avenue Southbound				San Michele Road Westbound				Indian Avenue Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	1	0	1	1	2	0	3	4	0	0	4	0	0	7	7	15
04:30 PM	0	0	0	0	0	0	0	0	5	0	0	5	0	1	4	5	10
04:45 PM	0	0	0	0	0	1	0	1	5	0	0	5	0	1	12	13	19
05:00 PM	0	0	0	0	0	0	0	0	8	1	0	9	0	1	4	5	14
Total Volume	0	1	0	1	1	3	0	4	22	1	0	23	0	3	27	30	58
% App. Total	0	100	0		25	75	0		95.7	4.3	0		0	10	90		
PHF	.000	.250	.000	.250	.250	.375	.000	.333	.688	.250	.000	.639	.000	.750	.563	.577	.763

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File Name : MRVINSMPM
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Groups Printed- 3 Axle Vehicles

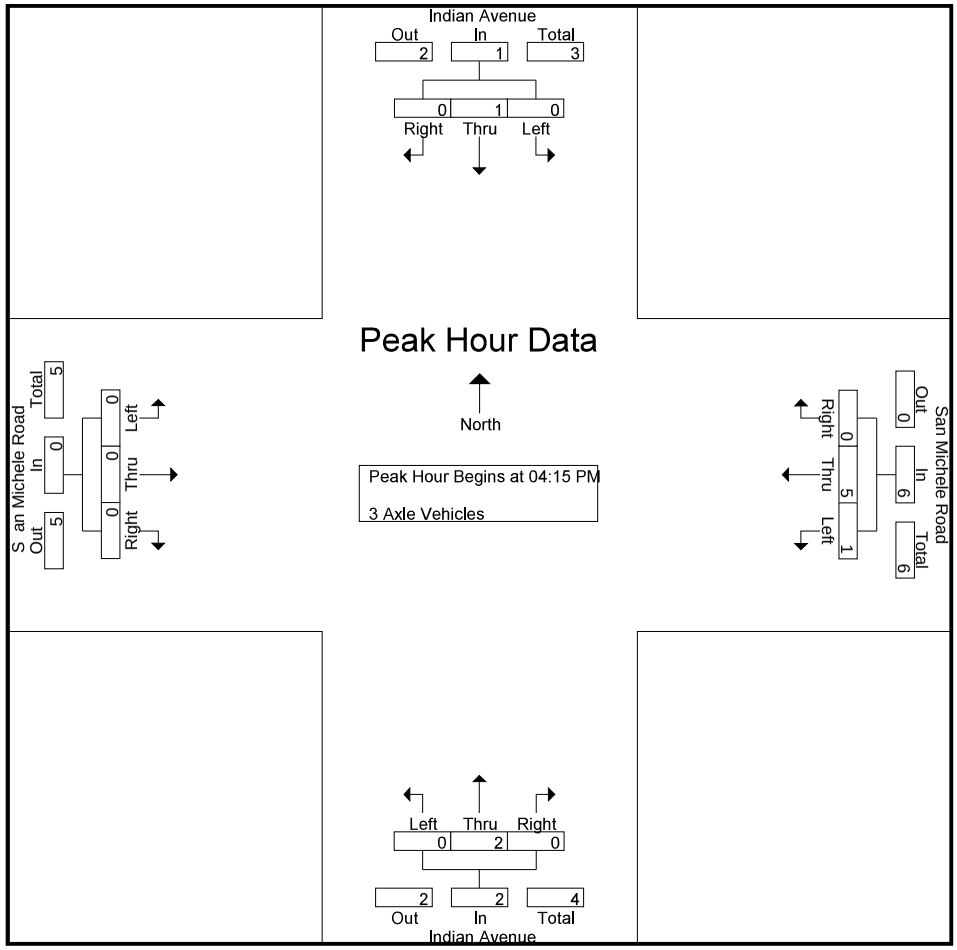
	Indian Avenue Southbound					San Michele Road Westbound					Indian Avenue Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	1	0	0	1	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	4
04:45 PM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2
Total	0	1	0	0	1	1	2	0	0	3	1	3	0	0	4	0	0	0	0	0	0	8
05:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	5	0	0	5	3	1	0	0	4	0	0	0	0	0	0	9
Grand Total	0	1	0	0	1	1	7	0	0	8	4	4	0	0	8	0	0	0	0	0	0	17
Apprch %	0	100	0			12.5	87.5	0			50	50	0			0	0	0				
Total %	0	5.9	0		5.9	5.9	41.2	0		47.1	23.5	23.5	0		47.1	0	0	0		0	0	100

	Indian Avenue Southbound				San Michele Road Westbound				Indian Avenue Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	1	0	1	0	2	0	2	0	1	0	1	0	0	0	0	4
04:45 PM	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	2
05:00 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
Total Volume	0	1	0	1	1	5	0	6	0	2	0	2	0	0	0	0	9
% App. Total	0	100	0		16.7	83.3	0		0	100	0		0	0	0		
PHF	.000	.250	.000	.250	.250	.417	.000	.500	.000	.500	.000	.500	.000	.000	.000	.000	.563

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City of Moreno Valley
N/S: Indian Avenue
E/W: San Michele Road
Weather: Clear

File Name : MRVINSMPM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Indian Avenue
E/W: San Michele Road
Weather: Clear

File Name : MRVINSMPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

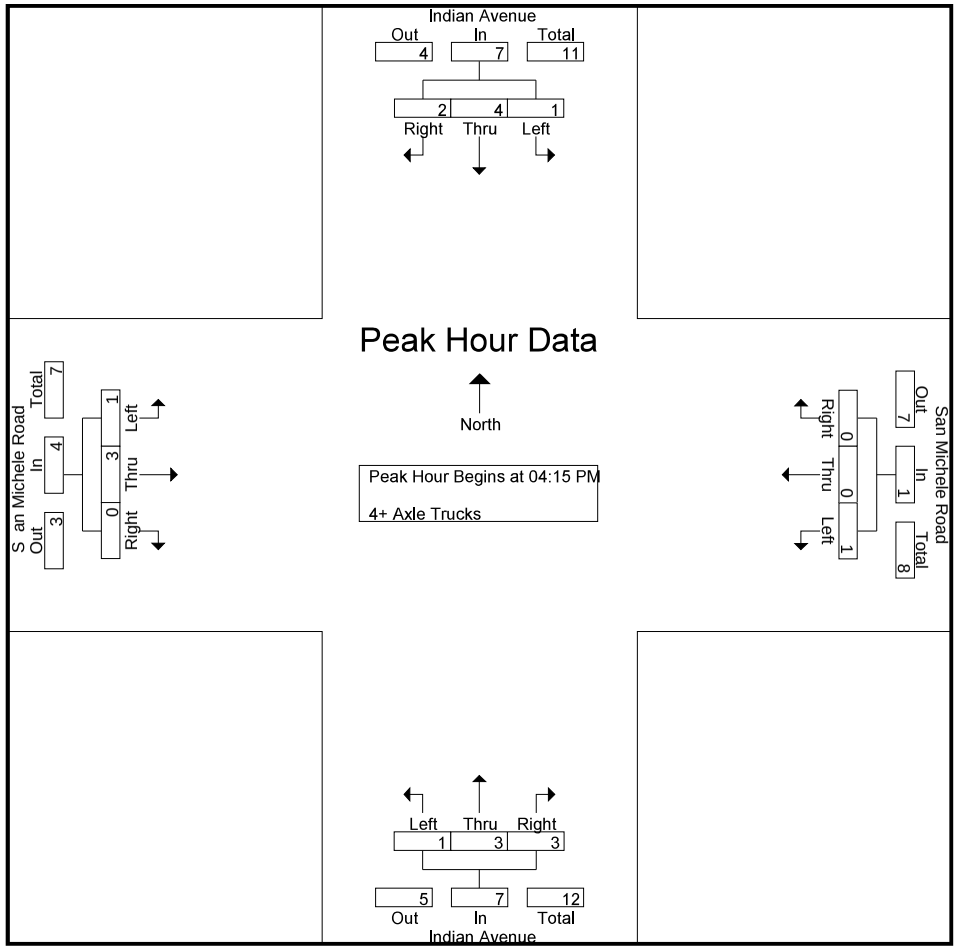
	Indian Avenue Southbound					San Michele Road Westbound					Indian Avenue Northbound					San Michele Road Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2
04:15 PM	0	0	1	0	1	0	0	0	0	0	0	1	2	0	3	1	0	0	0	1	0	5
04:30 PM	0	1	0	0	1	1	0	0	0	1	0	0	1	1	1	0	2	0	0	2	1	5
04:45 PM	0	2	1	1	3	0	0	0	0	0	1	1	0	0	2	0	1	0	0	1	1	6
Total	0	3	2	1	5	1	1	0	0	2	1	2	3	1	6	1	4	0	0	5	2	18
05:00 PM	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
05:15 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	3
05:45 PM	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	3
Total	1	3	0	0	4	2	2	0	0	4	0	2	0	0	2	0	1	0	0	1	0	11
Grand Total	1	6	2	1	9	3	3	0	0	6	1	4	3	1	8	1	5	0	0	6	2	29
Apprch %	11.1	66.7	22.2			50	50	0			12.5	50	37.5			16.7	83.3	0				
Total %	3.4	20.7	6.9		31	10.3	10.3	0		20.7	3.4	13.8	10.3		27.6	3.4	17.2	0		20.7	6.5	93.5

	Indian Avenue Southbound				San Michele Road Westbound				Indian Avenue Northbound				San Michele Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	1	1	0	0	0	0	0	1	2	3	1	0	0	1	5
04:30 PM	0	1	0	1	1	0	0	1	0	0	1	1	0	2	0	2	5
04:45 PM	0	2	1	3	0	0	0	0	1	1	0	2	0	1	0	1	6
05:00 PM	1	1	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
Total Volume	1	4	2	7	1	0	0	1	1	3	3	7	1	3	0	4	19
% App. Total	14.3	57.1	28.6		100	0	0		14.3	42.9	42.9		25	75	0		
PHF	.250	.500	.500	.583	.250	.000	.000	.250	.250	.750	.375	.583	.250	.375	.000	.500	.792

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City of Moreno Valley
N/S: Indian Avenue
E/W: San Michele Road
Weather: Clear

File Name : MRVINSMPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



Location: Moreno Valley
N/S: Indian Avenue
E/W: San Michele Road

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Indian Avenue	East Leg San Michele Road	South Leg Indian Avenue	West Leg San Michele Road	TOTAL
7:00 AM	2	0	0	2	4
7:15 AM	7	0	0	3	10
7:30 AM	0	0	0	4	4
7:45 AM	0	0	0	21	21
8:00 AM	0	0	0	4	4
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	1	1
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	9	0	0	35	44

	North Leg Indian Avenue	East Leg San Michele Road	South Leg Indian Avenue	West Leg San Michele Road	TOTAL
4:00 PM	0	0	0	11	11
4:15 PM	0	0	3	15	18
4:30 PM	0	0	15	164	179
4:45 PM	3	0	2	123	128
5:00 PM	1	1	0	22	24
5:15 PM	2	0	1	7	10
5:30 PM	0	0	0	9	9
5:45 PM	4	2	3	9	18
TOTAL VOLUMES:	10	3	24	360	397

Location: Moreno Valley
N/S: Indian Avenue
E/W: San Michele Road

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Indian Avenue	East Leg San Michele Road	South Leg Indian Avenue	West Leg San Michele Road	TOTAL
7:00 AM	1	0	0	0	1
7:15 AM	1	0	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	2	0	0	0	2

	North Leg Indian Avenue	East Leg San Michele Road	South Leg Indian Avenue	West Leg San Michele Road	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	1	1	2
4:30 PM	0	0	0	0	0
4:45 PM	0	0	2	0	2
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	3	1	4

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City of Moreno Valley
N/S: Indian Avenue
E/W: Nandina Avenue
Weather: Clear

File Name : MRVINNAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

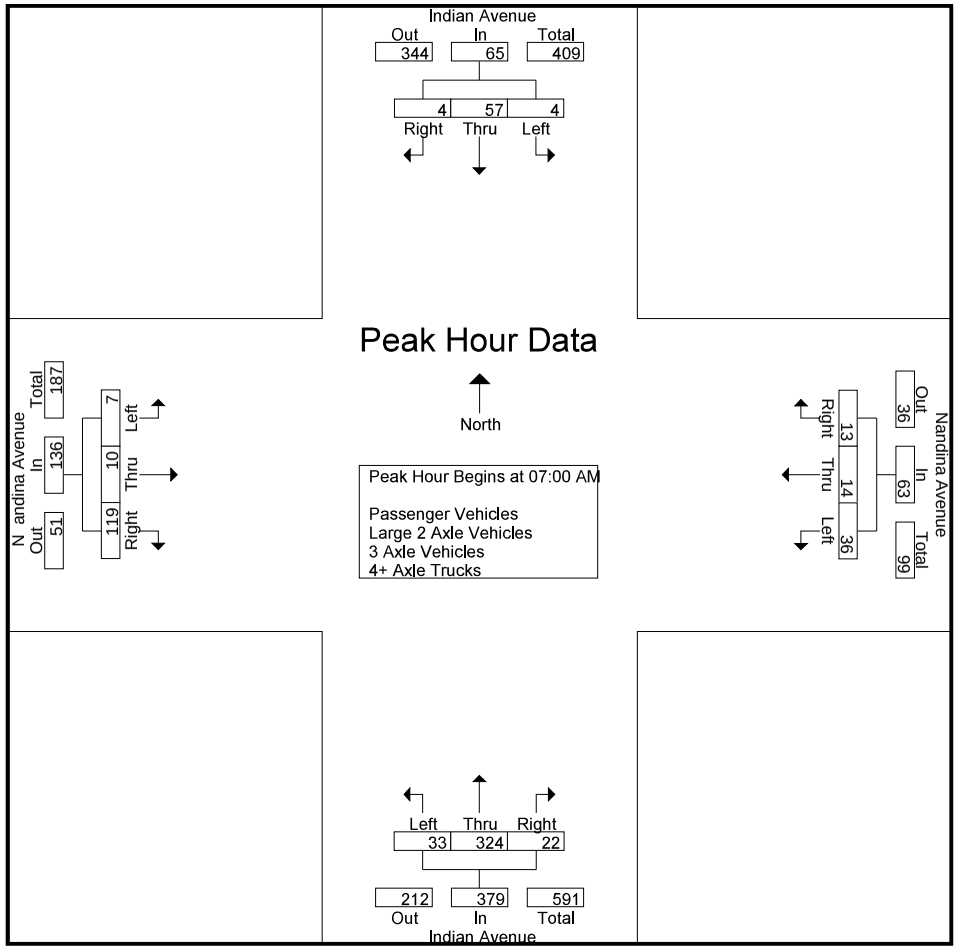
	Indian Avenue Southbound					Nandina Avenue Westbound					Indian Avenue Northbound					Nandina Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	1	18	1	1	20	8	6	3	0	17	5	87	8	0	100	1	1	26	10	28	11	165
07:15 AM	1	19	0	0	20	11	3	1	0	15	5	109	5	0	119	0	3	38	15	41	15	195
07:30 AM	2	10	1	1	13	8	1	7	1	16	8	70	2	0	80	2	4	25	12	31	14	140
07:45 AM	0	10	2	2	12	9	4	2	1	15	15	58	7	2	80	4	2	30	11	36	16	143
Total	4	57	4	4	65	36	14	13	2	63	33	324	22	2	379	7	10	119	48	136	56	643
08:00 AM	0	7	3	1	10	3	2	1	0	6	7	40	1	0	48	1	2	12	6	15	7	79
08:15 AM	0	15	1	0	16	6	4	5	2	15	4	31	2	0	37	0	3	18	7	21	9	89
08:30 AM	0	14	1	1	15	9	0	5	2	14	1	28	2	0	31	1	2	14	5	17	8	77
08:45 AM	0	10	0	0	10	8	3	0	0	11	6	29	3	0	38	0	5	13	5	18	5	77
Total	0	46	5	2	51	26	9	11	4	46	18	128	8	0	154	2	12	57	23	71	29	322
Grand Total	4	103	9	6	116	62	23	24	6	109	51	452	30	2	533	9	22	176	71	207	85	965
Apprch %	3.4	88.8	7.8			56.9	21.1	22			9.6	84.8	5.6			4.3	10.6	85				
Total %	0.4	10.7	0.9		12	6.4	2.4	2.5		11.3	5.3	46.8	3.1		55.2	0.9	2.3	18.2		21.5	8.1	91.9
Passenger Vehicles	3	87	2		92	56	15	15		90	35	424	21		481	4	15	144		224	0	0
% Passenger Vehicles	75	84.5	22.2	0	75.4	90.3	65.2	62.5	66.7	78.3	68.6	93.8	70	50	89.9	44.4	68.2	81.8	85.9	80.6	0	0
Large 2 Axle Vehicles	0	7	5		13	0	0	5		6	5	13	7		26	3	1	9		15	0	0
% Large 2 Axle Vehicles	0	6.8	55.6	16.7	10.7	0	0	20.8	16.7	5.2	9.8	2.9	23.3	50	4.9	33.3	4.5	5.1	2.8	5.4	0	0
3 Axle Vehicles	0	3	0		3	2	0	2		5	1	1	0		2	1	1	5		9	0	0
% 3 Axle Vehicles	0	2.9	0	0	2.5	3.2	0	8.3	16.7	4.3	2	0.2	0	0	0.4	11.1	4.5	2.8	2.8	3.2	0	0
4+ Axle Trucks	1	6	2		14	4	8	2		14	10	14	2		26	1	5	18		30	0	0
% 4+ Axle Trucks	25	5.8	22.2	83.3	11.5	6.5	34.8	8.3	0	12.2	19.6	3.1	6.7	0	4.9	11.1	22.7	10.2	8.5	10.8	0	0

	Indian Avenue Southbound				Nandina Avenue Westbound				Indian Avenue Northbound				Nandina Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	18	1	20	8	6	3	17	5	87	8	100	1	1	26	28	165
07:15 AM	1	19	0	20	11	3	1	15	5	109	5	119	0	3	38	41	195
07:30 AM	2	10	1	13	8	1	7	16	8	70	2	80	2	4	25	31	140
07:45 AM	0	10	2	12	9	4	2	15	15	58	7	80	4	2	30	36	143
Total Volume	4	57	4	65	36	14	13	63	33	324	22	379	7	10	119	136	643
% App. Total	6.2	87.7	6.2		57.1	22.2	20.6		8.7	85.5	5.8		5.1	7.4	87.5		
PHF	.500	.750	.500	.813	.818	.583	.464	.926	.550	.743	.688	.796	.438	.625	.783	.829	.824

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City of Moreno Valley
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File Name : MRVINNAAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Indian Avenue
E/W: Nandina Avenue
Weather: Clear

File Name : MRVINNAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

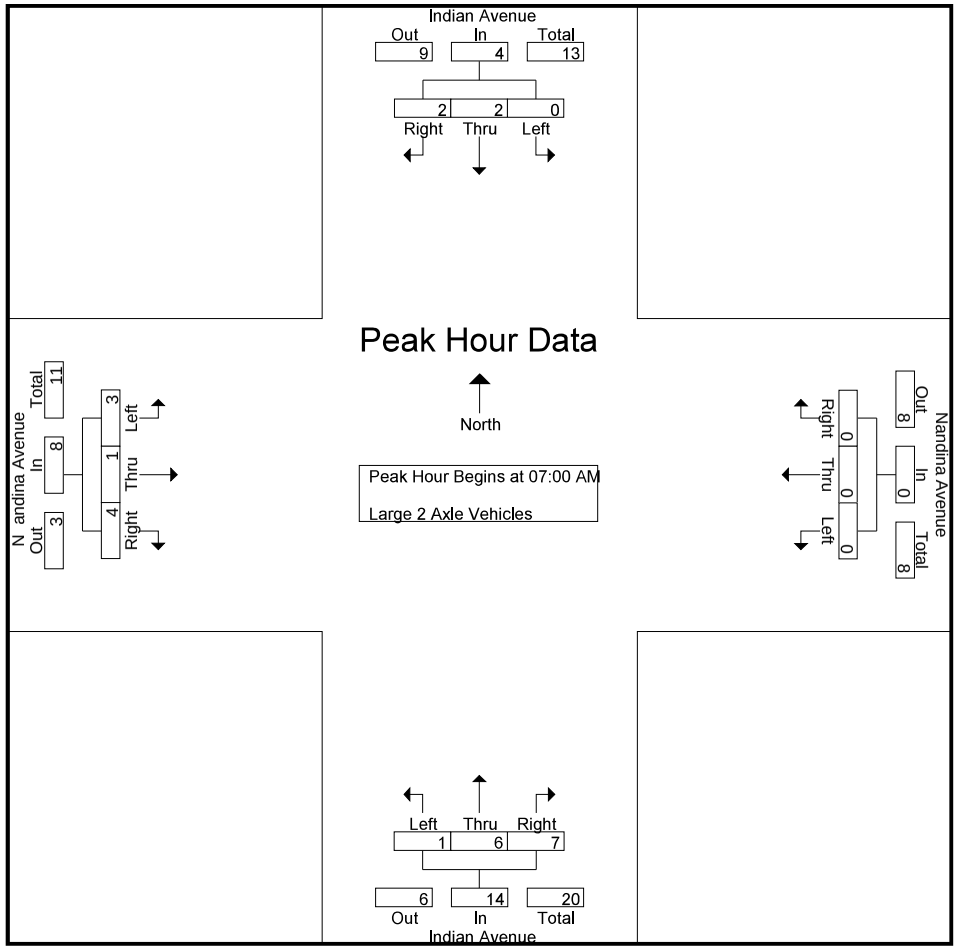
	Indian Avenue Southbound					Nandina Avenue Westbound					Indian Avenue Northbound					Nandina Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	1	0	0	1	0	0	0	0	0	0	3	2	0	5	0	0	0	0	0	0	6
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	0	2	0	3
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4
07:45 AM	0	0	2	1	2	0	0	0	0	0	1	0	4	1	5	3	1	2	0	6	2	13
Total	0	2	2	1	4	0	0	0	0	0	1	6	7	1	14	3	1	4	0	8	2	26
08:00 AM	0	1	1	0	2	0	0	1	0	1	2	2	0	0	4	0	0	0	0	0	0	7
08:15 AM	0	1	1	0	2	0	0	3	1	3	1	1	0	0	2	0	0	2	1	2	2	9
08:30 AM	0	1	1	0	2	0	0	1	0	1	0	3	0	0	3	0	0	3	1	3	1	9
08:45 AM	0	2	0	0	2	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	4
Total	0	5	3	0	8	0	0	5	1	5	4	7	0	0	11	0	0	5	2	5	3	29
Grand Total	0	7	5	1	12	0	0	5	1	5	5	13	7	1	25	3	1	9	2	13	5	55
Apprch %	0	58.3	41.7			0	0	100			20	52	28			23.1	7.7	69.2				
Total %	0	12.7	9.1		21.8	0	0	9.1		9.1	9.1	23.6	12.7		45.5	5.5	1.8	16.4		23.6	8.3	91.7

	Indian Avenue Southbound				Nandina Avenue Westbound				Indian Avenue Northbound				Nandina Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	1	0	1	0	0	0	0	0	3	2	5	0	0	0	0	6
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2	3
07:30 AM	0	1	0	1	0	0	0	0	0	3	0	3	0	0	0	0	4
07:45 AM	0	0	2	2	0	0	0	0	1	0	4	5	3	1	2	6	13
Total Volume	0	2	2	4	0	0	0	0	1	6	7	14	3	1	4	8	26
% App. Total	0	50	50		0	0	0		7.1	42.9	50		37.5	12.5	50		
PHF	.000	.500	.250	.500	.000	.000	.000	.000	.250	.500	.438	.700	.250	.250	.500	.333	.500

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E/W: Nandina Avenue
Weather: Clear

File Name : MRVINNAAM
Site Code : 05115223
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City of Moreno Valley
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E/W: Nandina Avenue
Weather: Clear

File Name : MRVINNAAM
Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- 3 Axle Vehicles

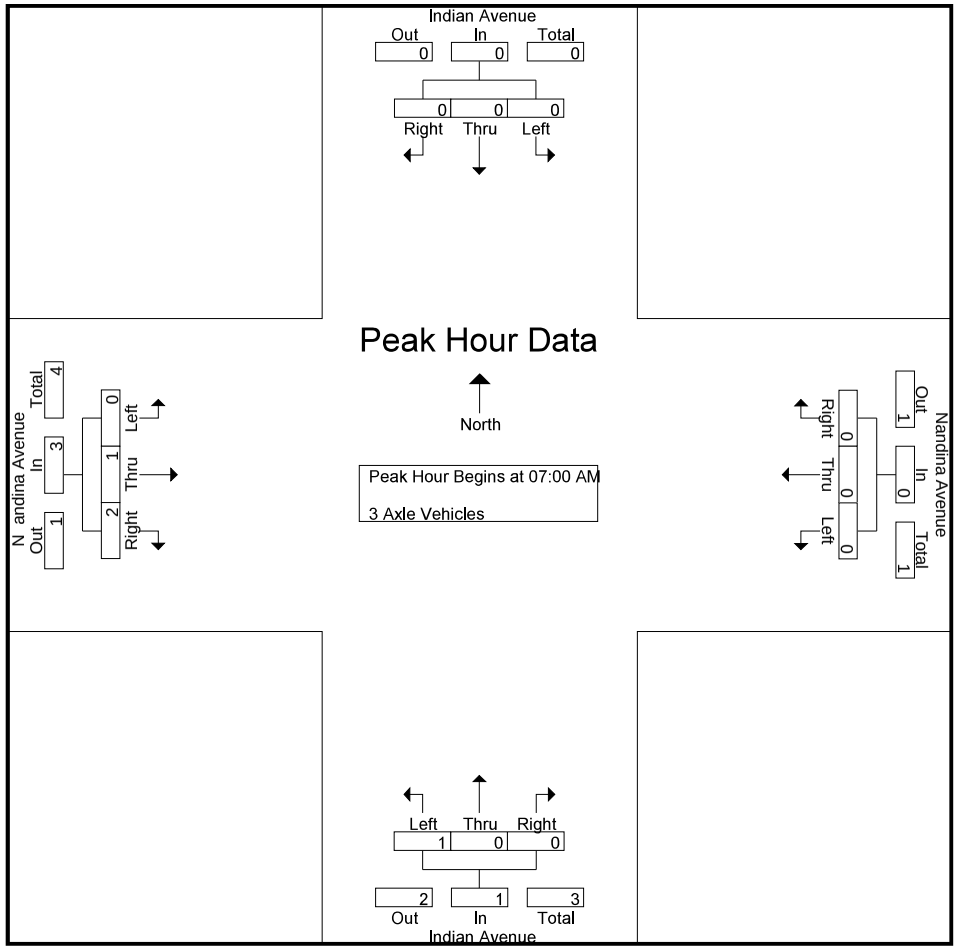
	Indian Avenue Southbound					Nandina Avenue Westbound					Indian Avenue Northbound					Nandina Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	1	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	2	1	3	1	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1
08:15 AM	0	2	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	4
08:30 AM	0	0	0	0	0	0	0	2	1	2	0	0	0	0	0	0	0	0	0	0	1	2
08:45 AM	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	0	0	2	1	2	1	5
Total	0	3	0	0	3	2	0	2	1	4	0	1	0	0	1	1	0	3	1	4	2	12
Grand Total	0	3	0	0	3	2	0	2	1	4	1	1	0	0	2	1	1	5	2	7	3	16
Apprch %	0	100	0			50	0	50			50	50	0			14.3	14.3	71.4				
Total %	0	18.8	0		18.8	12.5	0	12.5		25	6.2	6.2	0		12.5	6.2	6.2	31.2		43.8	15.8	84.2

	Indian Avenue Southbound				Nandina Avenue Westbound				Indian Avenue Northbound				Nandina Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
07:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	1	2	3	4
% App. Total	0	0	0		0	0	0		100	0	0		0	33.3	66.7		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.250	.250	.375	.500

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City of Moreno Valley
N/S: Indian Avenue
E/W: Nandina Avenue
Weather: Clear

File Name : MRVINNAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Indian Avenue
E/W: Nandina Avenue
Weather: Clear

File Name : MRVINNAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

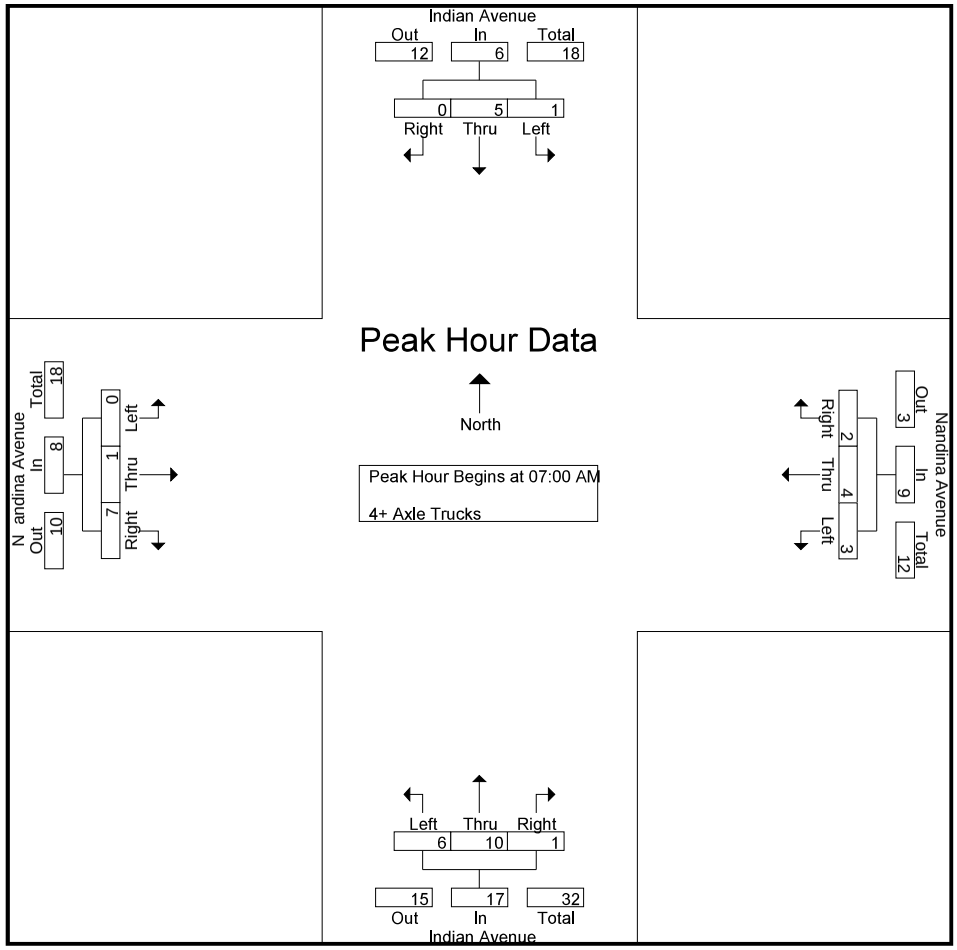
	Indian Avenue Southbound					Nandina Avenue Westbound					Indian Avenue Northbound					Nandina Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	1	0	1	2	1	0	4	0	2	1	0	3	0	0	1	0	1	1	8
07:15 AM	0	1	0	0	1	0	1	1	0	2	1	4	0	0	5	0	0	4	2	4	2	12
07:30 AM	1	1	0	1	2	1	0	0	0	1	1	2	0	0	3	0	1	1	1	2	2	8
07:45 AM	0	3	0	1	3	1	1	0	0	2	4	2	0	0	6	0	0	1	0	1	1	12
Total	1	5	0	3	6	3	4	2	0	9	6	10	1	0	17	0	1	7	3	8	6	40
08:00 AM	0	0	2	1	2	0	1	0	0	1	3	3	0	0	6	0	1	0	0	1	1	10
08:15 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	2	0	2	0	4
08:30 AM	0	0	0	1	0	1	0	0	0	1	0	1	0	0	1	1	2	4	1	7	2	9
08:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	0	1	5	2	6	2	10
Total	0	1	2	2	3	1	4	0	0	5	4	4	1	0	9	1	4	11	3	16	5	33
Grand Total	1	6	2	5	9	4	8	2	0	14	10	14	2	0	26	1	5	18	6	24	11	73
Apprch %	11.1	66.7	22.2			28.6	57.1	14.3			38.5	53.8	7.7			4.2	20.8	75				
Total %	1.4	8.2	2.7		12.3	5.5	11	2.7		19.2	13.7	19.2	2.7		35.6	1.4	6.8	24.7		32.9	13.1	86.9

	Indian Avenue Southbound				Nandina Avenue Westbound				Indian Avenue Northbound				Nandina Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	1	2	1	4	0	2	1	3	0	0	1	1	8
07:15 AM	0	1	0	1	0	1	1	2	1	4	0	5	0	0	4	4	12
07:30 AM	1	1	0	2	1	0	0	1	1	2	0	3	0	1	1	2	8
07:45 AM	0	3	0	3	1	1	0	2	4	2	0	6	0	0	1	1	12
Total Volume	1	5	0	6	3	4	2	9	6	10	1	17	0	1	7	8	40
% App. Total	16.7	83.3	0		33.3	44.4	22.2		35.3	58.8	5.9		0	12.5	87.5		
PHF	.250	.417	.000	.500	.750	.500	.500	.563	.375	.625	.250	.708	.000	.250	.438	.500	.833

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City of Moreno Valley
N/S: Indian Avenue
E/W: Nandina Avenue
Weather: Clear

File Name : MRVINNAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Indian Avenue
E/W: Nandina Avenue
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File Name : MRVINNAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

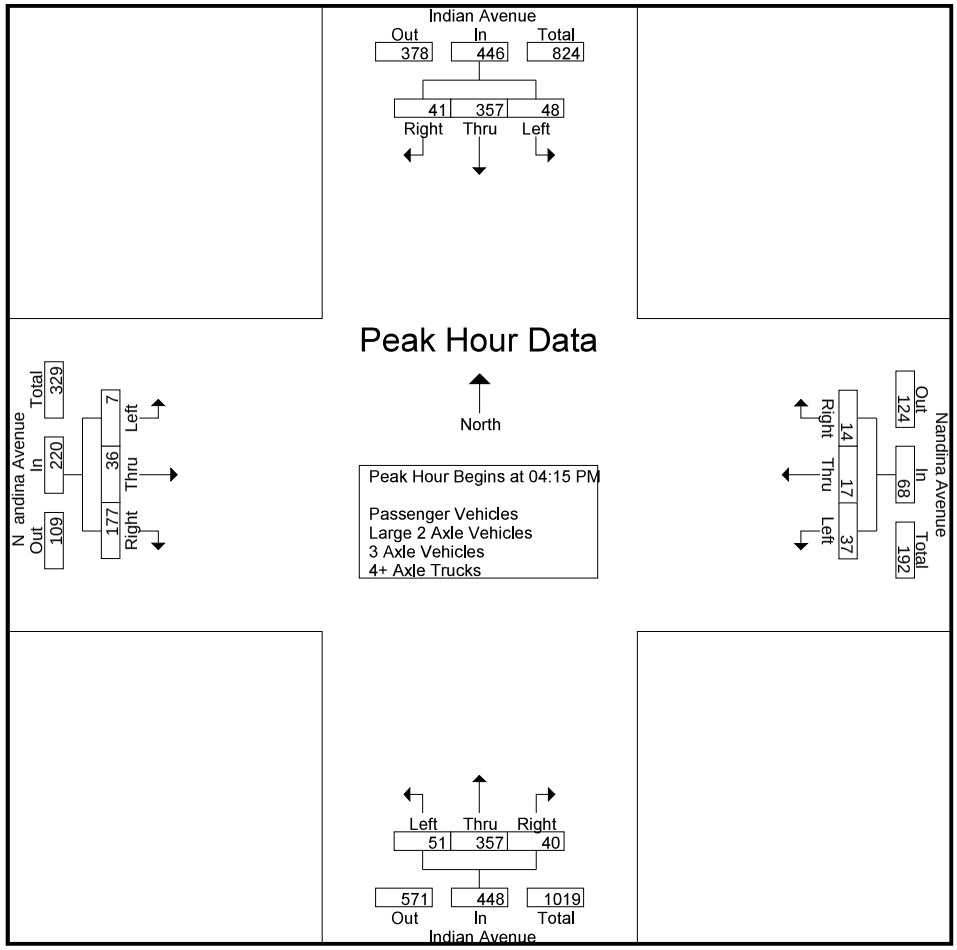
	Indian Avenue Southbound					Nandina Avenue Westbound					Indian Avenue Northbound					Nandina Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	31	0	0	31	10	2	2	2	14	1	53	3	1	57	2	7	15	11	24	14	126
04:15 PM	4	16	1	1	21	17	6	6	5	29	9	79	6	0	94	0	3	23	22	26	28	170
04:30 PM	14	133	18	1	165	7	1	3	3	11	22	117	8	1	147	2	9	46	20	57	25	380
04:45 PM	25	158	19	2	202	8	6	5	5	19	13	101	15	0	129	2	10	58	24	70	31	420
Total	43	338	38	4	419	42	15	16	15	73	45	350	32	2	427	6	29	142	77	177	98	1096
05:00 PM	5	50	3	0	58	5	4	0	0	9	7	60	11	2	78	3	14	50	19	67	21	212
05:15 PM	2	41	1	0	44	7	1	1	1	9	5	43	5	0	53	2	14	42	17	58	18	164
05:30 PM	2	74	4	0	80	3	3	7	6	13	7	55	6	1	68	4	6	44	20	54	27	215
05:45 PM	1	55	2	1	58	14	4	3	3	21	11	77	7	0	95	1	11	37	11	49	15	223
Total	10	220	10	1	240	29	12	11	10	52	30	235	29	3	294	10	45	173	67	228	81	814
Grand Total	53	558	48	5	659	71	27	27	25	125	75	585	61	5	721	16	74	315	144	405	179	1910
Apprch %	8	84.7	7.3			56.8	21.6	21.6			10.4	81.1	8.5			4	18.3	77.8				
Total %	2.8	29.2	2.5		34.5	3.7	1.4	1.4		6.5	3.9	30.6	3.2		37.7	0.8	3.9	16.5		21.2	8.6	91.4
Passenger Vehicles	51	544	38		638	62	24	27		138	68	562	53		688	15	71	275		493	0	0
% Passenger Vehicles	96.2	97.5	79.2	100	96.1	87.3	88.9	100	100	92	90.7	96.1	86.9	100	94.8	93.8	95.9	87.3	91.7	89.8	0	0
Large 2 Axle Vehicles	1	5	9		15	1	0	0		1	2	7	1		10	1	2	8		17	0	0
% Large 2 Axle Vehicles	1.9	0.9	18.8	0	2.3	1.4	0	0	0	0.7	2.7	1.2	1.6	0	1.4	6.2	2.7	2.5	4.2	3.1	0	0
3 Axle Vehicles	1	0	0		1	2	1	0		3	0	6	4		10	0	1	16		19	0	0
% 3 Axle Vehicles	1.9	0	0	0	0.2	2.8	3.7	0	0	2	0	1	6.6	0	1.4	0	1.4	5.1	1.4	3.5	0	0
4+ Axle Trucks	0	9	1		10	6	2	0		8	5	10	3		18	0	0	16		20	0	0
% 4+ Axle Trucks	0	1.6	2.1	0	1.5	8.5	7.4	0	0	5.3	6.7	1.7	4.9	0	2.5	0	0	5.1	2.8	3.6	0	0

	Indian Avenue Southbound				Nandina Avenue Westbound				Indian Avenue Northbound				Nandina Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	4	16	1	21	17	6	6	29	9	79	6	94	0	3	23	26	170
04:30 PM	14	133	18	165	7	1	3	11	22	117	8	147	2	9	46	57	380
04:45 PM	25	158	19	202	8	6	5	19	13	101	15	129	2	10	58	70	420
05:00 PM	5	50	3	58	5	4	0	9	7	60	11	78	3	14	50	67	212
Total Volume	48	357	41	446	37	17	14	68	51	357	40	448	7	36	177	220	1182
% App. Total	10.8	80	9.2		54.4	25	20.6		11.4	79.7	8.9		3.2	16.4	80.5		
PHF	.480	.565	.539	.552	.544	.708	.583	.586	.580	.763	.667	.762	.583	.643	.763	.786	.704

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City of Moreno Valley
N/S: Indian Avenue
E/W: Nandina Avenue
Weather: Clear

File Name : MRVINNAPM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Indian Avenue
E/W: Nandina Avenue
Weather: Clear

File Name : MRVINNAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

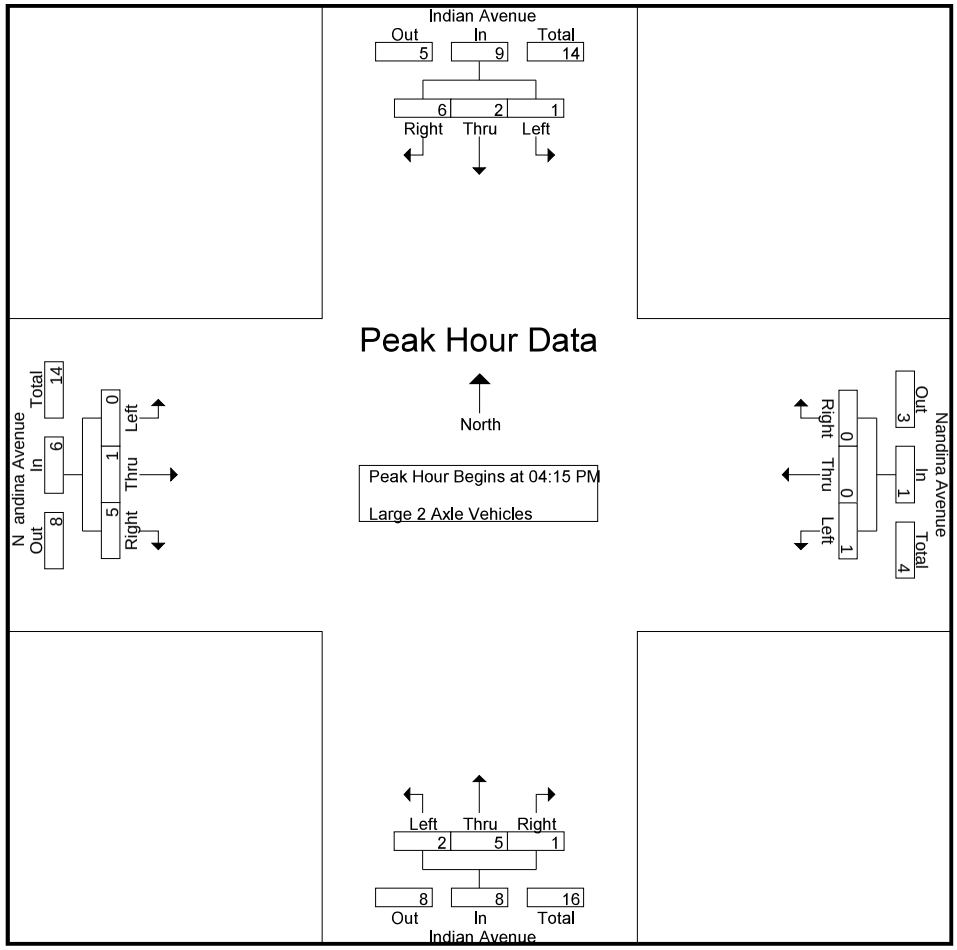
	Indian Avenue Southbound					Nandina Avenue Westbound					Indian Avenue Northbound					Nandina Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	1	1	0	0	2	1	0	0	0	1	0	1	0	0	1	0	1	0	0	1	0	5
04:30 PM	0	1	2	0	3	0	0	0	0	0	1	1	0	0	2	0	0	2	2	2	2	7
04:45 PM	0	0	4	0	4	0	0	0	0	0	1	2	1	0	4	0	0	1	1	1	1	9
Total	1	2	6	0	9	1	0	0	0	1	2	4	1	0	7	0	1	3	3	4	3	21
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	2	2	2	3
05:15 PM	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	0	1	1	1	2	1	6
05:30 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	4
05:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	3
Total	0	3	3	0	6	0	0	0	0	0	0	3	0	0	3	1	1	5	3	7	3	16
Grand Total	1	5	9	0	15	1	0	0	0	1	2	7	1	0	10	1	2	8	6	11	6	37
Apprch %	6.7	33.3	60			100	0	0			20	70	10			9.1	18.2	72.7				
Total %	2.7	13.5	24.3		40.5	2.7	0	0		2.7	5.4	18.9	2.7		27	2.7	5.4	21.6		29.7	14	86

	Indian Avenue Southbound				Nandina Avenue Westbound				Indian Avenue Northbound				Nandina Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	1	1	0	2	1	0	0	1	0	1	0	1	0	1	0	1	5
04:30 PM	0	1	2	3	0	0	0	0	1	1	0	2	0	0	2	2	7
04:45 PM	0	0	4	4	0	0	0	0	1	2	1	4	0	0	1	1	9
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	2	3
Total Volume	1	2	6	9	1	0	0	1	2	5	1	8	0	1	5	6	24
% App. Total	11.1	22.2	66.7		100	0	0		25	62.5	12.5		0	16.7	83.3		
PHF	.250	.500	.375	.563	.250	.000	.000	.250	.500	.625	.250	.500	.000	.250	.625	.750	.667

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City of Moreno Valley
N/S: Indian Avenue
E/W: Nandina Avenue
Weather: Clear

File Name : MRVINNAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Indian Avenue
E/W: Nandina Avenue
Weather: Clear

File Name : MRVINNAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

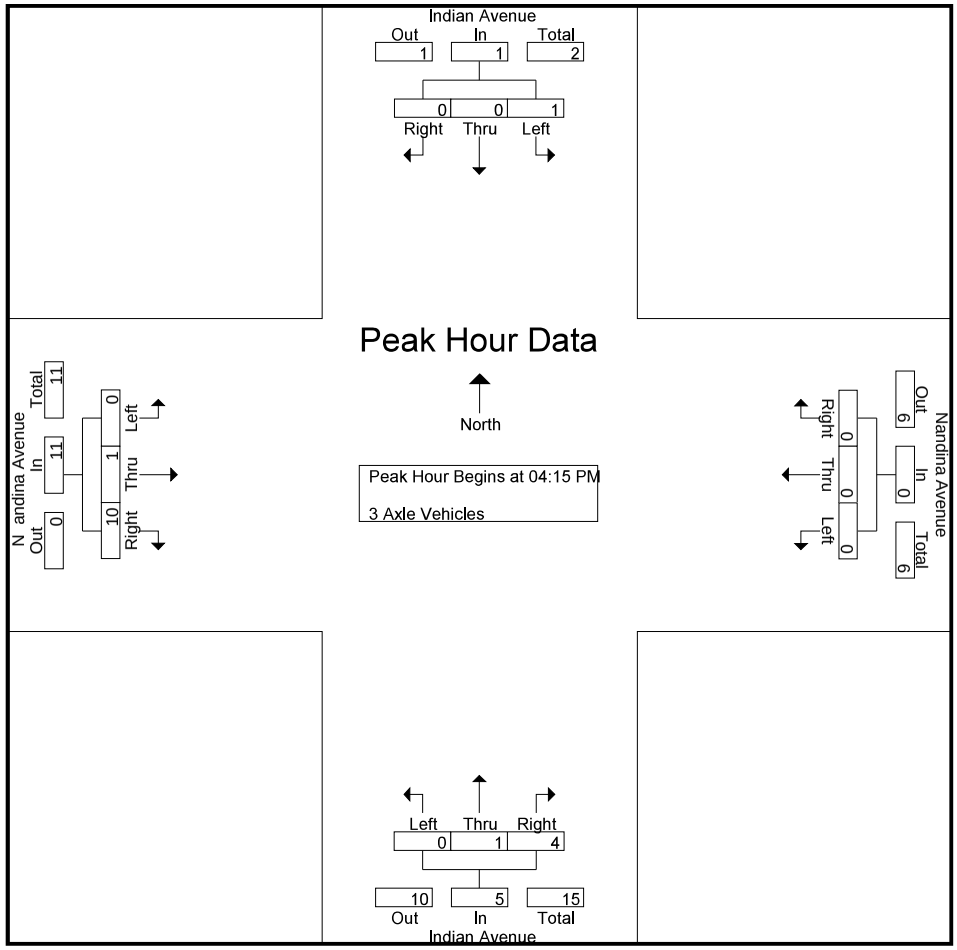
	Indian Avenue Southbound					Nandina Avenue Westbound					Indian Avenue Northbound					Nandina Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	1	2	1	3
04:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	4	1	4	1	6
Total	1	0	0	0	1	0	0	0	0	0	0	1	2	0	3	0	1	5	2	6	2	10
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	5	0	5	0	7
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	4	0	4	0	5
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
05:45 PM	0	0	0	0	0	2	1	0	0	3	0	4	0	0	4	0	0	1	0	1	0	8
Total	0	0	0	0	0	2	1	0	0	3	0	5	2	0	7	0	0	11	0	11	0	21
Grand Total	1	0	0	0	1	2	1	0	0	3	0	6	4	0	10	0	1	16	2	17	2	31
Apprch %	100	0	0			66.7	33.3	0			0	60	40			0	5.9	94.1				
Total %	3.2	0	0		3.2	6.5	3.2	0		9.7	0	19.4	12.9		32.3	0	3.2	51.6		54.8	6.1	93.9

	Indian Avenue Southbound				Nandina Avenue Westbound				Indian Avenue Northbound				Nandina Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	2	3
04:45 PM	1	0	0	1	0	0	0	0	0	0	1	1	0	0	4	4	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	5	5	7
Total Volume	1	0	0	1	0	0	0	0	0	1	4	5	0	1	10	11	17
% App. Total	100	0	0		0	0	0		0	20	80		0	9.1	90.9		
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.250	.500	.625	.000	.250	.500	.550	.607

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City of Moreno Valley
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File Name : MRVINNAPM
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Page No : 2



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City of Moreno Valley
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Groups Printed- 4+ Axle Trucks

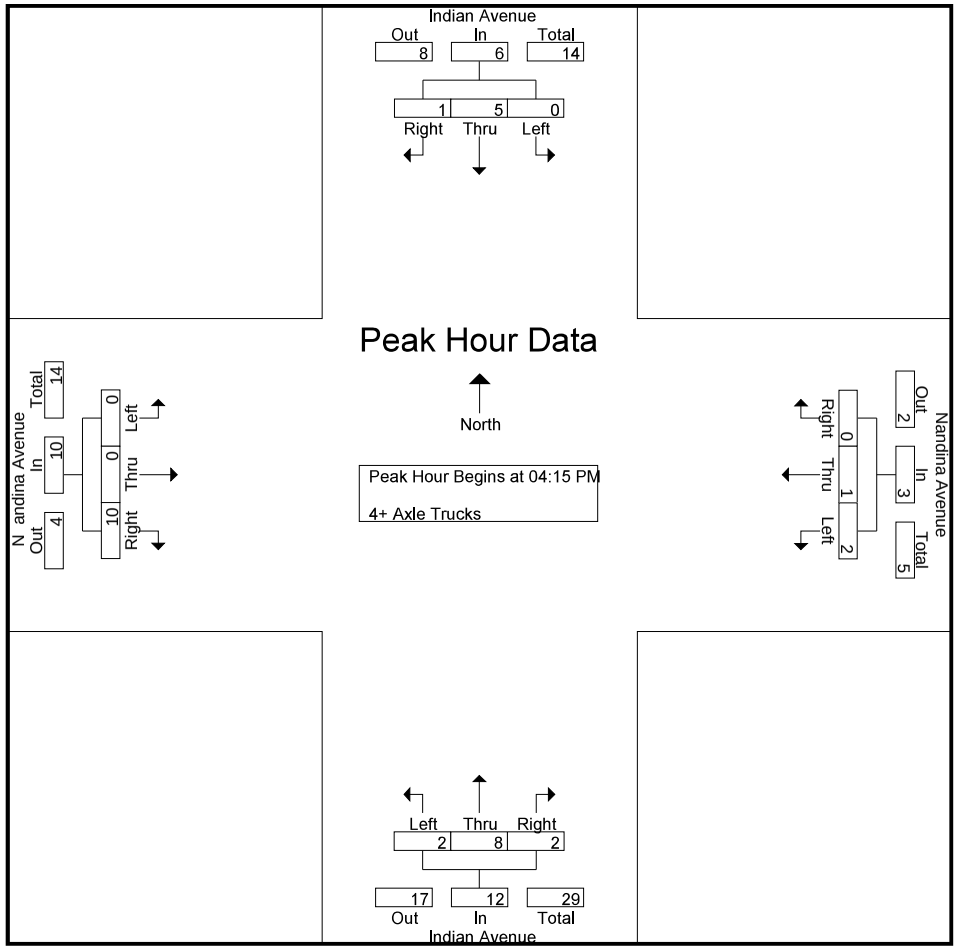
	Indian Avenue Southbound					Nandina Avenue Westbound					Indian Avenue Northbound					Nandina Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	1	0	1	0	3
04:15 PM	0	0	0	0	0	1	0	0	0	1	1	4	0	0	5	0	0	1	1	1	1	7
04:30 PM	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	0	0	4	0	4	0	7
04:45 PM	0	3	0	0	3	0	0	0	0	0	1	2	2	0	5	0	0	2	0	2	0	10
Total	0	4	0	0	4	3	0	0	0	3	2	8	2	0	12	0	0	8	1	8	1	27
05:00 PM	0	1	1	0	2	0	1	0	0	1	0	1	0	0	1	0	0	3	1	3	1	7
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	1	4	1	5
05:30 PM	0	1	0	0	1	0	0	0	0	0	1	0	1	0	2	0	0	1	1	1	1	4
05:45 PM	0	2	0	0	2	3	1	0	0	4	2	1	0	0	3	0	0	0	0	0	0	9
Total	0	5	1	0	6	3	2	0	0	5	3	2	1	0	6	0	0	8	3	8	3	25
Grand Total	0	9	1	0	10	6	2	0	0	8	5	10	3	0	18	0	0	16	4	16	4	52
Apprch %	0	90	10			75	25	0			27.8	55.6	16.7			0	0	100				
Total %	0	17.3	1.9		19.2	11.5	3.8	0		15.4	9.6	19.2	5.8		34.6	0	0	30.8		30.8	7.1	92.9

	Indian Avenue Southbound				Nandina Avenue Westbound				Indian Avenue Northbound				Nandina Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	1	0	0	1	1	4	0	5	0	0	1	1	7
04:30 PM	0	1	0	1	1	0	0	1	0	1	0	1	0	0	4	4	7
04:45 PM	0	3	0	3	0	0	0	0	1	2	2	5	0	0	2	2	10
05:00 PM	0	1	1	2	0	1	0	1	0	1	0	1	0	0	3	3	7
Total Volume	0	5	1	6	2	1	0	3	2	8	2	12	0	0	10	10	31
% App. Total	0	83.3	16.7		66.7	33.3	0		16.7	66.7	16.7		0	0	100		
PHF	.000	.417	.250	.500	.500	.250	.000	.750	.500	.500	.250	.600	.000	.000	.625	.625	.775

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City of Moreno Valley
N/S: Indian Avenue
E/W: Nandina Avenue
Weather: Clear

File Name : MRVINNAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



Location: Moreno Valley
N/S: Indian Avenue
E/W: Nandina Avenue

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Indian Avenue	East Leg Nandina Avenue	South Leg Indian Avenue	West Leg Nandina Avenue	TOTAL
7:00 AM	0	0	0	1	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	1

	North Leg Indian Avenue	East Leg Nandina Avenue	South Leg Indian Avenue	West Leg Nandina Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	1	0	0	1
4:30 PM	0	1	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	2	0	0	2
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	4	0	0	4

Location: Moreno Valley
N/S: Indian Avenue
E/W: Nandina Avenue

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Indian Avenue	East Leg Nandina Avenue	South Leg Indian Avenue	West Leg Nandina Avenue	TOTAL
7:00 AM	0	1	0	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	1

	North Leg Indian Avenue	East Leg Nandina Avenue	South Leg Indian Avenue	West Leg Nandina Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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City of Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVINHKAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

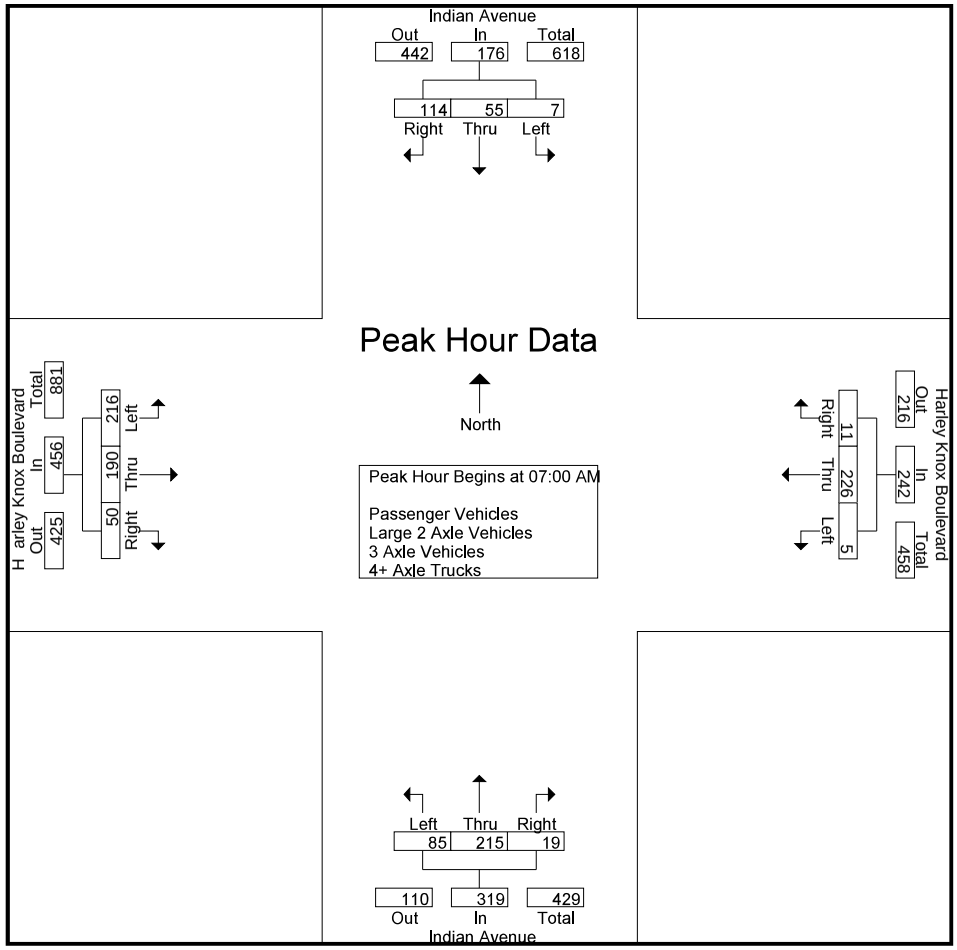
	Indian Avenue Southbound					Harley Knox Boulevard Westbound					Indian Avenue Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	13	36	21	49	1	69	4	1	74	25	56	4	0	85	58	34	15	8	107	30	315
07:15 AM	4	18	36	22	58	1	55	1	0	57	17	63	5	2	85	60	46	10	3	116	27	316
07:30 AM	2	12	20	10	34	1	44	1	1	46	27	54	4	0	85	45	58	16	4	119	15	284
07:45 AM	1	12	22	10	35	2	58	5	0	65	16	42	6	2	64	53	52	9	1	114	13	278
Total	7	55	114	63	176	5	226	11	2	242	85	215	19	4	319	216	190	50	16	456	85	1193
08:00 AM	2	6	12	9	20	1	36	2	1	39	11	30	1	0	42	42	31	14	1	87	11	188
08:15 AM	0	10	25	14	35	1	27	3	0	31	14	18	1	0	33	19	21	10	3	50	17	149
08:30 AM	0	6	23	9	29	2	23	3	0	28	12	14	0	0	26	33	20	9	4	62	13	145
08:45 AM	1	12	18	12	31	0	21	0	0	21	6	19	0	0	25	32	21	10	3	63	15	140
Total	3	34	78	44	115	4	107	8	1	119	43	81	2	0	126	126	93	43	11	262	56	622
Grand Total	10	89	192	107	291	9	333	19	3	361	128	296	21	4	445	342	283	93	27	718	141	1815
Apprch %	3.4	30.6	66			2.5	92.2	5.3			28.8	66.5	4.7			47.6	39.4	13				
Total %	0.6	4.9	10.6		16	0.5	18.3	1		19.9	7.1	16.3	1.2		24.5	18.8	15.6	5.1		39.6	7.2	92.8
Passenger Vehicles	7	76	143		305	8	311	16		338	98	270	15		384	301	261	52		627	0	0
% Passenger Vehicles	70	85.4	74.5	73.8	76.6	88.9	93.4	84.2	100	92.9	76.6	91.2	71.4	25	85.5	88	92.2	55.9	48.1	84.2	0	0
Large 2 Axle Vehicles	2	7	10		28	0	6	0		6	5	12	1		19	10	4	11		33	0	0
% Large 2 Axle Vehicles	20	7.9	5.2	8.4	7	0	1.8	0	0	1.6	3.9	4.1	4.8	25	4.2	2.9	1.4	11.8	29.6	4.4	0	0
3 Axle Vehicles	0	4	8		16	1	3	0		4	13	2	4		21	1	5	16		25	0	0
% 3 Axle Vehicles	0	4.5	4.2	3.7	4	11.1	0.9	0	0	1.1	10.2	0.7	19	50	4.7	0.3	1.8	17.2	11.1	3.4	0	0
4+ Axle Trucks	1	2	31		49	0	13	3		16	12	12	1		25	30	13	14		60	0	0
% 4+ Axle Trucks	10	2.2	16.1	14	12.3	0	3.9	15.8	0	4.4	9.4	4.1	4.8	0	5.6	8.8	4.6	15.1	11.1	8.1	0	0

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	13	36	49	1	69	4	74	25	56	4	85	58	34	15	107	315
07:15 AM	4	18	36	58	1	55	1	57	17	63	5	85	60	46	10	116	316
07:30 AM	2	12	20	34	1	44	1	46	27	54	4	85	45	58	16	119	284
07:45 AM	1	12	22	35	2	58	5	65	16	42	6	64	53	52	9	114	278
Total Volume	7	55	114	176	5	226	11	242	85	215	19	319	216	190	50	456	1193
% App. Total	4	31.2	64.8		2.1	93.4	4.5		26.6	67.4	6		47.4	41.7	11		
PHF	.438	.764	.792	.759	.625	.819	.550	.818	.787	.853	.792	.938	.900	.819	.781	.958	.944

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City of Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVINHKAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVINHKAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

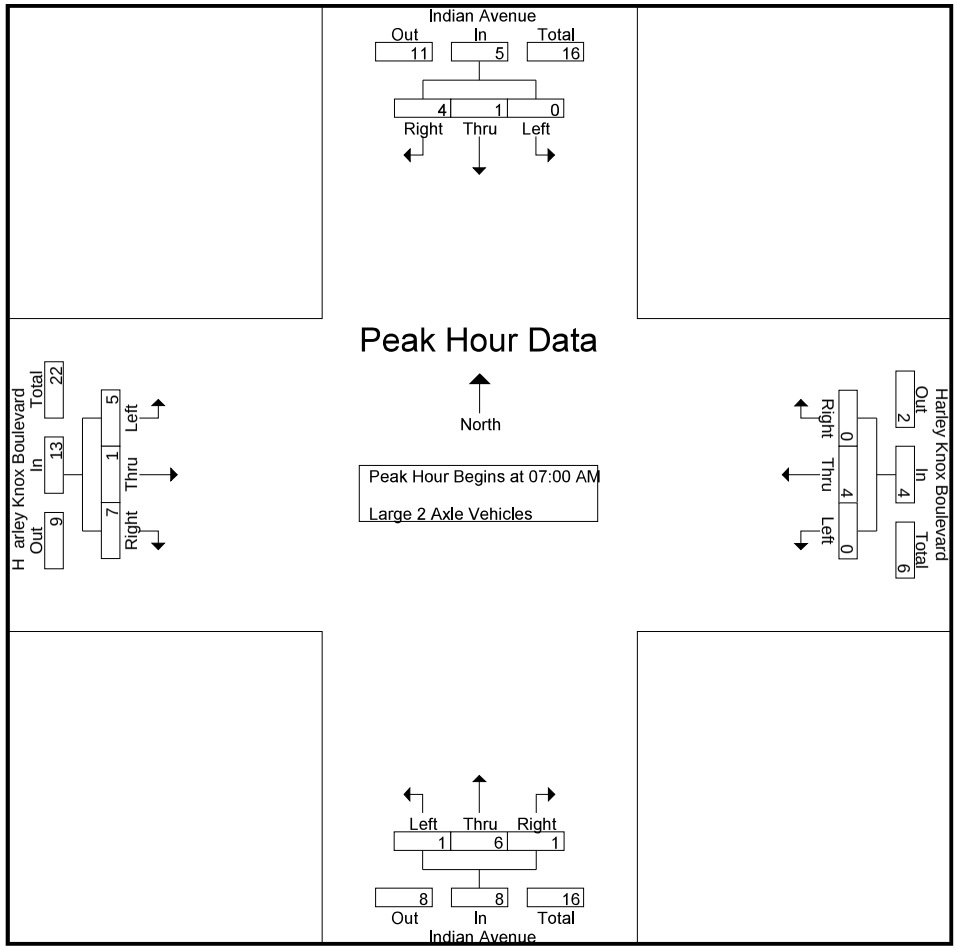
	Indian Avenue Southbound					Harley Knox Boulevard Westbound					Indian Avenue Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	3	3	4	3	5
07:15 AM	0	0	2	2	2	0	2	0	0	2	0	1	0	0	1	1	0	2	2	3	4	8
07:30 AM	0	0	1	1	1	0	2	0	0	2	0	3	0	0	3	1	0	2	2	3	3	9
07:45 AM	0	1	1	1	2	0	0	0	0	0	1	1	1	1	3	2	1	0	0	3	2	8
Total	0	1	4	4	5	0	4	0	0	4	1	6	1	1	8	5	1	7	7	13	12	30
08:00 AM	1	1	1	0	3	0	0	0	0	0	1	2	0	0	3	2	0	0	0	2	0	8
08:15 AM	0	3	3	3	6	0	1	0	0	1	3	1	0	0	4	0	1	1	0	2	3	13
08:30 AM	0	0	1	1	1	0	0	0	0	0	0	2	0	0	2	1	2	0	0	3	1	6
08:45 AM	1	2	1	1	4	0	1	0	0	1	0	1	0	0	1	2	0	3	1	5	2	11
Total	2	6	6	5	14	0	2	0	0	2	4	6	0	0	10	5	3	4	1	12	6	38
Grand Total	2	7	10	9	19	0	6	0	0	6	5	12	1	1	18	10	4	11	8	25	18	68
Apprch %	10.5	36.8	52.6			0	100	0			27.8	66.7	5.6			40	16	44				
Total %	2.9	10.3	14.7		27.9	0	8.8	0		8.8	7.4	17.6	1.5		26.5	14.7	5.9	16.2		36.8	20.9	79.1

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	3	4	5
07:15 AM	0	0	2	2	0	2	0	2	0	1	0	1	1	0	2	3	8
07:30 AM	0	0	1	1	0	2	0	2	0	3	0	3	1	0	2	3	9
07:45 AM	0	1	1	2	0	0	0	0	1	1	1	3	2	1	0	3	8
Total Volume	0	1	4	5	0	4	0	4	1	6	1	8	5	1	7	13	30
% App. Total	0	20	80		0	100	0		12.5	75	12.5		38.5	7.7	53.8		
PHF	.000	.250	.500	.625	.000	.500	.000	.500	.250	.500	.250	.667	.625	.250	.583	.813	.833

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City of Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVINHKAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVINHKAM
Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- 3 Axle Vehicles

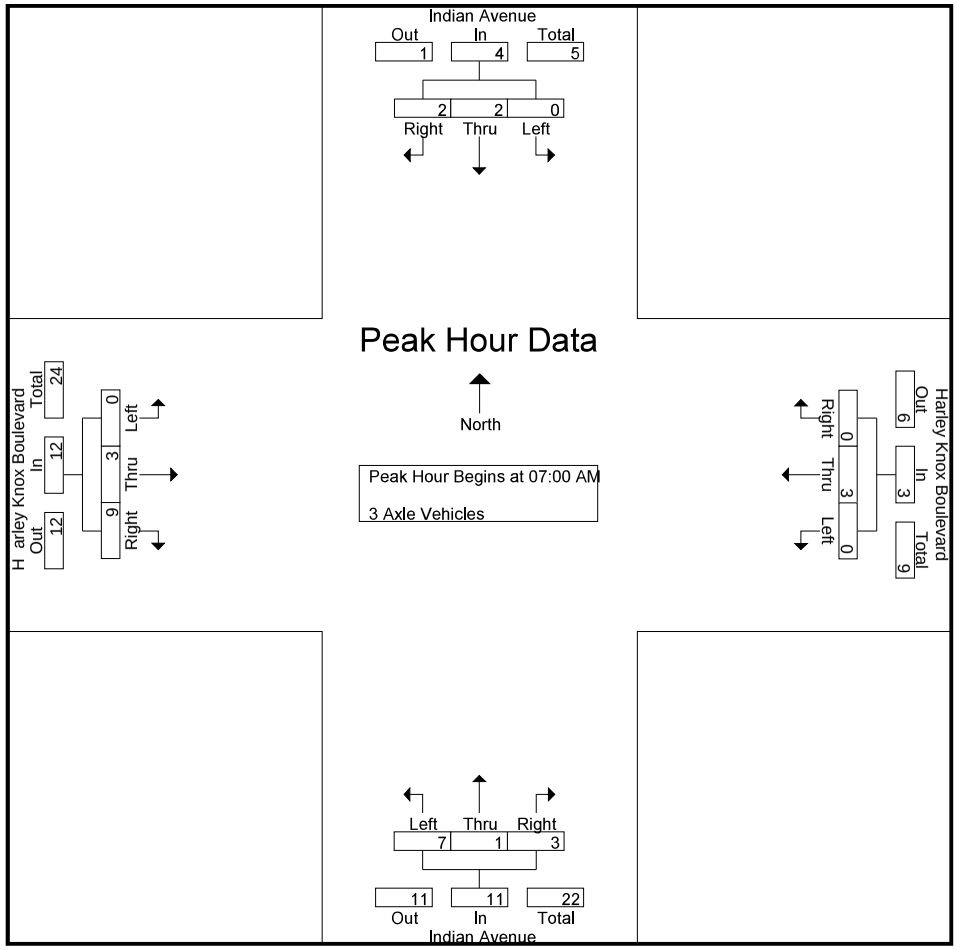
	Indian Avenue Southbound					Harley Knox Boulevard Westbound					Indian Avenue Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	1	1	0	2	0	2	0	0	2	1	0	0	0	1	0	0	4	1	4	1	9
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	1	2	0	3	3	0	6	1	8
07:30 AM	0	0	0	0	0	0	1	0	0	1	2	1	1	0	4	0	0	2	0	2	0	7
07:45 AM	0	1	1	0	2	0	0	0	0	0	3	0	1	1	4	0	0	0	0	0	1	6
Total	0	2	2	0	4	0	3	0	0	3	7	1	3	2	11	0	3	9	1	12	3	30
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	0	3
08:15 AM	0	0	2	2	2	0	0	0	0	0	1	0	1	0	2	0	1	2	1	3	3	7
08:30 AM	0	0	2	0	2	1	0	0	0	1	4	0	0	0	4	1	0	2	0	3	0	10
08:45 AM	0	2	2	2	4	0	0	0	0	0	1	1	0	0	2	0	0	1	1	1	3	7
Total	0	2	6	4	8	1	0	0	0	1	6	1	1	0	8	1	2	7	2	10	6	27
Grand Total	0	4	8	4	12	1	3	0	0	4	13	2	4	2	19	1	5	16	3	22	9	57
Apprch %	0	33.3	66.7			25	75	0			68.4	10.5	21.1			4.5	22.7	72.7				
Total %	0	7	14		21.1	1.8	5.3	0		7	22.8	3.5	7		33.3	1.8	8.8	28.1		38.6	13.6	86.4

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	1	1	2	0	2	0	2	1	0	0	1	0	0	4	4	9
07:15 AM	0	0	0	0	0	0	0	0	1	0	1	2	0	3	3	6	8
07:30 AM	0	0	0	0	0	1	0	1	2	1	1	4	0	0	2	2	7
07:45 AM	0	1	1	2	0	0	0	0	3	0	1	4	0	0	0	0	6
Total Volume	0	2	2	4	0	3	0	3	7	1	3	11	0	3	9	12	30
% App. Total	0	50	50		0	100	0		63.6	9.1	27.3		0	25	75		
PHF	.000	.500	.500	.500	.000	.375	.000	.375	.583	.250	.750	.688	.000	.250	.563	.500	.833

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City of Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVINHKAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Boulevard
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File Name : MRVINHKAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

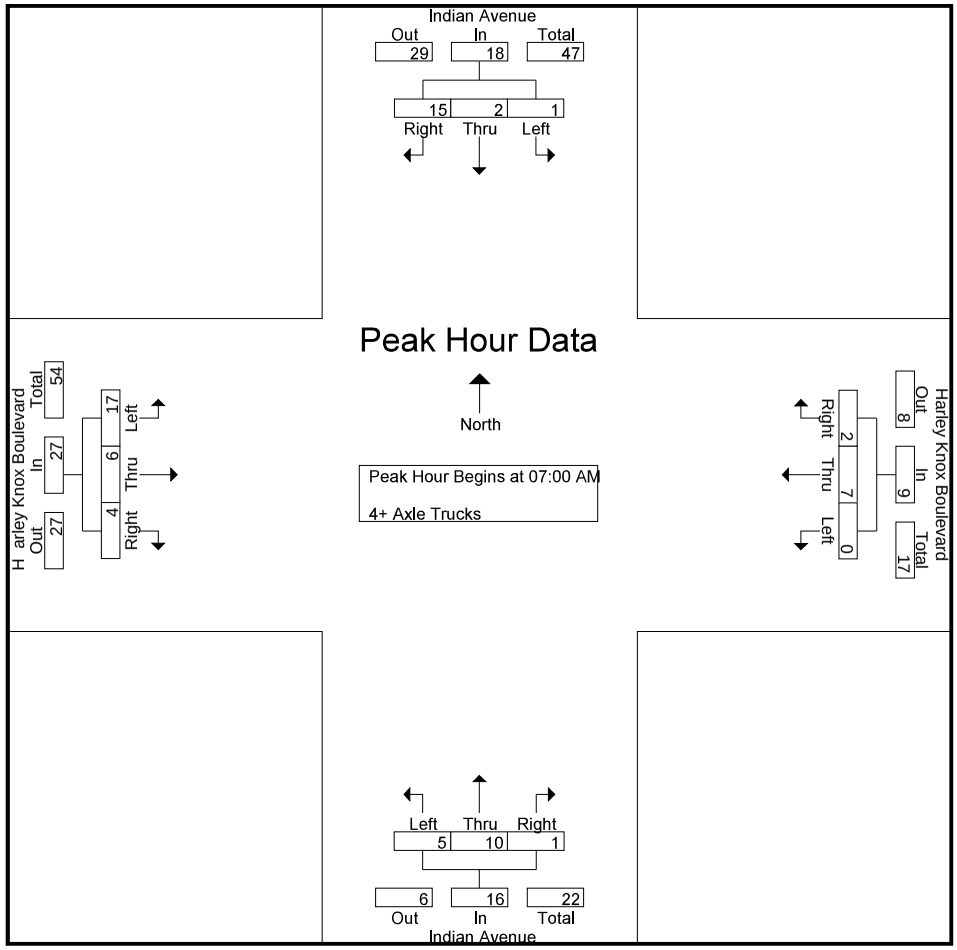
	Indian Avenue Southbound					Harley Knox Boulevard Westbound					Indian Avenue Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	2	1	2	0	2	1	0	3	0	3	0	0	3	6	2	0	0	8	1	16
07:15 AM	0	0	4	2	4	0	2	1	0	3	1	0	0	0	1	2	1	2	0	5	2	13
07:30 AM	1	1	3	2	5	0	1	0	0	1	3	4	0	0	7	4	3	1	0	8	2	21
07:45 AM	0	1	6	4	7	0	2	0	0	2	1	3	1	0	5	5	0	1	0	6	4	20
Total	1	2	15	9	18	0	7	2	0	9	5	10	1	0	16	17	6	4	0	27	9	70
08:00 AM	0	0	1	1	1	0	1	0	0	1	2	2	0	0	4	8	1	2	0	11	1	17
08:15 AM	0	0	6	2	6	0	2	1	0	3	1	0	0	0	1	2	2	3	1	7	3	17
08:30 AM	0	0	5	1	5	0	3	0	0	3	2	0	0	0	2	1	1	3	2	5	3	15
08:45 AM	0	0	4	2	4	0	0	0	0	0	2	0	0	0	2	2	3	2	0	7	2	13
Total	0	0	16	6	16	0	6	1	0	7	7	2	0	0	9	13	7	10	3	30	9	62
Grand Total	1	2	31	15	34	0	13	3	0	16	12	12	1	0	25	30	13	14	3	57	18	132
Apprch %	2.9	5.9	91.2			0	81.2	18.8			48	48	4			52.6	22.8	24.6				
Total %	0.8	1.5	23.5		25.8	0	9.8	2.3		12.1	9.1	9.1	0.8		18.9	22.7	9.8	10.6		43.2	12	88

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	2	2	0	2	1	3	0	3	0	3	6	2	0	8	16
07:15 AM	0	0	4	4	0	2	1	3	1	0	0	1	2	1	2	5	13
07:30 AM	1	1	3	5	0	1	0	1	3	4	0	7	4	3	1	8	21
07:45 AM	0	1	6	7	0	2	0	2	1	3	1	5	5	0	1	6	20
Total Volume	1	2	15	18	0	7	2	9	5	10	1	16	17	6	4	27	70
% App. Total	5.6	11.1	83.3		0	77.8	22.2		31.2	62.5	6.2		63	22.2	14.8		
PHF	.250	.500	.625	.643	.000	.875	.500	.750	.417	.625	.250	.571	.708	.500	.500	.844	.833

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City of Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVINHKAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVINHKPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

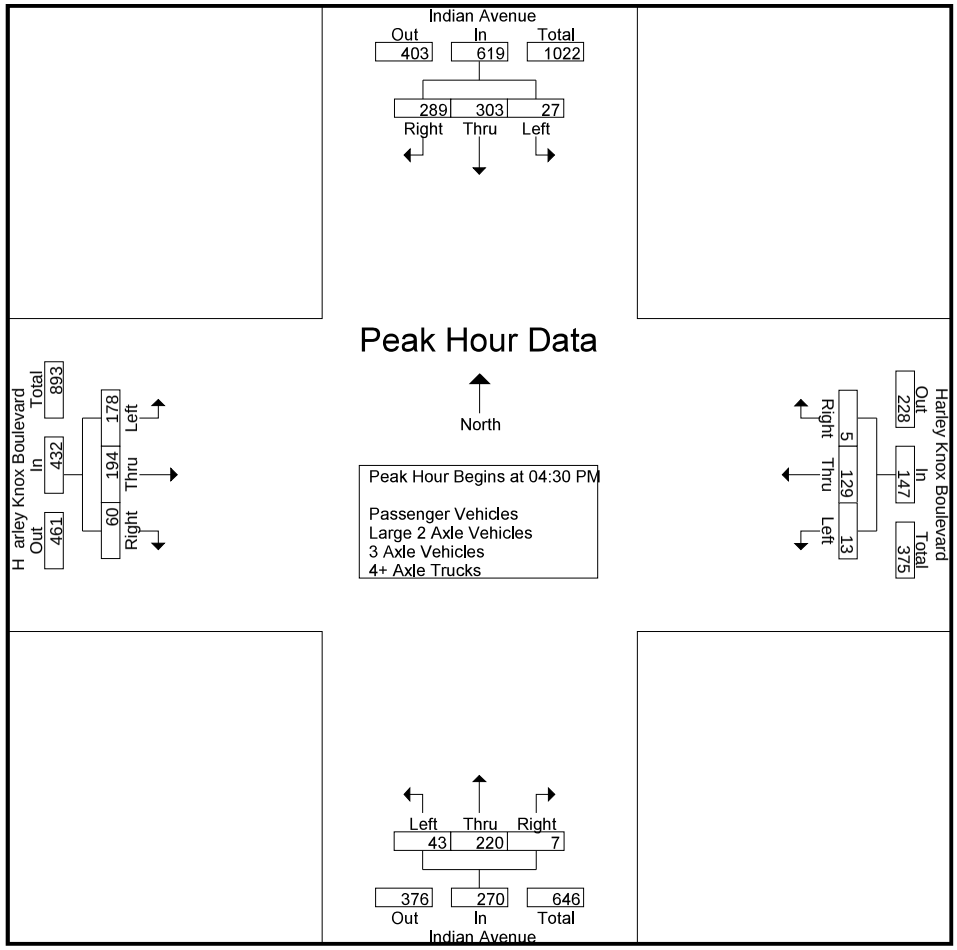
	Indian Avenue Southbound					Harley Knox Boulevard Westbound					Indian Avenue Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	4	23	46	1	73	1	29	8	0	38	7	29	4	0	40	38	42	9	0	89	1	240
04:15 PM	3	19	21	0	43	1	25	7	0	33	6	64	1	0	71	52	43	13	0	108	0	255
04:30 PM	5	68	89	3	162	4	48	1	0	53	14	87	5	0	106	61	47	13	0	121	3	442
04:45 PM	12	132	111	0	255	2	26	4	0	32	12	65	0	0	77	46	48	17	0	111	0	475
Total	24	242	267	4	533	8	128	20	0	156	39	245	10	0	294	197	180	52	0	429	4	1412
05:00 PM	3	52	48	0	103	5	26	0	0	31	10	40	1	0	51	38	50	12	0	100	0	285
05:15 PM	7	51	41	1	99	2	29	0	0	31	7	28	1	0	36	33	49	18	0	100	1	266
05:30 PM	5	87	60	0	152	0	21	1	0	22	8	44	1	0	53	29	46	11	0	86	0	313
05:45 PM	4	65	55	0	124	3	12	0	0	15	7	38	5	0	50	48	63	9	1	120	1	309
Total	19	255	204	1	478	10	88	1	0	99	32	150	8	0	190	148	208	50	1	406	2	1173
Grand Total	43	497	471	5	1011	18	216	21	0	255	71	395	18	0	484	345	388	102	1	835	6	2585
Apprch %	4.3	49.2	46.6			7.1	84.7	8.2			14.7	81.6	3.7			41.3	46.5	12.2				
Total %	1.7	19.2	18.2		39.1	0.7	8.4	0.8		9.9	2.7	15.3	0.7		18.7	13.3	15	3.9		32.3	0.2	99.8
Passenger Vehicles	40	478	425		943	14	198	20		232	52	340	16		408	292	363	85		741	0	0
% Passenger Vehicles	93	96.2	90.2	0	92.8	77.8	91.7	95.2	0	91	73.2	86.1	88.9	0	84.3	84.6	93.6	83.3	100	88.6	0	0
Large 2 Axle Vehicles	0	4	6		10	2	6	1		9	5	3	0		8	11	8	2		21	0	0
% Large 2 Axle Vehicles	0	0.8	1.3	0	1	11.1	2.8	4.8	0	3.5	7	0.8	0	0	1.7	3.2	2.1	2	0	2.5	0	0
3 Axle Vehicles	1	4	4		13	0	5	0		5	0	26	2		28	19	7	3		29	0	0
% 3 Axle Vehicles	2.3	0.8	0.8	80	1.3	0	2.3	0	0	2	0	6.6	11.1	0	5.8	5.5	1.8	2.9	0	3.5	0	0
4+ Axle Trucks	2	11	36		50	2	7	0		9	14	26	0		40	23	10	12		45	0	0
% 4+ Axle Trucks	4.7	2.2	7.6	20	4.9	11.1	3.2	0	0	3.5	19.7	6.6	0	0	8.3	6.7	2.6	11.8	0	5.4	0	0

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	5	68	89	162	4	48	1	53	14	87	5	106	61	47	13	121	442
04:45 PM	12	132	111	255	2	26	4	32	12	65	0	77	46	48	17	111	475
05:00 PM	3	52	48	103	5	26	0	31	10	40	1	51	38	50	12	100	285
05:15 PM	7	51	41	99	2	29	0	31	7	28	1	36	33	49	18	100	266
Total Volume	27	303	289	619	13	129	5	147	43	220	7	270	178	194	60	432	1468
% App. Total	4.4	48.9	46.7		8.8	87.8	3.4		15.9	81.5	2.6		41.2	44.9	13.9		
PHF	.563	.574	.651	.607	.650	.672	.313	.693	.768	.632	.350	.637	.730	.970	.833	.893	.773

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City of Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVINHKPM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVINHKPM
Site Code : 05115223
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Page No : 1

Groups Printed- Large 2 Axle Vehicles

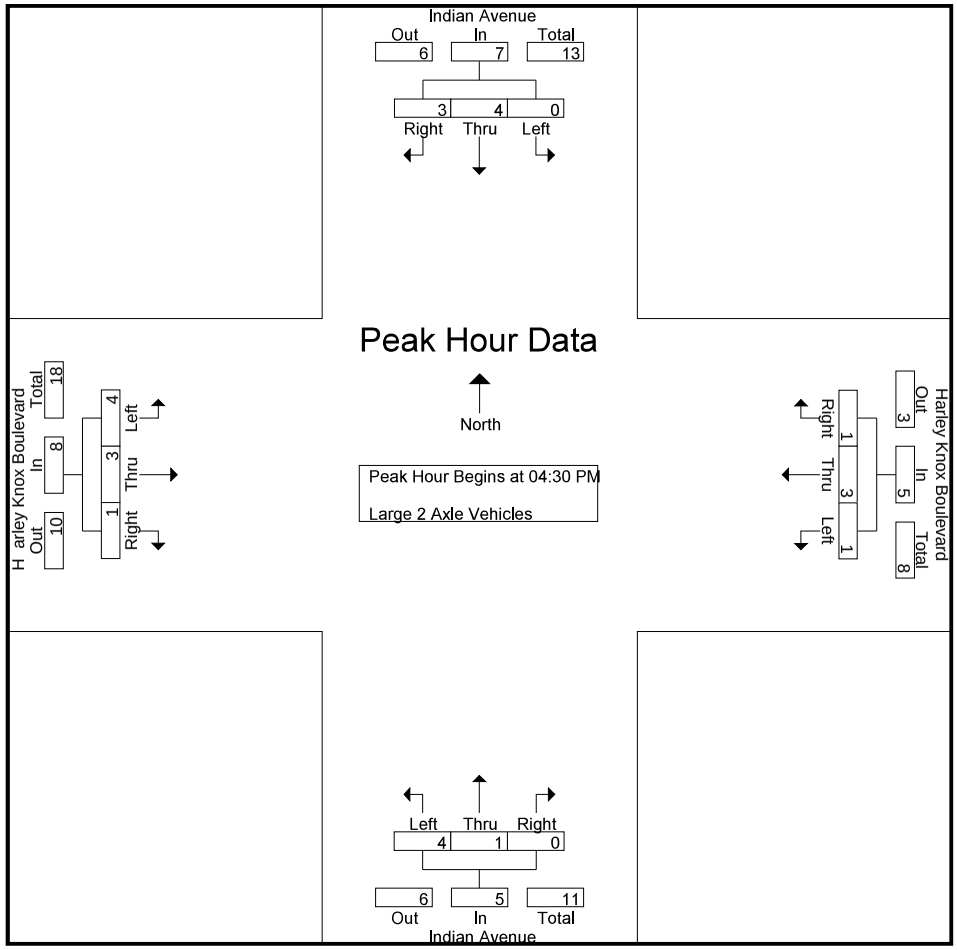
	Indian Avenue Southbound					Harley Knox Boulevard Westbound					Indian Avenue Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	2	0	0	2	0	4
04:15 PM	0	0	0	0	0	1	1	0	0	2	1	1	0	0	2	3	2	1	0	6	0	10
04:30 PM	0	2	0	0	2	1	1	1	0	3	2	1	0	0	3	0	0	1	0	1	0	9
04:45 PM	0	1	1	0	2	0	1	0	0	1	2	0	0	0	2	2	0	0	0	2	0	7
Total	0	3	1	0	4	2	4	1	0	7	5	3	0	0	8	5	4	2	0	11	0	30
05:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	0	5
05:15 PM	0	1	1	0	2	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	4
05:30 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	2	0	0	0	2	0	4
05:45 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	0	5
Total	0	1	5	0	6	0	2	0	0	2	0	0	0	0	0	6	4	0	0	10	0	18
Grand Total	0	4	6	0	10	2	6	1	0	9	5	3	0	0	8	11	8	2	0	21	0	48
Apprch %	0	40	60			22.2	66.7	11.1			62.5	37.5	0			52.4	38.1	9.5				
Total %	0	8.3	12.5		20.8	4.2	12.5	2.1		18.8	10.4	6.2	0		16.7	22.9	16.7	4.2		43.8	0	100

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	2	0	2	1	1	1	3	2	1	0	3	0	0	1	1	9
04:45 PM	0	1	1	2	0	1	0	1	2	0	0	2	2	0	0	2	7
05:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	1	3	0	4	5
05:15 PM	0	1	1	2	0	1	0	1	0	0	0	0	1	0	0	1	4
Total Volume	0	4	3	7	1	3	1	5	4	1	0	5	4	3	1	8	25
% App. Total	0	57.1	42.9		20	60	20		80	20	0		50	37.5	12.5		
PHF	.000	.500	.750	.875	.250	.750	.250	.417	.500	.250	.000	.417	.500	.250	.250	.500	.694

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City of Moreno Valley
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E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVINHKPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

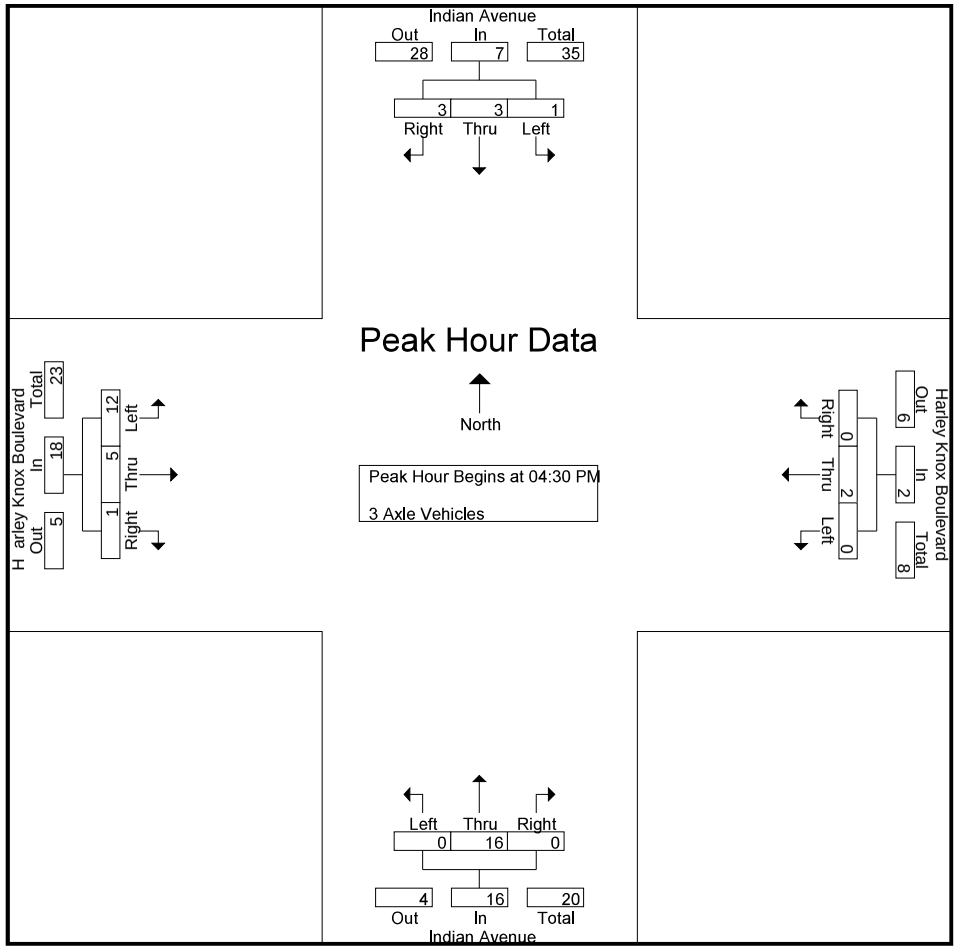
	Indian Avenue Southbound					Harley Knox Boulevard Westbound					Indian Avenue Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	1	1	1	0	0	0	0	0	0	2	2	0	4	1	0	0	0	1	1	6
04:15 PM	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	1	1	0	0	2	0	7
04:30 PM	0	1	2	2	3	0	2	0	0	2	0	5	0	0	5	3	1	0	0	4	2	14
04:45 PM	1	1	0	0	2	0	0	0	0	0	0	4	0	0	4	0	3	1	0	4	0	10
Total	1	2	3	3	6	0	4	0	0	4	0	14	2	0	16	5	5	1	0	11	3	37
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	4	1	0	0	5	0	9
05:15 PM	0	1	1	1	2	0	0	0	0	0	0	3	0	0	3	5	0	0	0	5	1	10
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	3	1	0	0	4	0	8
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	2	0	2	0	4	0	7
Total	0	2	1	1	3	0	1	0	0	1	0	12	0	0	12	14	2	2	0	18	1	34
Grand Total	1	4	4	4	9	0	5	0	0	5	0	26	2	0	28	19	7	3	0	29	4	71
Apprch %	11.1	44.4	44.4			0	100	0			0	92.9	7.1			65.5	24.1	10.3				
Total %	1.4	5.6	5.6		12.7	0	7	0		7	0	36.6	2.8		39.4	26.8	9.9	4.2		40.8	5.3	94.7

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	1	2	3	0	2	0	2	0	5	0	5	3	1	0	4	14
04:45 PM	1	1	0	2	0	0	0	0	0	4	0	4	0	3	1	4	10
05:00 PM	0	0	0	0	0	0	0	0	0	4	0	4	4	1	0	5	9
05:15 PM	0	1	1	2	0	0	0	0	0	3	0	3	5	0	0	5	10
Total Volume	1	3	3	7	0	2	0	2	0	16	0	16	12	5	1	18	43
% App. Total	14.3	42.9	42.9		0	100	0		0	100	0		66.7	27.8	5.6		
PHF	.250	.750	.375	.583	.000	.250	.000	.250	.000	.800	.000	.800	.600	.417	.250	.900	.768

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City of Moreno Valley
N/S: Indian Avenue
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Weather: Clear

File Name : MRVINHKPM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVINHKPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

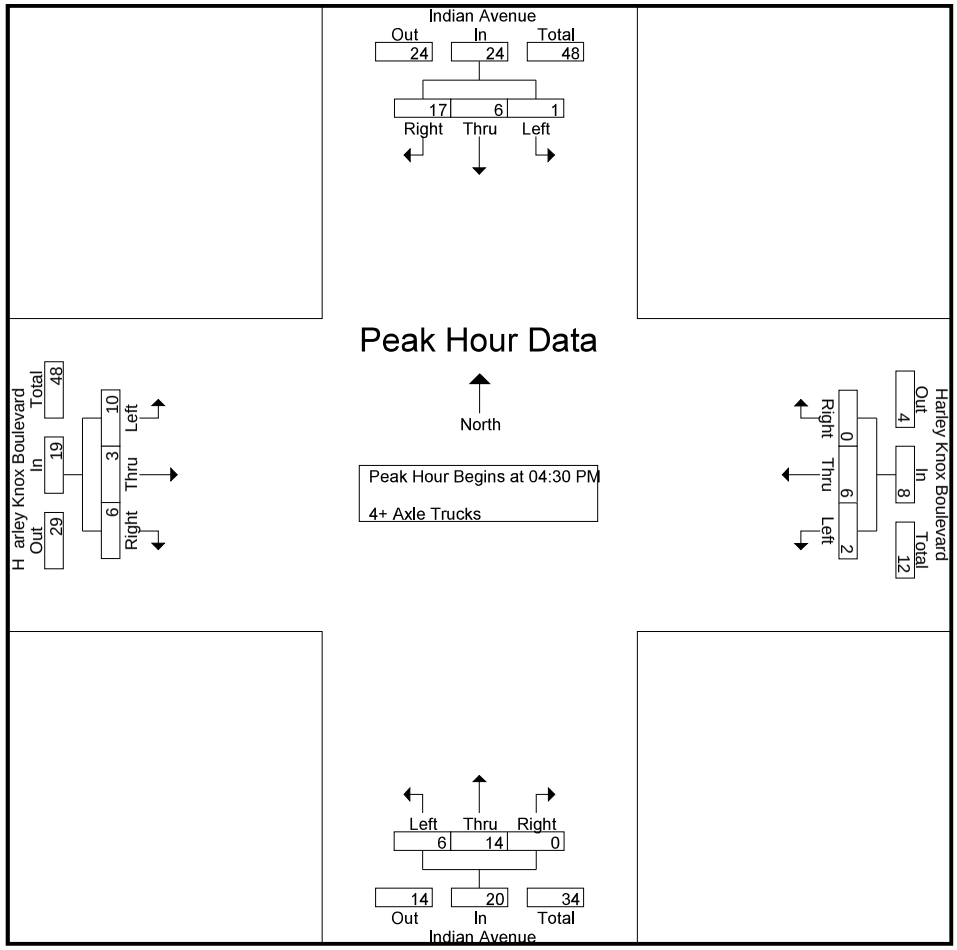
	Indian Avenue Southbound					Harley Knox Boulevard Westbound					Indian Avenue Northbound					Harley Knox Boulevard Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	1	5	0	6	0	1	0	0	1	1	2	0	0	3	4	2	3	0	9	0	19
04:15 PM	0	1	5	0	6	0	0	0	0	0	2	2	0	0	4	3	2	1	0	6	0	16
04:30 PM	0	0	4	1	4	0	2	0	0	2	2	5	0	0	7	1	0	1	0	2	1	15
04:45 PM	1	2	8	0	11	0	1	0	0	1	1	4	0	0	5	6	0	0	0	6	0	23
Total	1	4	22	1	27	0	4	0	0	4	6	13	0	0	19	14	4	5	0	23	1	73
05:00 PM	0	3	2	0	5	1	1	0	0	2	1	2	0	0	3	2	0	2	0	4	0	14
05:15 PM	0	1	3	0	4	1	2	0	0	3	2	3	0	0	5	1	3	3	0	7	0	19
05:30 PM	0	1	3	0	4	0	0	0	0	0	3	3	0	0	6	0	0	1	0	1	0	11
05:45 PM	1	2	6	0	9	0	0	0	0	0	2	5	0	0	7	6	3	1	0	10	0	26
Total	1	7	14	0	22	2	3	0	0	5	8	13	0	0	21	9	6	7	0	22	0	70
Grand Total	2	11	36	1	49	2	7	0	0	9	14	26	0	0	40	23	10	12	0	45	1	143
Apprch %	4.1	22.4	73.5			22.2	77.8	0			35	65	0			51.1	22.2	26.7				
Total %	1.4	7.7	25.2		34.3	1.4	4.9	0		6.3	9.8	18.2	0		28	16.1	7	8.4		31.5	0.7	99.3

	Indian Avenue Southbound				Harley Knox Boulevard Westbound				Indian Avenue Northbound				Harley Knox Boulevard Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	4	4	0	2	0	2	2	5	0	7	1	0	1	2	15
04:45 PM	1	2	8	11	0	1	0	1	1	4	0	5	6	0	0	6	23
05:00 PM	0	3	2	5	1	1	0	2	1	2	0	3	2	0	2	4	14
05:15 PM	0	1	3	4	1	2	0	3	2	3	0	5	1	3	3	7	19
Total Volume	1	6	17	24	2	6	0	8	6	14	0	20	10	3	6	19	71
% App. Total	4.2	25	70.8		25	75	0		30	70	0		52.6	15.8	31.6		
PHF	.250	.500	.531	.545	.500	.750	.000	.667	.750	.700	.000	.714	.417	.250	.500	.679	.772

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City of Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Boulevard
Weather: Clear

File Name : MRVINHKPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



Location: Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Bouelvard

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Indian Avenue	East Leg Harley Knox Bouelvard	South Leg Indian Avenue	West Leg Harley Knox Bouelvard	TOTAL
7:00 AM	0	0	1	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	1	0	1

	North Leg Indian Avenue	East Leg Harley Knox Bouelvard	South Leg Indian Avenue	West Leg Harley Knox Bouelvard	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Moreno Valley
N/S: Indian Avenue
E/W: Harley Knox Bouelvard

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Indian Avenue	East Leg Harley Knox Bouelvard	South Leg Indian Avenue	West Leg Harley Knox Bouelvard	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	1	0	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	1

	North Leg Indian Avenue	East Leg Harley Knox Bouelvard	South Leg Indian Avenue	West Leg Harley Knox Bouelvard	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	1

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City of Moreno Valley
N/S: Perris Boulevard
E/W: Cactus Avenue
Weather: Clear

File Name : MRVPECAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

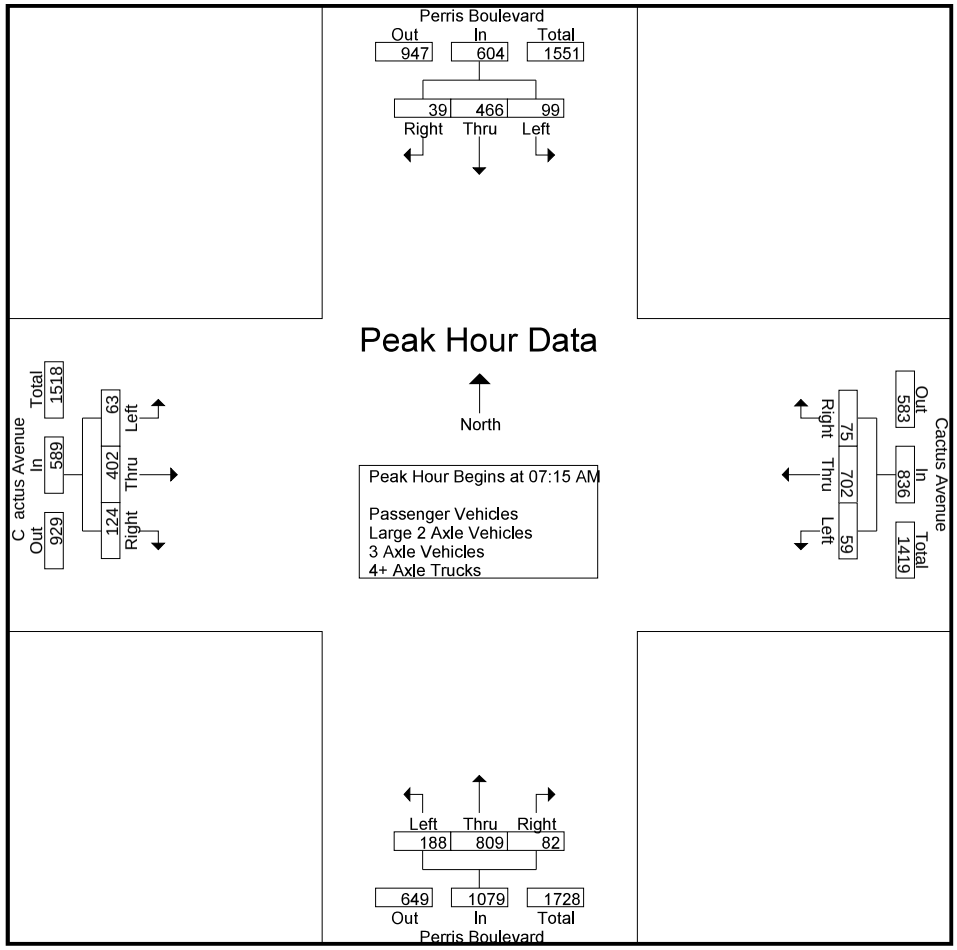
	Perris Boulevard Southbound					Cactus Avenue Westbound					Perris Boulevard Northbound					Cactus Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	4	93	6	2	103	13	142	12	3	167	50	146	19	1	215	12	65	18	6	95	12	580
07:15 AM	16	119	3	1	138	8	199	12	1	219	46	171	12	4	229	16	82	27	4	125	10	711
07:30 AM	30	125	9	2	164	17	189	19	3	225	36	210	22	1	268	15	111	37	4	163	10	820
07:45 AM	36	132	15	4	183	18	168	25	1	211	53	217	24	4	294	13	129	35	6	177	15	865
Total	86	469	33	9	588	56	698	68	8	822	185	744	77	10	1006	56	387	117	20	560	47	2976
08:00 AM	17	90	12	2	119	16	146	19	3	181	53	211	24	2	288	19	80	25	1	124	8	712
08:15 AM	13	123	5	2	141	14	114	12	2	140	35	182	16	0	233	9	75	22	4	106	8	620
08:30 AM	15	100	13	2	128	11	94	20	9	125	23	122	17	3	162	10	58	19	4	87	18	502
08:45 AM	16	104	10	2	130	14	108	19	1	141	53	146	4	0	203	11	86	26	3	123	6	597
Total	61	417	40	8	518	55	462	70	15	587	164	661	61	5	886	49	299	92	12	440	40	2431
Grand Total	147	886	73	17	1106	111	1160	138	23	1409	349	1405	138	15	1892	105	686	209	32	1000	87	5407
Apprch %	13.3	80.1	6.6			7.9	82.3	9.8			18.4	74.3	7.3			10.5	68.6	20.9				
Total %	2.7	16.4	1.4		20.5	2.1	21.5	2.6		26.1	6.5	26	2.6		35	1.9	12.7	3.9		18.5	1.6	98.4
Passenger Vehicles	144	840	69		1070	106	1144	135		1407	340	1349	128		1832	103	668	195		998	0	0
% Passenger Vehicles	98	94.8	94.5	100	95.3	95.5	98.6	97.8	95.7	98.3	97.4	96	92.8	100	96.1	98.1	97.4	93.3	100	96.7	0	0
Large 2 Axle Vehicles	3	33	3		39	3	14	3		21	6	39	7		52	2	15	9		26	0	0
% Large 2 Axle Vehicles	2	3.7	4.1	0	3.5	2.7	1.2	2.2	4.3	1.5	1.7	2.8	5.1	0	2.7	1.9	2.2	4.3	0	2.5	0	0
3 Axle Vehicles	0	2	0		2	1	1	0		2	1	2	3		6	0	1	2		3	0	0
% 3 Axle Vehicles	0	0.2	0	0	0.2	0.9	0.1	0	0	0.1	0.3	0.1	2.2	0	0.3	0	0.1	1	0	0.3	0	0
4+ Axle Trucks	0	11	1		12	1	1	0		2	2	15	0		17	0	2	3		5	0	0
% 4+ Axle Trucks	0	1.2	1.4	0	1.1	0.9	0.1	0	0	0.1	0.6	1.1	0	0	0.9	0	0.3	1.4	0	0.5	0	0

	Perris Boulevard Southbound				Cactus Avenue Westbound				Perris Boulevard Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	16	119	3	138	8	199	12	219	46	171	12	229	16	82	27	125	711
07:30 AM	30	125	9	164	17	189	19	225	36	210	22	268	15	111	37	163	820
07:45 AM	36	132	15	183	18	168	25	211	53	217	24	294	13	129	35	177	865
08:00 AM	17	90	12	119	16	146	19	181	53	211	24	288	19	80	25	124	712
Total Volume	99	466	39	604	59	702	75	836	188	809	82	1079	63	402	124	589	3108
% App. Total	16.4	77.2	6.5		7.1	84	9		17.4	75	7.6		10.7	68.3	21.1		
PHF	.688	.883	.650	.825	.819	.882	.750	.929	.887	.932	.854	.918	.829	.779	.838	.832	.898

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City of Moreno Valley
N/S: Perris Boulevard
E/W: Cactus Avenue
Weather: Clear

File Name : MRVPECAAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Perris Boulevard
E/W: Cactus Avenue
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File Name : MRVPECAAM
Site Code : 05115223
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Page No : 1

Groups Printed- Large 2 Axle Vehicles

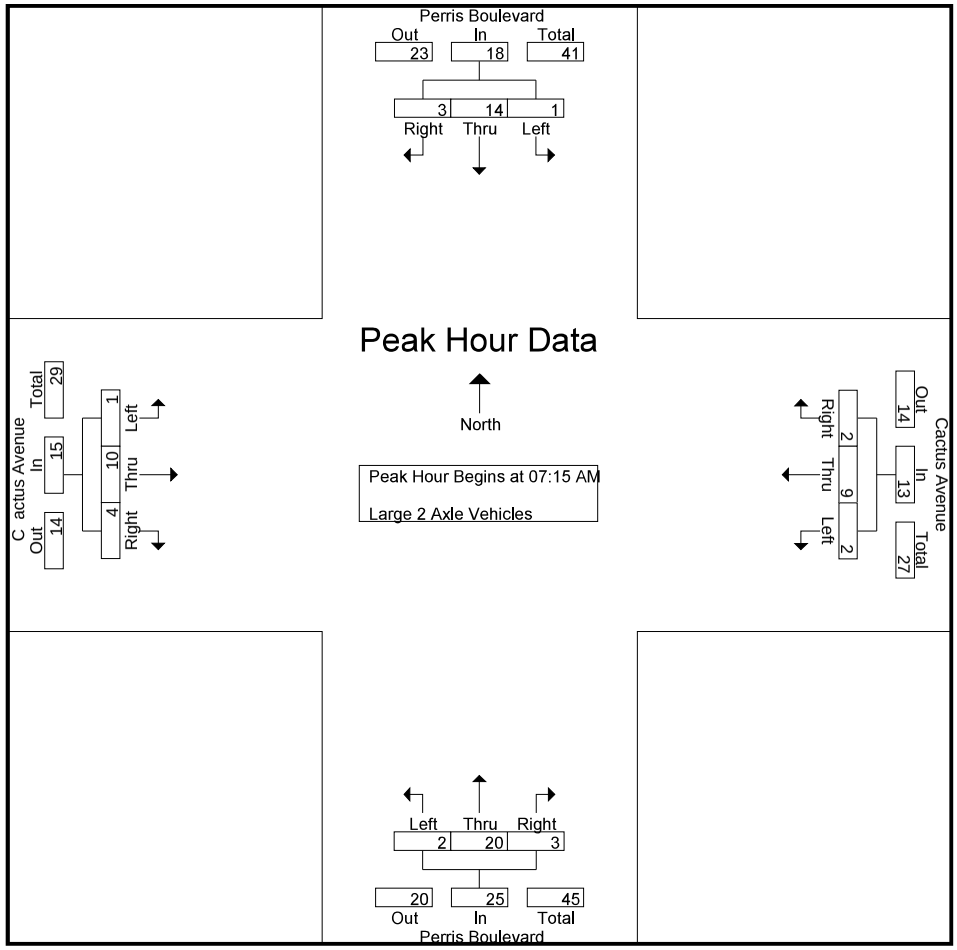
	Perris Boulevard Southbound					Cactus Avenue Westbound					Perris Boulevard Northbound					Cactus Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	3	0	0	3	0	3	0	0	3	3	3	1	0	7	1	1	3	0	5	0	18
07:15 AM	0	5	0	0	5	0	3	1	0	4	0	4	1	0	5	0	1	1	0	2	0	16
07:30 AM	0	5	1	0	6	2	2	0	0	4	0	5	0	0	5	0	2	0	0	2	0	17
07:45 AM	0	2	1	0	3	0	1	0	0	1	0	3	2	0	5	0	4	0	0	4	0	13
Total	0	15	2	0	17	2	9	1	0	12	3	15	4	0	22	1	8	4	0	13	0	64
08:00 AM	1	2	1	0	4	0	3	1	0	4	2	8	0	0	10	1	3	3	0	7	0	25
08:15 AM	2	5	0	0	7	0	0	0	0	0	0	8	0	0	8	0	1	0	0	1	0	16
08:30 AM	0	7	0	0	7	1	2	1	1	4	0	3	3	0	6	0	0	2	0	2	1	19
08:45 AM	0	4	0	0	4	0	0	0	0	0	1	5	0	0	6	0	3	0	0	3	0	13
Total	3	18	1	0	22	1	5	2	1	8	3	24	3	0	30	1	7	5	0	13	1	73
Grand Total	3	33	3	0	39	3	14	3	1	20	6	39	7	0	52	2	15	9	0	26	1	137
Apprch %	7.7	84.6	7.7			15	70	15			11.5	75	13.5			7.7	57.7	34.6				
Total %	2.2	24.1	2.2		28.5	2.2	10.2	2.2		14.6	4.4	28.5	5.1		38	1.5	10.9	6.6		19	0.7	99.3

	Perris Boulevard Southbound				Cactus Avenue Westbound				Perris Boulevard Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	5	0	5	0	3	1	4	0	4	1	5	0	1	1	2	16
07:30 AM	0	5	1	6	2	2	0	4	0	5	0	5	0	2	0	2	17
07:45 AM	0	2	1	3	0	1	0	1	0	3	2	5	0	4	0	4	13
08:00 AM	1	2	1	4	0	3	1	4	2	8	0	10	1	3	3	7	25
Total Volume	1	14	3	18	2	9	2	13	2	20	3	25	1	10	4	15	71
% App. Total	5.6	77.8	16.7		15.4	69.2	15.4		8	80	12		6.7	66.7	26.7		
PHF	.250	.700	.750	.750	.250	.750	.500	.813	.250	.625	.375	.625	.250	.625	.333	.536	.710

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File Name : MRVPECAAM
Site Code : 05115223
Start Date : 4/28/2015
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Weather: Clear

File Name : MRVPECAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

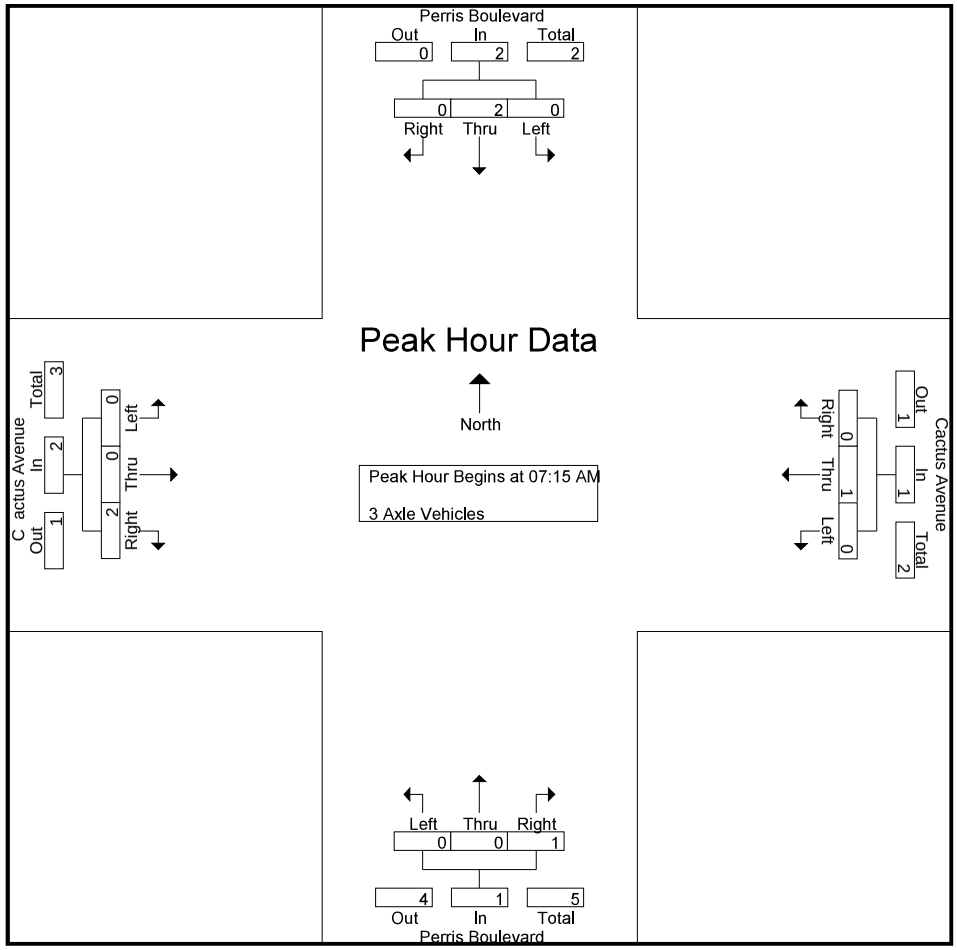
	Perris Boulevard Southbound					Cactus Avenue Westbound					Perris Boulevard Northbound					Cactus Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
07:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
Total	0	1	0	0	1	0	1	0	0	1	0	0	2	0	2	0	0	2	0	2	0	6
08:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3	0	1	0	0	1	0	4
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2
Total	0	1	0	0	1	1	0	0	0	1	1	2	1	0	4	0	1	0	0	1	0	7
Grand Total	0	2	0	0	2	1	1	0	0	2	1	2	3	0	6	0	1	2	0	3	0	13
Apprch %	0	100	0			50	50	0			16.7	33.3	50			0	33.3	66.7				
Total %	0	15.4	0		15.4	7.7	7.7	0		15.4	7.7	15.4	23.1		46.2	0	7.7	15.4		23.1	0	100

	Perris Boulevard Southbound				Cactus Avenue Westbound				Perris Boulevard Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
08:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	2	0	2	0	1	0	1	0	0	1	1	0	0	2	2	6
% App. Total	0	100	0		0	100	0		0	0	100		0	0	100		
PHF	.000	.500	.000	.500	.000	.250	.000	.250	.000	.000	.250	.250	.000	.000	.500	.500	.750

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File Name : MRVPECAAM
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Start Date : 4/28/2015
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E/W: Cactus Avenue
Weather: Clear

File Name : MRVPECAAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

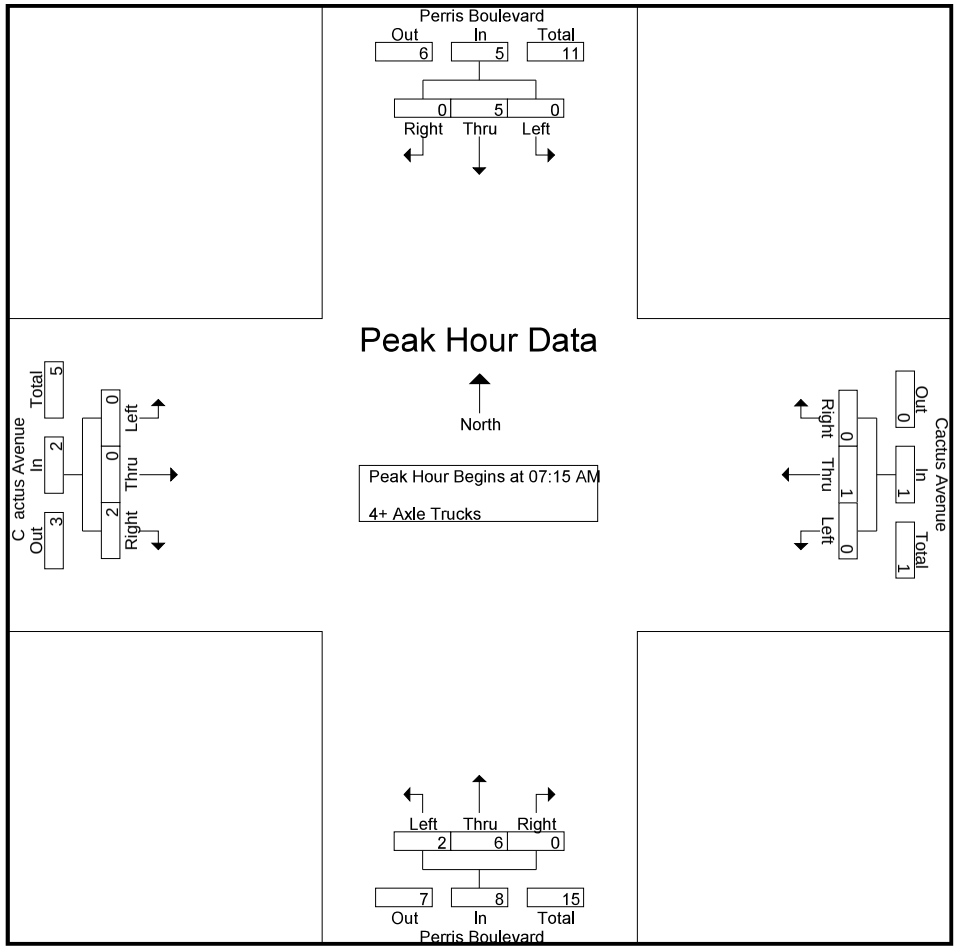
	Perris Boulevard Southbound					Cactus Avenue Westbound					Perris Boulevard Northbound					Cactus Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	3
07:15 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	4
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
07:45 AM	0	1	0	0	1	0	1	0	0	1	0	3	0	0	3	0	0	1	0	1	0	6
Total	0	6	0	0	6	0	1	0	0	1	0	5	0	0	5	0	1	2	0	3	0	15
08:00 AM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	4
08:15 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
08:30 AM	0	2	0	0	2	1	0	0	0	1	0	1	0	0	1	0	0	1	0	1	0	5
08:45 AM	0	1	1	0	2	0	0	0	0	0	0	6	0	0	6	0	1	0	0	1	0	9
Total	0	5	1	0	6	1	0	0	0	1	2	10	0	0	12	0	1	1	0	2	0	21
Grand Total	0	11	1	0	12	1	1	0	0	2	2	15	0	0	17	0	2	3	0	5	0	36
Apprch %	0	91.7	8.3			50	50	0			11.8	88.2	0			0	40	60				
Total %	0	30.6	2.8		33.3	2.8	2.8	0		5.6	5.6	41.7	0		47.2	0	5.6	8.3		13.9	0	100

	Perris Boulevard Southbound				Cactus Avenue Westbound				Perris Boulevard Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	1	1	4
07:30 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
07:45 AM	0	1	0	1	0	1	0	1	0	3	0	3	0	0	1	1	6
08:00 AM	0	0	0	0	0	0	0	0	2	2	0	4	0	0	0	0	4
Total Volume	0	5	0	5	0	1	0	1	2	6	0	8	0	0	2	2	16
% App. Total	0	100	0		0	100	0		25	75	0		0	0	100		
PHF	.000	.417	.000	.417	.000	.250	.000	.250	.250	.500	.000	.500	.000	.000	.500	.500	.667

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City of Moreno Valley
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File Name : MRVPECAAM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
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File Name : MRVPECAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

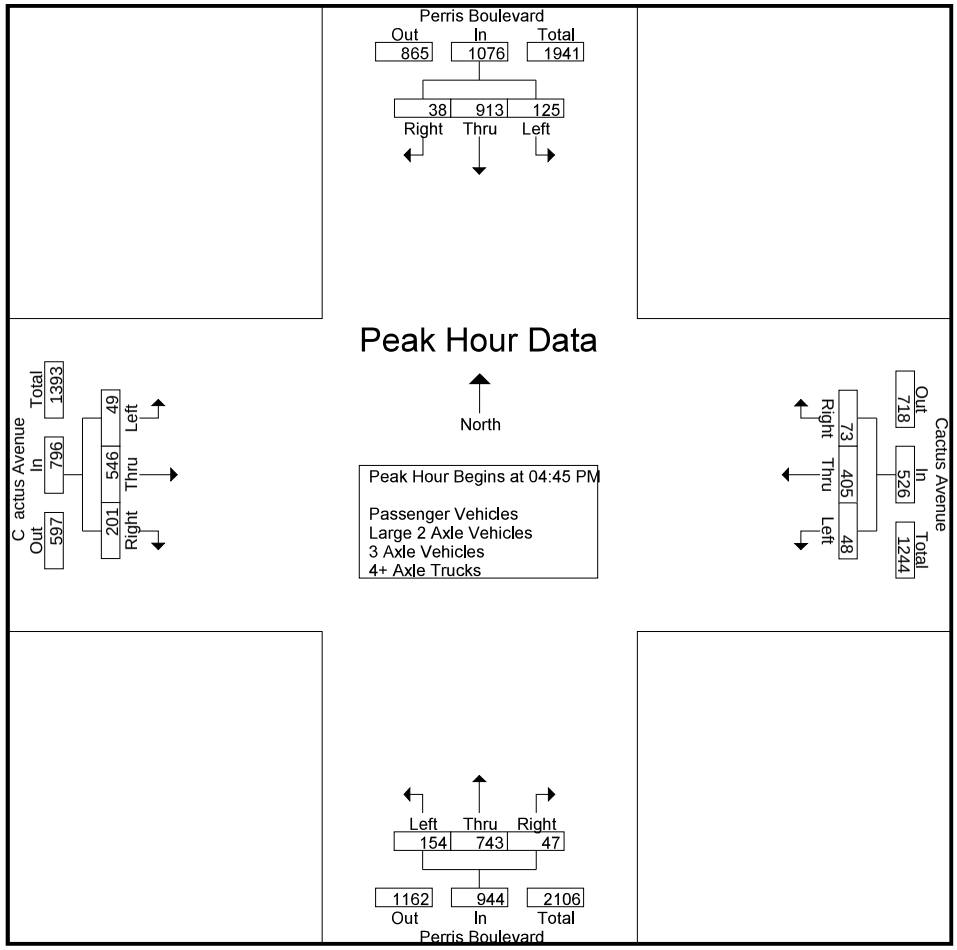
	Perris Boulevard Southbound					Cactus Avenue Westbound					Perris Boulevard Northbound					Cactus Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	24	183	15	0	222	14	105	13	3	132	35	173	16	2	224	10	125	41	6	176	11	754
04:15 PM	25	199	9	2	233	10	93	23	4	126	35	187	12	3	234	13	130	57	10	200	19	793
04:30 PM	29	213	17	5	259	16	123	9	1	148	46	146	15	0	207	15	129	42	9	186	15	800
04:45 PM	31	230	10	2	271	9	106	20	2	135	42	206	18	7	266	9	119	50	8	178	19	850
Total	109	825	51	9	985	49	427	65	10	541	158	712	61	12	931	47	503	190	33	740	64	3197
05:00 PM	27	224	10	4	261	9	97	21	2	127	37	200	9	1	246	8	145	47	5	200	12	834
05:15 PM	32	239	8	3	279	17	103	15	2	135	32	163	11	1	206	17	137	46	2	200	8	820
05:30 PM	35	220	10	2	265	13	99	17	3	129	43	174	9	2	226	15	145	58	6	218	13	838
05:45 PM	29	247	14	2	290	17	84	18	2	119	36	164	8	0	208	12	142	62	11	216	15	833
Total	123	930	42	11	1095	56	383	71	9	510	148	701	37	4	886	52	569	213	24	834	48	3325
Grand Total	232	1755	93	20	2080	105	810	136	19	1051	306	1413	98	16	1817	99	1072	403	57	1574	112	6522
Apprch %	11.2	84.4	4.5			10	77.1	12.9			16.8	77.8	5.4			6.3	68.1	25.6				
Total %	3.6	26.9	1.4		31.9	1.6	12.4	2.1		16.1	4.7	21.7	1.5		27.9	1.5	16.4	6.2		24.1	1.7	98.3
Passenger Vehicles	232	1719	91		2062	103	800	135		1057	297	1384	97		1794	98	1059	399		1613	0	0
% Passenger Vehicles	100	97.9	97.8	100	98.2	98.1	98.8	99.3	100	98.8	97.1	97.9	99	100	97.9	99	98.8	99	100	98.9	0	0
Large 2 Axle Vehicles	0	23	2		25	2	8	1		11	4	20	0		24	1	13	3		17	0	0
% Large 2 Axle Vehicles	0	1.3	2.2	0	1.2	1.9	1	0.7	0	1	1.3	1.4	0	0	1.3	1	1.2	0.7	0	1	0	0
3 Axle Vehicles	0	3	0		3	0	0	0		0	5	1	1		7	0	0	1		1	0	0
% 3 Axle Vehicles	0	0.2	0	0	0.1	0	0	0	0	0	1.6	0.1	1	0	0.4	0	0	0.2	0	0.1	0	0
4+ Axle Trucks	0	10	0		10	0	2	0		2	0	8	0		8	0	0	0		0	0	0
% 4+ Axle Trucks	0	0.6	0	0	0.5	0	0.2	0	0	0.2	0	0.6	0	0	0.4	0	0	0	0	0	0	0

	Perris Boulevard Southbound				Cactus Avenue Westbound				Perris Boulevard Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	31	230	10	271	9	106	20	135	42	206	18	266	9	119	50	178	850
05:00 PM	27	224	10	261	9	97	21	127	37	200	9	246	8	145	47	200	834
05:15 PM	32	239	8	279	17	103	15	135	32	163	11	206	17	137	46	200	820
05:30 PM	35	220	10	265	13	99	17	129	43	174	9	226	15	145	58	218	838
Total Volume	125	913	38	1076	48	405	73	526	154	743	47	944	49	546	201	796	3342
% App. Total	11.6	84.9	3.5		9.1	77	13.9		16.3	78.7	5		6.2	68.6	25.3		
PHF	.893	.955	.950	.964	.706	.955	.869	.974	.895	.902	.653	.887	.721	.941	.866	.913	.983

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File Name : MRVPECAPM
Site Code : 05115223
Start Date : 4/28/2015
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City of Moreno Valley
N/S: Perris Boulevard
E/W: Cactus Avenue
Weather: Clear

File Name : MRVPECAPM
Site Code : 05115223
Start Date : 4/28/2015
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Groups Printed- Large 2 Axle Vehicles

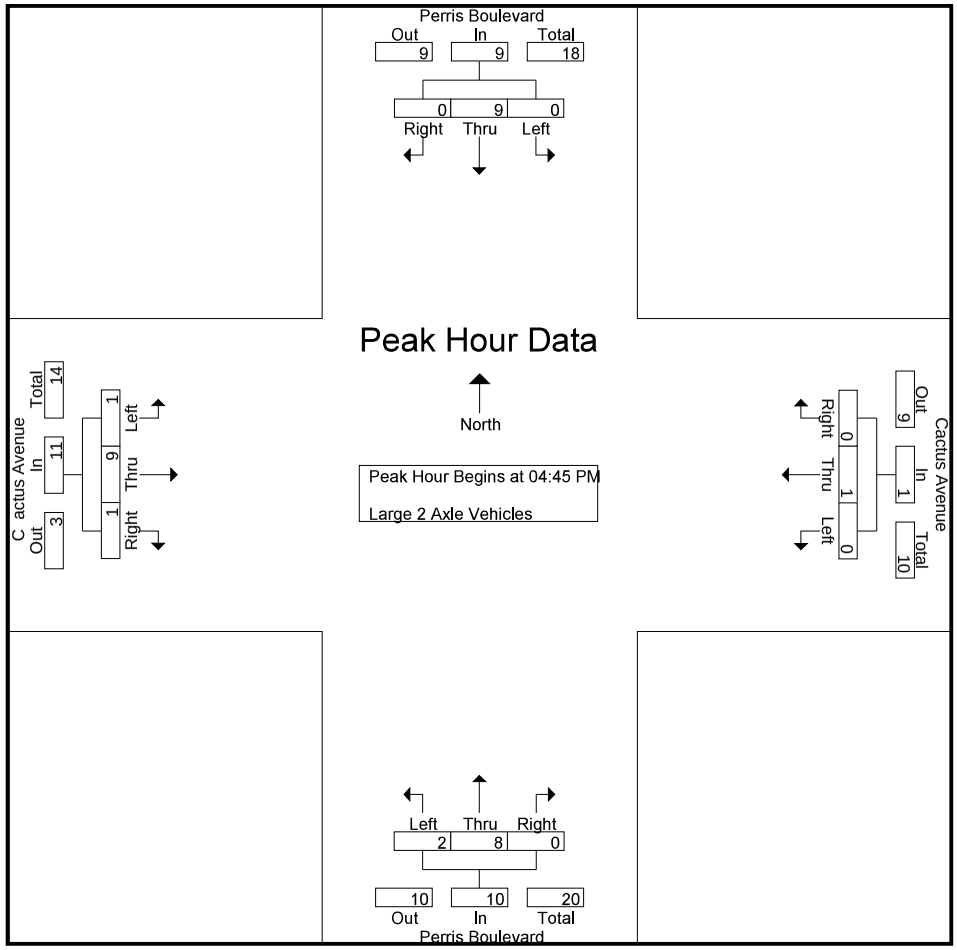
	Perris Boulevard Southbound					Cactus Avenue Westbound					Perris Boulevard Northbound					Cactus Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	3	0	0	3	2	2	0	0	4	0	4	0	0	4	0	1	0	0	1	0	12
04:15 PM	0	1	0	0	1	0	1	0	0	1	2	4	0	0	6	0	1	1	0	2	0	10
04:30 PM	0	5	2	0	7	0	1	1	0	2	0	1	0	0	1	0	0	0	0	0	0	10
04:45 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	1	4	0	0	5	0	9
Total	0	12	2	0	14	2	4	1	0	7	2	10	0	0	12	1	6	1	0	8	0	41
05:00 PM	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	0	1	1	0	2	0	5
05:15 PM	0	1	0	0	1	0	1	0	0	1	1	4	0	0	5	0	1	0	0	1	0	8
05:30 PM	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	0	9
05:45 PM	0	5	0	0	5	0	3	0	0	3	0	3	0	0	3	0	2	1	0	3	0	14
Total	0	11	0	0	11	0	4	0	0	4	2	10	0	0	12	0	7	2	0	9	0	36
Grand Total	0	23	2	0	25	2	8	1	0	11	4	20	0	0	24	1	13	3	0	17	0	77
Apprch %	0	92	8			18.2	72.7	9.1			16.7	83.3	0			5.9	76.5	17.6				
Total %	0	29.9	2.6		32.5	2.6	10.4	1.3		14.3	5.2	26	0		31.2	1.3	16.9	3.9		22.1	0	100

	Perris Boulevard Southbound				Cactus Avenue Westbound				Perris Boulevard Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	3	0	3	0	0	0	0	0	1	0	1	1	4	0	5	9
05:00 PM	0	1	0	1	0	0	0	0	1	1	0	2	0	1	1	2	5
05:15 PM	0	1	0	1	0	1	0	1	1	4	0	5	0	1	0	1	8
05:30 PM	0	4	0	4	0	0	0	0	0	2	0	2	0	3	0	3	9
Total Volume	0	9	0	9	0	1	0	1	2	8	0	10	1	9	1	11	31
% App. Total	0	100	0		0	100	0		20	80	0		9.1	81.8	9.1		
PHF	.000	.563	.000	.563	.000	.250	.000	.250	.500	.500	.000	.500	.250	.563	.250	.550	.861

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City of Moreno Valley
N/S: Perris Boulevard
E/W: Cactus Avenue
Weather: Clear

File Name : MRVPECAPM
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City of Moreno Valley
N/S: Perris Boulevard
E/W: Cactus Avenue
Weather: Clear

File Name : MRVPECAPM
Site Code : 05115223
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Groups Printed- 3 Axle Vehicles

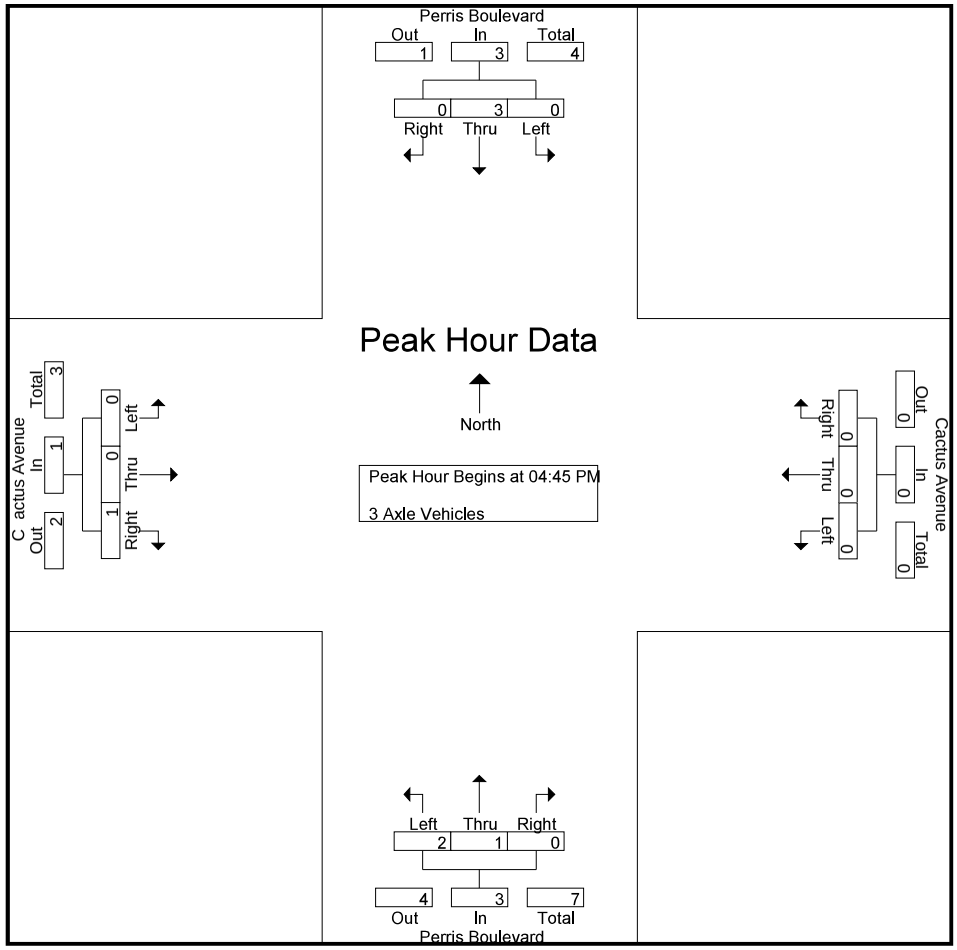
	Perris Boulevard Southbound					Cactus Avenue Westbound					Perris Boulevard Northbound					Cactus Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
Total	0	0	0	0	0	0	0	0	0	0	3	0	1	0	4	0	0	1	0	1	0	5
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	2
05:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:30 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	3	0	0	3	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	6
Grand Total	0	3	0	0	3	0	0	0	0	0	5	1	1	0	7	0	0	1	0	1	0	11
Apprch %	0	100	0			0	0	0			71.4	14.3	14.3			0	0	100				
Total %	0	27.3	0		27.3	0	0	0		0	45.5	9.1	9.1		63.6	0	0	9.1		9.1	0	100

	Perris Boulevard Southbound				Cactus Avenue Westbound				Perris Boulevard Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:00 PM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2
05:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:30 PM	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	2
Total Volume	0	3	0	3	0	0	0	0	2	1	0	3	0	0	1	1	7
% App. Total	0	100	0		0	0	0		66.7	33.3	0		0	0	100		
PHF	.000	.375	.000	.375	.000	.000	.000	.000	.500	.250	.000	.375	.000	.000	.250	.250	.875

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City of Moreno Valley
N/S: Perris Boulevard
E/W: Cactus Avenue
Weather: Clear

File Name : MRVPECAPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

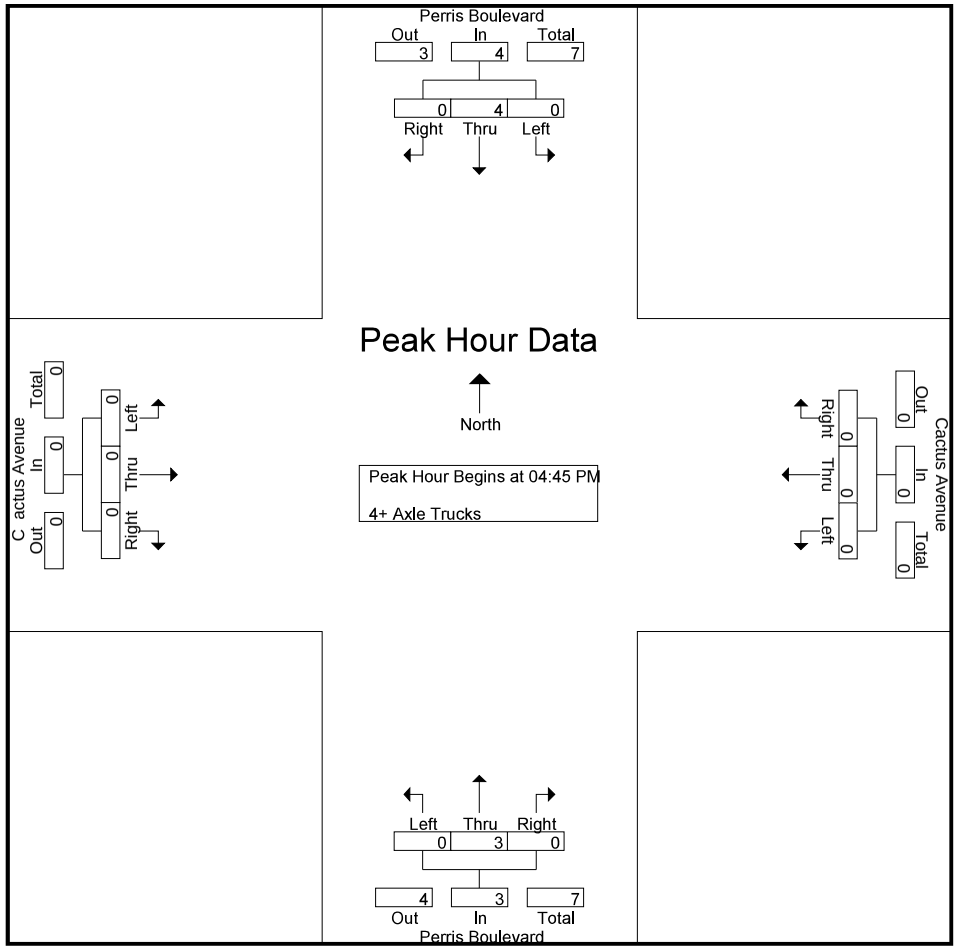
	Perris Boulevard Southbound					Cactus Avenue Westbound					Perris Boulevard Northbound					Cactus Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	1	0	0	1	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	4
04:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
04:30 PM	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	4
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
Total	0	5	0	0	5	0	2	0	0	2	0	5	0	0	5	0	0	0	0	0	0	12
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:45 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
Total	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	8
Grand Total	0	10	0	0	10	0	2	0	0	2	0	8	0	0	8	0	0	0	0	0	0	20
Apprch %	0	100	0			0	100	0			0	100	0			0	0	0				
Total %	0	50	0		50	0	10	0		10	0	40	0		40	0	0	0		0	0	100

	Perris Boulevard Southbound				Cactus Avenue Westbound				Perris Boulevard Northbound				Cactus Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	4	0	4	0	0	0	0	0	3	0	3	0	0	0	0	7
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.000	.000	.875

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File Name : MRVPECAPM
Site Code : 05115223
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Location: Moreno Valley
N/S: Perris Boulevard
E/W: Cactus Avenue

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Perris Boulevard	East Leg Cactus Avenue	South Leg Perris Boulevard	West Leg Cactus Avenue	TOTAL
7:00 AM	0	2	1	0	3
7:15 AM	0	0	0	0	0
7:30 AM	0	3	3	0	6
7:45 AM	1	0	4	1	6
8:00 AM	1	3	0	1	5
8:15 AM	1	1	4	0	6
8:30 AM	0	0	4	1	5
8:45 AM	2	1	0	0	3
TOTAL VOLUMES:	5	10	16	3	34

	North Leg Perris Boulevard	East Leg Cactus Avenue	South Leg Perris Boulevard	West Leg Cactus Avenue	TOTAL
4:00 PM	0	0	0	1	1
4:15 PM	1	0	0	0	1
4:30 PM	0	3	3	4	10
4:45 PM	2	0	0	0	2
5:00 PM	0	1	0	0	1
5:15 PM	1	0	0	0	1
5:30 PM	0	0	3	0	3
5:45 PM	0	0	1	1	2
TOTAL VOLUMES:	4	4	7	6	21

Location: Moreno Valley
N/S: Perris Boulevard
E/W: Cactus Avenue

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Perris Boulevard	East Leg Cactus Avenue	South Leg Perris Boulevard	West Leg Cactus Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	1	0	0	0	1
8:00 AM	1	0	0	1	2
8:15 AM	2	0	0	1	3
8:30 AM	1	0	0	0	1
8:45 AM	0	2	0	0	2
TOTAL VOLUMES:	5	2	0	2	9

	North Leg Perris Boulevard	East Leg Cactus Avenue	South Leg Perris Boulevard	West Leg Cactus Avenue	TOTAL
4:00 PM	0	0	1	1	2
4:15 PM	0	0	1	0	1
4:30 PM	0	1	0	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	1	0	0	0	1
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	1	2	1	5

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City of Moreno Valley
N/S: Perris Boulevard
E/W: Krameria Avenue
Weather: Clear

File Name : MRVPEKRAM
Site Code : 05115223
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

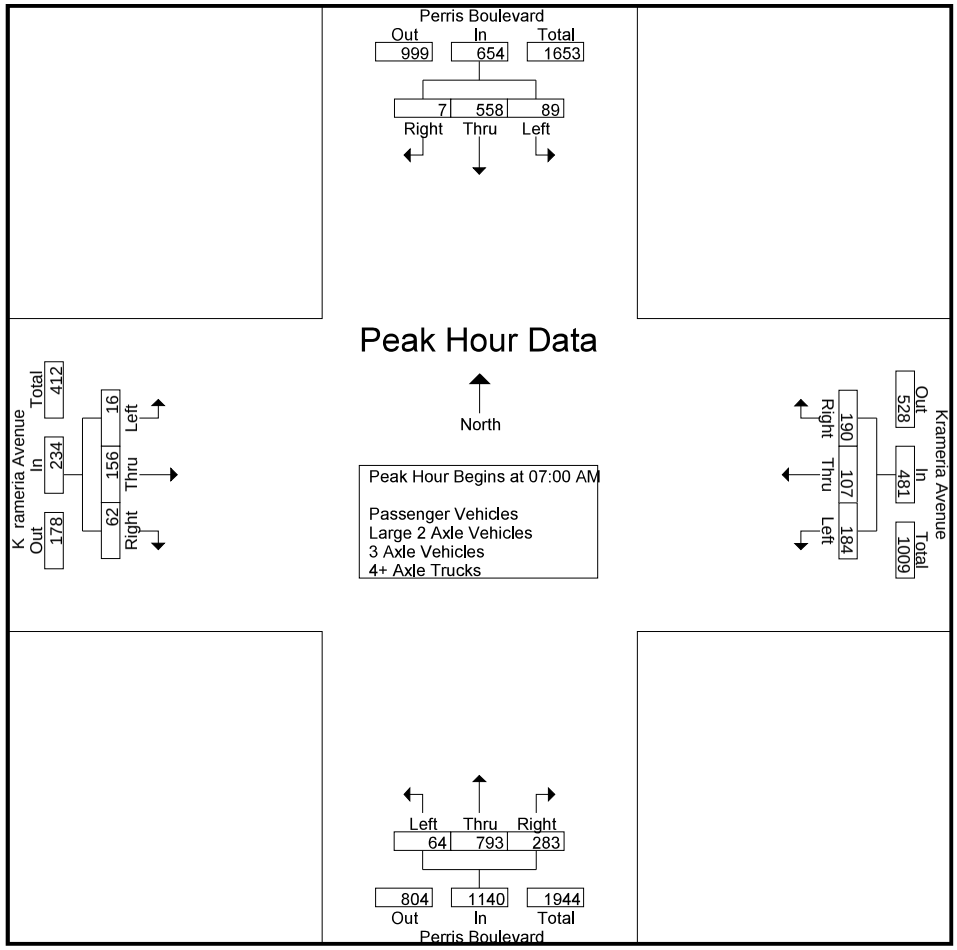
	Perris Boulevard Southbound					Krameria Avenue Westbound					Perris Boulevard Northbound					Krameria Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	18	118	1	1	137	37	18	36	28	91	11	176	61	7	248	4	30	4	2	38	38	514
07:15 AM	27	136	1	0	164	62	21	44	19	127	16	190	83	9	289	6	34	17	7	57	35	637
07:30 AM	18	139	2	1	159	40	38	56	18	134	25	239	85	2	349	4	33	13	2	50	23	692
07:45 AM	26	165	3	0	194	45	30	54	26	129	12	188	54	5	254	2	59	28	4	89	35	666
Total	89	558	7	2	654	184	107	190	91	481	64	793	283	23	1140	16	156	62	15	234	131	2509
08:00 AM	25	102	3	0	130	25	20	53	35	98	7	179	30	3	216	8	27	11	3	46	41	490
08:15 AM	11	110	2	0	123	29	10	39	31	78	0	170	19	2	189	3	8	4	2	15	35	405
08:30 AM	14	70	1	0	85	28	20	20	13	68	5	120	19	1	144	4	3	5	5	12	19	309
08:45 AM	9	88	3	1	100	13	11	19	14	43	3	112	15	3	130	0	6	15	10	21	28	294
Total	59	370	9	1	438	95	61	131	93	287	15	581	83	9	679	15	44	35	20	94	123	1498
Grand Total	148	928	16	3	1092	279	168	321	184	768	79	1374	366	32	1819	31	200	97	35	328	254	4007
Apprch %	13.6	85	1.5			36.3	21.9	41.8			4.3	75.5	20.1			9.5	61	29.6				
Total %	3.7	23.2	0.4		27.3	7	4.2	8		19.2	2	34.3	9.1		45.4	0.8	5	2.4		8.2	6	94
Passenger Vehicles	145	898	16		1062	269	168	319		940	75	1308	355		1770	30	197	93		355	0	0
% Passenger Vehicles	98	96.8	100	100	97	96.4	100	99.4	100	98.7	94.9	95.2	97	100	95.6	96.8	98.5	95.9	100	97.8	0	0
Large 2 Axle Vehicles	2	23	0		25	10	0	2		12	4	43	11		58	1	3	4		8	0	0
% Large 2 Axle Vehicles	1.4	2.5	0	0	2.3	3.6	0	0.6	0	1.3	5.1	3.1	3	0	3.1	3.2	1.5	4.1	0	2.2	0	0
3 Axle Vehicles	0	1	0		1	0	0	0		0	0	8	0		8	0	0	0		0	0	0
% 3 Axle Vehicles	0	0.1	0	0	0.1	0	0	0	0	0	0	0.6	0	0	0.4	0	0	0	0	0	0	0
4+ Axle Trucks	1	6	0		7	0	0	0		0	0	15	0		15	0	0	0		0	0	0
% 4+ Axle Trucks	0.7	0.6	0	0	0.6	0	0	0	0	0	0	1.1	0	0	0.8	0	0	0	0	0	0	0

	Perris Boulevard Southbound				Krameria Avenue Westbound				Perris Boulevard Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	18	118	1	137	37	18	36	91	11	176	61	248	4	30	4	38	514
07:15 AM	27	136	1	164	62	21	44	127	16	190	83	289	6	34	17	57	637
07:30 AM	18	139	2	159	40	38	56	134	25	239	85	349	4	33	13	50	692
07:45 AM	26	165	3	194	45	30	54	129	12	188	54	254	2	59	28	89	666
Total Volume	89	558	7	654	184	107	190	481	64	793	283	1140	16	156	62	234	2509
% App. Total	13.6	85.3	1.1		38.3	22.2	39.5		5.6	69.6	24.8		6.8	66.7	26.5		
PHF	.824	.845	.583	.843	.742	.704	.848	.897	.640	.829	.832	.817	.667	.661	.554	.657	.906

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City of Moreno Valley
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Groups Printed- Large 2 Axle Vehicles

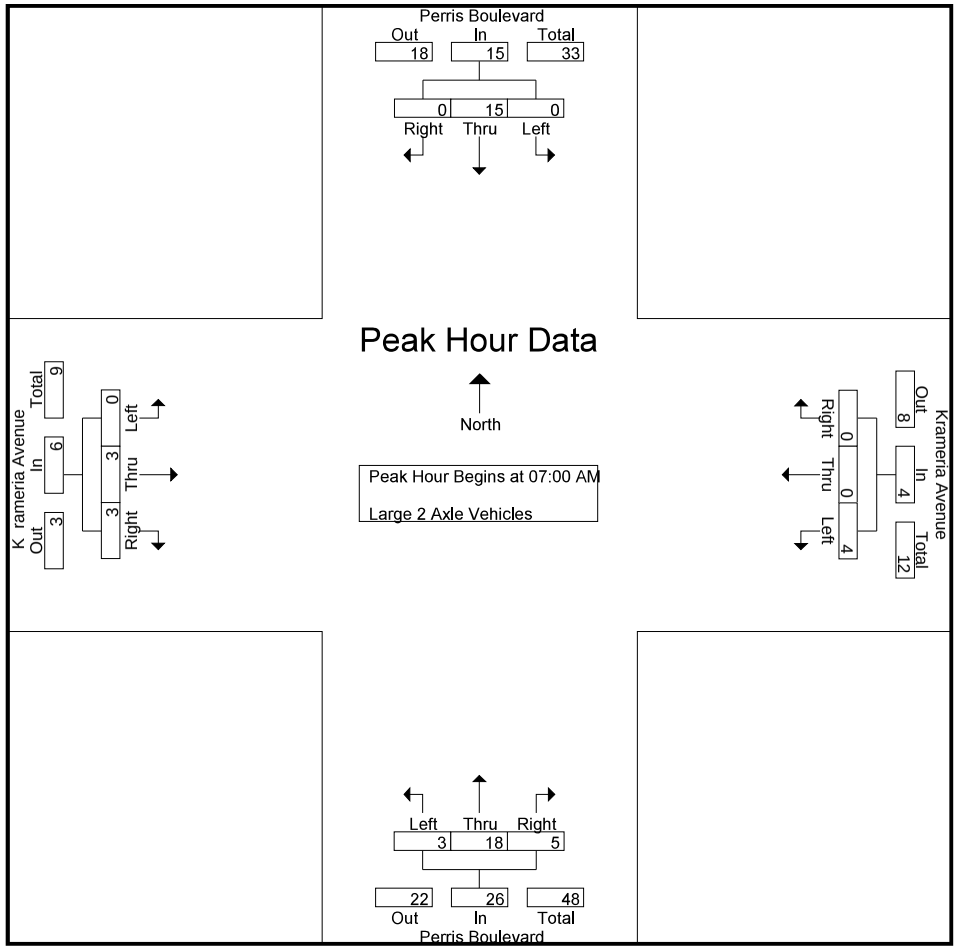
	Perris Boulevard Southbound					Krameria Avenue Westbound					Perris Boulevard Northbound					Krameria Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	3	0	0	3	1	0	0	0	1	0	7	2	0	9	0	0	0	0	0	0	13
07:15 AM	0	3	0	0	3	1	0	0	0	1	1	5	1	0	7	0	1	0	0	1	0	12
07:30 AM	0	5	0	0	5	1	0	0	0	1	2	4	1	0	7	0	2	0	0	2	0	15
07:45 AM	0	4	0	0	4	1	0	0	0	1	0	2	1	0	3	0	0	3	0	3	0	11
Total	0	15	0	0	15	4	0	0	0	4	3	18	5	0	26	0	3	3	0	6	0	51
08:00 AM	1	3	0	0	4	1	0	1	0	2	1	3	2	0	6	1	0	1	0	2	0	14
08:15 AM	0	0	0	0	0	4	0	1	0	5	0	9	0	0	9	0	0	0	0	0	0	14
08:30 AM	0	3	0	0	3	1	0	0	0	1	0	8	3	0	11	0	0	0	0	0	0	15
08:45 AM	1	2	0	0	3	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	9
Total	2	8	0	0	10	6	0	2	0	8	1	25	6	0	32	1	0	1	0	2	0	52
Grand Total	2	23	0	0	25	10	0	2	0	12	4	43	11	0	58	1	3	4	0	8	0	103
Apprch %	8	92	0			83.3	0	16.7			6.9	74.1	19			12.5	37.5	50				
Total %	1.9	22.3	0		24.3	9.7	0	1.9		11.7	3.9	41.7	10.7		56.3	1	2.9	3.9		7.8	0	100

	Perris Boulevard Southbound				Krameria Avenue Westbound				Perris Boulevard Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	3	0	3	1	0	0	1	0	7	2	9	0	0	0	0	13
07:15 AM	0	3	0	3	1	0	0	1	1	5	1	7	0	1	0	1	12
07:30 AM	0	5	0	5	1	0	0	1	2	4	1	7	0	2	0	2	15
07:45 AM	0	4	0	4	1	0	0	1	0	2	1	3	0	0	3	3	11
Total Volume	0	15	0	15	4	0	0	4	3	18	5	26	0	3	3	6	51
% App. Total	0	100	0		100	0	0		11.5	69.2	19.2		0	50	50		
PHF	.000	.750	.000	.750	1.00	.000	.000	1.00	.375	.643	.625	.722	.000	.375	.250	.500	.850

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City of Moreno Valley
N/S: Perris Boulevard
E/W: Krameria Avenue
Weather: Clear

File Name : MRVPEKRAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



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City of Moreno Valley
N/S: Perris Boulevard
E/W: Krameria Avenue
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File Name : MRVPEKRAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 3 Axle Vehicles

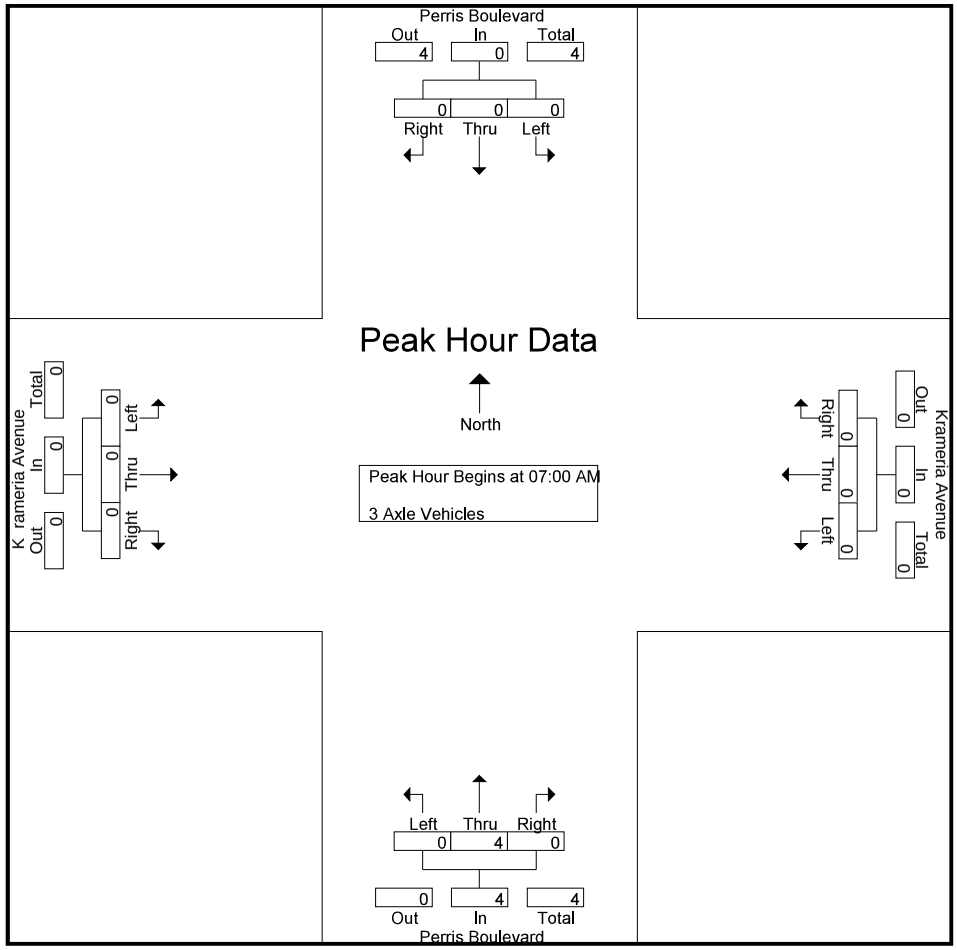
	Perris Boulevard Southbound					Krameria Avenue Westbound					Perris Boulevard Northbound					Krameria Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5
Grand Total	0	1	0	0	1	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	9
Apprch %	0	100	0			0	0	0			0	100	0			0	0	0				
Total %	0	11.1	0		11.1	0	0	0		0	0	88.9	0		88.9	0	0	0		0	0	100

	Perris Boulevard Southbound				Krameria Avenue Westbound				Perris Boulevard Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	0	4
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.333	.000	.333	.000	.000	.000	.000	.333

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City of Moreno Valley
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Weather: Clear

File Name : MRVPEKRAM
Site Code : 05115223
Start Date : 4/28/2015
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File Name : MRVPEKRAM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

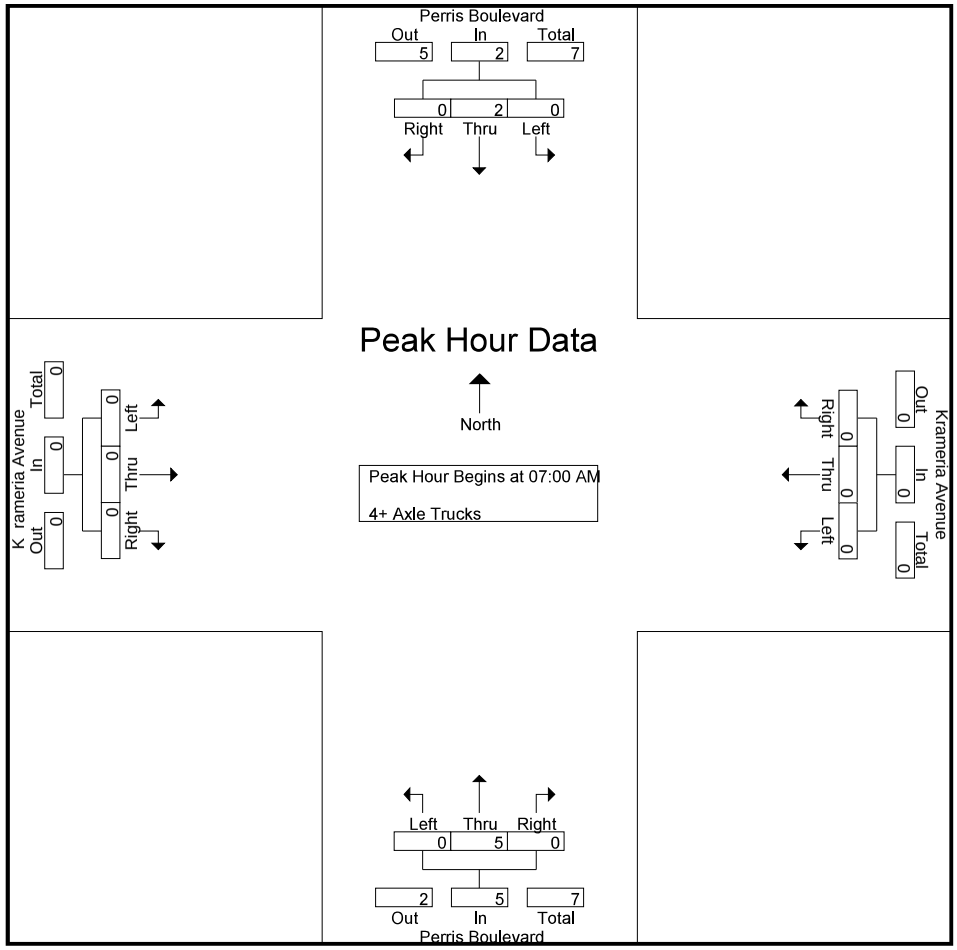
	Perris Boulevard Southbound					Krameria Avenue Westbound					Perris Boulevard Northbound					Krameria Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
07:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3
Total	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	7
08:00 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5
08:15 AM	1	0	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3
08:45 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3
Total	1	4	0	0	5	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	15
Grand Total	1	6	0	0	7	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	22
Apprch %	14.3	85.7	0			0	0	0			0	100	0			0	0	0				
Total %	4.5	27.3	0		31.8	0	0	0		0	0	68.2	0		68.2	0	0	0		0	0	100

	Perris Boulevard Southbound				Krameria Avenue Westbound				Perris Boulevard Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:30 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
Total Volume	0	2	0	2	0	0	0	0	0	5	0	5	0	0	0	0	7
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.417	.000	.417	.000	.000	.000	.000	.583

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File Name : MRVPEKRAM
Site Code : 05115223
Start Date : 4/28/2015
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File Name : MRVPEKRPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

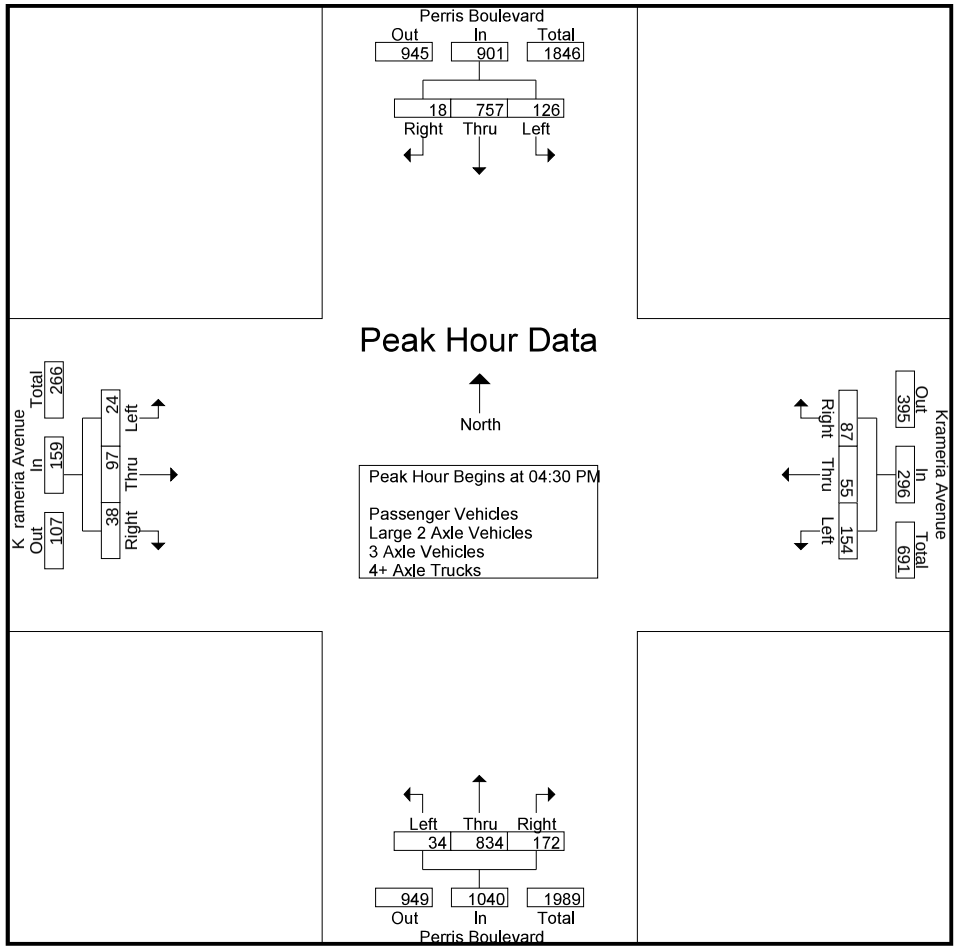
	Perris Boulevard Southbound					Krameria Avenue Westbound					Perris Boulevard Northbound					Krameria Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	21	165	4	2	190	38	25	25	19	88	7	142	33	0	182	2	21	10	4	33	25	493
04:15 PM	25	166	7	0	198	39	16	28	11	83	4	145	25	5	174	5	23	19	9	47	25	502
04:30 PM	34	222	5	0	261	45	14	23	18	82	11	220	47	5	278	5	15	9	8	29	31	650
04:45 PM	27	204	5	0	236	43	13	23	10	79	13	291	52	2	356	7	20	7	4	34	16	705
Total	107	757	21	2	885	165	68	99	58	332	35	798	157	12	990	19	79	45	25	143	97	2350
05:00 PM	32	163	4	0	199	34	16	21	11	71	7	165	32	1	204	5	31	9	6	45	18	519
05:15 PM	33	168	4	0	205	32	12	20	11	64	3	158	41	4	202	7	31	13	7	51	22	522
05:30 PM	36	172	5	0	213	46	17	20	11	83	4	167	38	4	209	7	25	12	5	44	20	549
05:45 PM	43	200	3	0	246	27	12	32	21	71	14	190	48	3	252	7	39	8	0	54	24	623
Total	144	703	16	0	863	139	57	93	54	289	28	680	159	12	867	26	126	42	18	194	84	2213
Grand Total	251	1460	37	2	1748	304	125	192	112	621	63	1478	316	24	1857	45	205	87	43	337	181	4563
Apprch %	14.4	83.5	2.1			49	20.1	30.9			3.4	79.6	17			13.4	60.8	25.8				
Total %	5.5	32	0.8		38.3	6.7	2.7	4.2		13.6	1.4	32.4	6.9		40.7	1	4.5	1.9		7.4	3.8	96.2
Passenger Vehicles	250	1419	37		1708	297	125	191		725	63	1455	309		1851	45	203	84		374	0	0
% Passenger Vehicles	99.6	97.2	100	100	97.6	97.7	100	99.5	100	98.9	100	98.4	97.8	100	98.4	100	99	96.6	97.7	98.4	0	0
Large 2 Axle Vehicles	0	27	0		27	7	0	1		8	0	15	7		22	0	2	3		6	0	0
% Large 2 Axle Vehicles	0	1.8	0	0	1.5	2.3	0	0.5	0	1.1	0	1	2.2	0	1.2	0	1	3.4	2.3	1.6	0	0
3 Axle Vehicles	0	5	0		5	0	0	0		0	0	4	0		4	0	0	0		0	0	0
% 3 Axle Vehicles	0	0.3	0	0	0.3	0	0	0	0	0	0	0.3	0	0	0.2	0	0	0	0	0	0	0
4+ Axle Trucks	1	9	0		10	0	0	0		0	0	4	0		4	0	0	0		0	0	0
% 4+ Axle Trucks	0.4	0.6	0	0	0.6	0	0	0	0	0	0	0.3	0	0	0.2	0	0	0	0	0	0	0

	Perris Boulevard Southbound				Krameria Avenue Westbound				Perris Boulevard Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	34	222	5	261	45	14	23	82	11	220	47	278	5	15	9	29	650
04:45 PM	27	204	5	236	43	13	23	79	13	291	52	356	7	20	7	34	705
05:00 PM	32	163	4	199	34	16	21	71	7	165	32	204	5	31	9	45	519
05:15 PM	33	168	4	205	32	12	20	64	3	158	41	202	7	31	13	51	522
Total Volume	126	757	18	901	154	55	87	296	34	834	172	1040	24	97	38	159	2396
% App. Total	14	84	2		52	18.6	29.4		3.3	80.2	16.5		15.1	61	23.9		
PHF	.926	.852	.900	.863	.856	.859	.946	.902	.654	.716	.827	.730	.857	.782	.731	.779	.850

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File Name : MRVPEKRPM
Site Code : 05115223
Start Date : 4/28/2015
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File Name : MRVPEKRPM
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Start Date : 4/28/2015
Page No : 1

Groups Printed- Large 2 Axle Vehicles

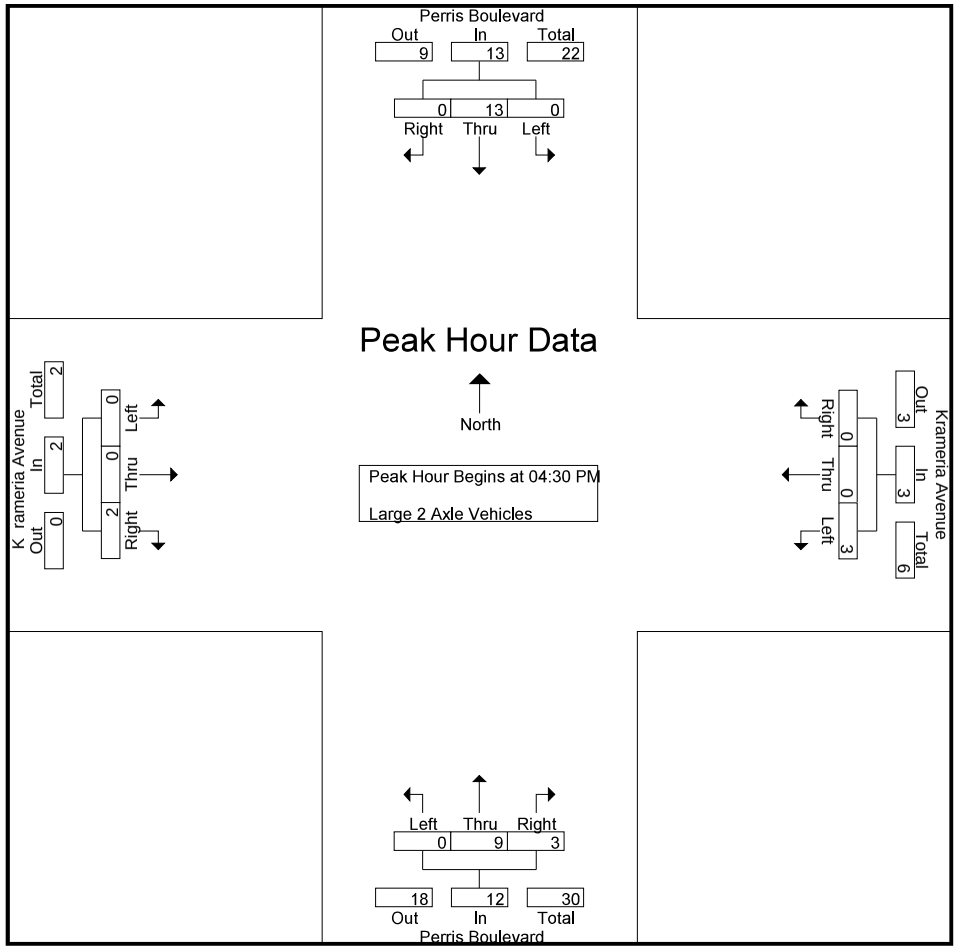
	Perris Boulevard Southbound					Krameria Avenue Westbound					Perris Boulevard Northbound					Krameria Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	4	0	0	4	2	0	0	0	2	0	1	2	0	3	0	0	1	0	1	0	10
04:15 PM	0	6	0	0	6	1	0	0	0	1	0	1	0	0	1	0	1	0	0	1	0	9
04:30 PM	0	5	0	0	5	1	0	0	0	1	0	3	2	0	5	0	0	1	0	1	0	12
04:45 PM	0	2	0	0	2	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	7
Total	0	17	0	0	17	5	0	0	0	5	0	9	4	0	13	0	1	2	0	3	0	38
05:00 PM	0	3	0	0	3	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	6
05:15 PM	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	1	1	1	1	5
05:30 PM	0	1	0	0	1	1	0	0	0	1	0	3	1	0	4	0	1	0	0	1	0	7
05:45 PM	0	3	0	0	3	0	0	1	0	1	0	1	1	0	2	0	0	0	0	0	0	6
Total	0	10	0	0	10	2	0	1	0	3	0	6	3	0	9	0	1	1	1	2	1	24
Grand Total	0	27	0	0	27	7	0	1	0	8	0	15	7	0	22	0	2	3	1	5	1	62
Apprch %	0	100	0			87.5	0	12.5			0	68.2	31.8			0	40	60				
Total %	0	43.5	0		43.5	11.3	0	1.6		12.9	0	24.2	11.3		35.5	0	3.2	4.8		8.1	1.6	98.4

	Perris Boulevard Southbound				Krameria Avenue Westbound				Perris Boulevard Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	5	0	5	1	0	0	1	0	3	2	5	0	0	1	1	12
04:45 PM	0	2	0	2	1	0	0	1	0	4	0	4	0	0	0	0	7
05:00 PM	0	3	0	3	1	0	0	1	0	2	0	2	0	0	0	0	6
05:15 PM	0	3	0	3	0	0	0	0	0	0	1	1	0	0	1	1	5
Total Volume	0	13	0	13	3	0	0	3	0	9	3	12	0	0	2	2	30
% App. Total	0	100	0		100	0	0		0	75	25		0	0	100		
PHF	.000	.650	.000	.650	.750	.000	.000	.750	.000	.563	.375	.600	.000	.000	.500	.500	.625

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File Name : MRVPEKRPM
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Groups Printed- 3 Axle Vehicles

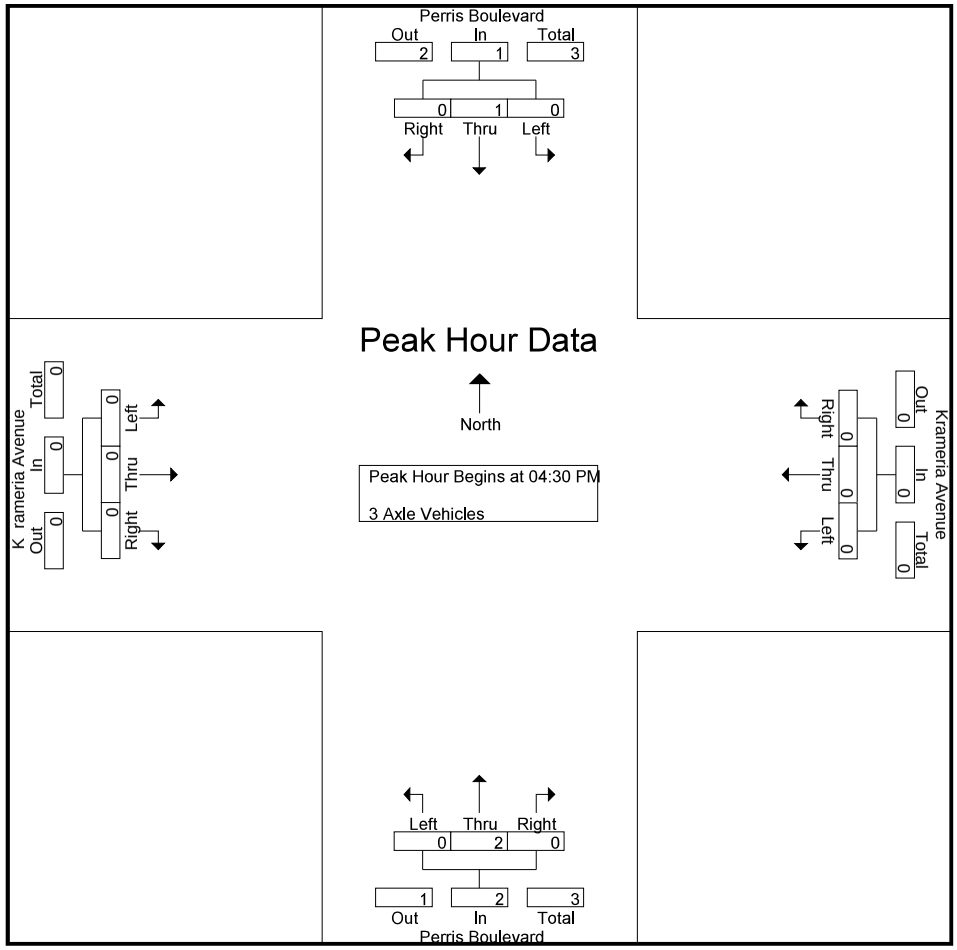
	Perris Boulevard Southbound					Krameria Avenue Westbound					Perris Boulevard Northbound					Krameria Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
04:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
Total	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
Total	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5
Grand Total	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	9
Apprch %	0	100	0			0	0	0			0	100	0			0	0	0				
Total %	0	55.6	0		55.6	0	0	0		0	0	44.4	0		44.4	0	0	0		0	0	100

	Perris Boulevard Southbound				Krameria Avenue Westbound				Perris Boulevard Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.750

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Moreno Valley
N/S: Perris Boulevard
E/W: Krameria Avenue
Weather: Clear

File Name : MRVPEKRPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



Counts Unlimited, Inc.
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City of Moreno Valley
N/S: Perris Boulevard
E/W: Krameria Avenue
Weather: Clear

File Name : MRVPEKRPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 1

Groups Printed- 4+ Axle Trucks

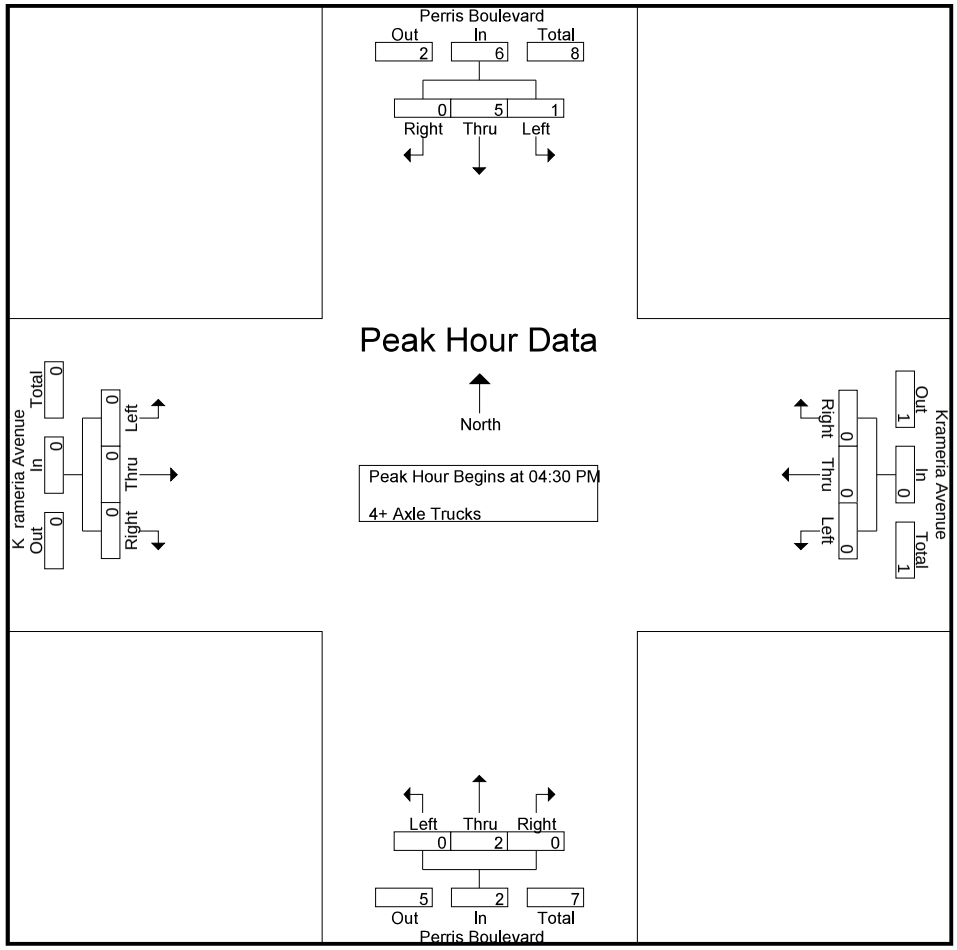
	Perris Boulevard Southbound					Krameria Avenue Westbound					Perris Boulevard Northbound					Krameria Avenue Eastbound						
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4
05:00 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
05:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
05:45 PM	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5
Total	1	6	0	0	7	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	10
Grand Total	1	9	0	0	10	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	14
Apprch %	10	90	0			0	0	0			0	100	0			0	0	0				
Total %	7.1	64.3	0		71.4	0	0	0		0	0	28.6	0		28.6	0	0	0		0	0	100

	Perris Boulevard Southbound				Krameria Avenue Westbound				Perris Boulevard Northbound				Krameria Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
04:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
05:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	1	5	0	6	0	0	0	0	0	2	0	2	0	0	0	0	8
% App. Total	16.7	83.3	0		0	0	0		0	100	0		0	0	0		
PHF	.250	.625	.000	.750	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.667

Counts Unlimited, Inc.
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Corona, CA 92878
(951) 268-6268

City of Moreno Valley
N/S: Perris Boulevard
E/W: Krameria Avenue
Weather: Clear

File Name : MRVPEKRPM
Site Code : 05115223
Start Date : 4/28/2015
Page No : 2



Location: Moreno Valley
N/S: Perris Boulevard
E/W: Krameria Avenue

Date: 4/28/2015
Weather: Clear

PEDESTRIANS

	North Leg Perris Boulevard	East Leg Krameria Avenue	South Leg Perris Boulevard	West Leg Krameria Avenue	TOTAL
7:00 AM	0	1	0	0	1
7:15 AM	0	3	0	0	3
7:30 AM	2	0	0	0	2
7:45 AM	1	0	1	0	2
8:00 AM	2	1	0	0	3
8:15 AM	0	1	0	0	1
8:30 AM	1	1	0	1	3
8:45 AM	4	5	0	0	9
TOTAL VOLUMES:	10	12	1	1	24

	North Leg Perris Boulevard	East Leg Krameria Avenue	South Leg Perris Boulevard	West Leg Krameria Avenue	TOTAL
4:00 PM	2	2	0	1	5
4:15 PM	2	1	0	1	4
4:30 PM	0	1	0	0	1
4:45 PM	3	0	1	1	5
5:00 PM	2	0	0	1	3
5:15 PM	0	0	0	0	0
5:30 PM	0	1	0	0	1
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	9	5	1	4	19

Location: Moreno Valley
N/S: Perris Boulevard
E/W: Krameria Avenue

Date: 4/28/2015
Weather: Clear

BICYCLES

	North Leg Perris Boulevard	East Leg Krameria Avenue	South Leg Perris Boulevard	West Leg Krameria Avenue	TOTAL
7:00 AM	0	1	0	0	1
7:15 AM	1	0	0	1	2
7:30 AM	1	0	0	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	1	0	0	1
8:15 AM	1	1	0	0	2
8:30 AM	0	0	0	0	0
8:45 AM	0	1	0	0	1
TOTAL VOLUMES:	3	4	0	1	8

	North Leg Perris Boulevard	East Leg Krameria Avenue	South Leg Perris Boulevard	West Leg Krameria Avenue	TOTAL
4:00 PM	0	1	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	1	0	1	2
4:45 PM	1	0	0	0	1
5:00 PM	1	0	0	0	1
5:15 PM	0	1	0	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	2	0	0	2
TOTAL VOLUMES:	2	5	0	1	8

Counts Unlimited, Inc

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City of Moreno Valley
Harley Knox Boulevard
W/ Westetrn Way
24 Hour Directional Classification Count

MRV004
Site Code: 051-15223

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	0	29	2	1	0	2	2	0	7	0	0	0	0	43
01:00	1	24	3	3	0	5	0	0	9	0	0	0	0	45
02:00	0	10	4	0	0	4	0	0	17	0	0	0	0	35
03:00	0	58	11	0	4	0	0	1	8	0	0	0	0	82
04:00	1	202	51	0	5	1	0	0	6	0	0	0	**1**	267
05:00	4	356	**115**	1	20	1	0	2	12	0	0	0	0	511
06:00	4	277	72	2	21	8	0	7	21	0	**3**	0	0	415
07:00	6	**368**	81	3	31	6	0	7	19	0	3	0	0	**524**
08:00	7	198	71	4	19	10	1	11	21	0	2	0	0	344
09:00	**11**	127	55	8	31	23	**8**	12	29	**1**	1	0	0	306
10:00	7	140	53	7	**33**	**31**	8	11	34	0	3	0	0	327
11:00	6	147	54	**15**	30	24	4	**23**	**40**	0	3	0	0	346
12 PM	11	132	50	**13**	30	18	4	**24**	**31**	0	**4**	0	0	317
13:00	8	224	72	13	**43**	17	5	15	30	0	1	**1**	0	429
14:00	11	173	76	6	34	17	5	11	30	0	1	0	0	364
15:00	**13**	266	**88**	4	30	**19**	2	12	27	0	0	0	0	461
16:00	9	**317**	78	5	26	11	1	16	12	0	0	0	0	**475**
17:00	6	271	68	2	15	12	**17**	9	10	0	1	0	**1**	412
18:00	9	226	62	3	13	6	6	14	16	0	1	0	0	356
19:00	7	144	43	4	10	7	0	9	10	0	1	0	0	235
20:00	4	156	29	2	9	6	0	4	5	**1**	0	0	0	216
21:00	2	86	13	2	6	5	0	2	13	0	1	0	0	130
22:00	2	93	14	0	4	3	0	4	3	0	0	1	0	124
23:00	2	46	14	0	4	4	0	1	9	0	0	0	0	80
Total	131	4070	1179	98	418	240	63	195	419	2	25	2	2	6844
Percent	1.9%	59.5%	17.2%	1.4%	6.1%	3.5%	0.9%	2.8%	6.1%	0.0%	0.4%	0.0%	0.0%	
AM Peak	09:00	07:00	05:00	11:00	10:00	10:00	09:00	11:00	11:00	09:00	06:00		04:00	07:00
Vol.	11	368	115	15	33	31	8	23	40	1	3		1	524
PM Peak	15:00	16:00	15:00	12:00	13:00	15:00	17:00	12:00	12:00	20:00	12:00	13:00	17:00	16:00
Vol.	13	317	88	13	43	19	17	24	31	1	4	1	1	475
Grand Total	131	4070	1179	98	418	240	63	195	419	2	25	2	2	6844
Percent	1.9%	59.5%	17.2%	1.4%	6.1%	3.5%	0.9%	2.8%	6.1%	0.0%	0.4%	0.0%	0.0%	

Counts Unlimited, Inc

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City of Moreno Valley
Harley Knox Boulevard
W/ Westetrn Way
24 Hour Directional Classification Count

MRV004
Site Code: 051-15223

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	3	49	11	0	4	5	0	2	6	0	0	0	0	80
01:00	4	28	1	3	4	5	0	1	5	0	0	0	0	51
02:00	3	20	3	2	3	6	0	1	7	0	0	0	0	45
03:00	1	73	21	0	3	2	0	0	11	0	0	0	0	111
04:00	11	132	38	8	8	6	0	1	5	**2**	2	0	0	213
05:00	13	160	50	4	32	20	0	2	11	0	1	0	0	293
06:00	4	234	76	6	41	**36**	0	7	23	0	0	0	0	427
07:00	**17**	**323**	**102**	6	**47**	23	0	14	21	0	2	0	0	**555**
08:00	10	166	71	7	36	12	0	15	22	0	2	0	0	341
09:00	11	91	53	12	31	13	0	17	31	2	2	0	0	263
10:00	6	177	76	**15**	28	25	0	20	**49**	0	**3**	0	0	399
11:00	16	113	56	10	32	27	0	**23**	36	0	3	**2**	0	318
12 PM	6	176	56	11	**46**	19	0	18	**57**	0	**3**	**2**	0	394
13:00	**18**	216	74	8	40	**37**	0	**27**	42	0	0	0	0	462
14:00	9	342	107	**12**	45	21	0	22	40	0	1	0	**1**	**600**
15:00	10	335	**134**	7	32	25	0	13	34	0	0	0	1	591
16:00	5	**394**	98	1	29	14	0	11	24	0	1	0	0	577
17:00	14	296	100	2	27	9	0	9	19	0	1	0	0	477
18:00	7	204	53	4	24	5	0	11	14	0	0	1	0	323
19:00	4	121	43	2	12	3	0	10	32	0	1	0	0	228
20:00	12	88	23	1	8	9	0	8	13	0	0	0	0	162
21:00	4	60	9	0	2	5	0	3	12	0	0	0	0	95
22:00	3	80	14	3	4	3	0	1	7	0	0	0	0	115
23:00	9	58	15	0	4	7	0	2	9	0	1	0	0	105
Total	200	3936	1284	124	542	337	0	238	530	4	23	5	2	7225
Percent	2.8%	54.5%	17.8%	1.7%	7.5%	4.7%	0.0%	3.3%	7.3%	0.1%	0.3%	0.1%	0.0%	
AM Peak	07:00	07:00	07:00	10:00	07:00	06:00		11:00	10:00	04:00	10:00	11:00		07:00
Vol.	17	323	102	15	47	36		23	49	2	3	2		555
PM Peak	13:00	16:00	15:00	14:00	12:00	13:00		13:00	12:00		12:00	12:00	14:00	14:00
Vol.	18	394	134	12	46	37		27	57		3	2	1	600
Grand Total	200	3936	1284	124	542	337	0	238	530	4	23	5	2	7225
Percent	2.8%	54.5%	17.8%	1.7%	7.5%	4.7%	0.0%	3.3%	7.3%	0.1%	0.3%	0.1%	0.0%	

Counts Unlimited, Inc

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City of Moreno Valley
Harley Knox Boulevard
W/ Westetrn Way
24 Hour Directional Classification Count

MRV004
Site Code: 051-15223

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	3	78	13	1	4	7	2	2	13	0	0	0	0	123
01:00	5	52	4	6	4	10	0	1	14	0	0	0	0	96
02:00	3	30	7	2	3	10	0	1	24	0	0	0	0	80
03:00	1	131	32	0	7	2	0	1	19	0	0	0	0	193
04:00	12	334	89	8	13	7	0	1	11	2	2	0	**1**	480
05:00	17	516	165	5	52	21	0	4	23	0	1	0	0	804
06:00	8	511	148	8	62	44	0	14	44	0	3	0	0	842
07:00	**23**	**691**	**183**	9	**78**	29	0	21	40	0	5	0	0	**1079**
08:00	17	364	142	11	55	22	1	26	43	0	4	0	0	685
09:00	22	218	108	20	62	36	**8**	29	60	**3**	3	0	0	569
10:00	13	317	129	22	61	**56**	8	31	**83**	0	**6**	0	0	726
11:00	22	260	110	**25**	62	51	4	**46**	76	0	6	**2**	0	664
12 PM	17	308	106	**24**	76	37	4	**42**	**88**	0	**7**	**2**	0	711
13:00	**26**	440	146	21	**83**	**54**	5	42	72	0	1	1	0	891
14:00	20	515	183	18	79	38	5	33	70	0	2	0	**1**	964
15:00	23	601	**222**	11	62	44	2	25	61	0	0	0	1	**1052**
16:00	14	**711**	176	6	55	25	1	27	36	0	1	0	0	1052
17:00	20	567	168	4	42	21	**17**	18	29	0	2	0	1	889
18:00	16	430	115	7	37	11	6	25	30	0	1	1	0	679
19:00	11	265	86	6	22	10	0	19	42	0	2	0	0	463
20:00	16	244	52	3	17	15	0	12	18	**1**	0	0	0	378
21:00	6	146	22	2	8	10	0	5	25	0	1	0	0	225
22:00	5	173	28	3	8	6	0	5	10	0	0	1	0	239
23:00	11	104	29	0	8	11	0	3	18	0	1	0	0	185
Total	331	8006	2463	222	960	577	63	433	949	6	48	7	4	14069
Percent	2.4%	56.9%	17.5%	1.6%	6.8%	4.1%	0.4%	3.1%	6.7%	0.0%	0.3%	0.0%	0.0%	
AM Peak	07:00	07:00	07:00	11:00	07:00	10:00	09:00	11:00	10:00	09:00	10:00	11:00	04:00	07:00
Vol.	23	691	183	25	78	56	8	46	83	3	6	2	1	1079
PM Peak	13:00	16:00	15:00	12:00	13:00	13:00	17:00	12:00	12:00	20:00	12:00	12:00	14:00	15:00
Vol.	26	711	222	24	83	54	17	42	88	1	7	2	1	1052
Grand Total	331	8006	2463	222	960	577	63	433	949	6	48	7	4	14069
Percent	2.4%	56.9%	17.5%	1.6%	6.8%	4.1%	0.4%	3.1%	6.7%	0.0%	0.3%	0.0%	0.0%	

Counts Unlimited, Inc.
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Corona, CA 92878
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City of Perris
Patterson Avenue
N/ Harley Knox Boulevard
24 Hour Directional Classification Count
Northbound

PERPANHKCL
Site Code: 051-14099
Date Start: 13-Mar-14
Date End: 13-Mar-14

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/13/14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
04:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
05:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
06:00	0	**9**	2	0	1	0	0	0	0	0	0	0	0	**12**
07:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
08:00	0	1	**3**	0	**2**	0	0	0	0	0	0	0	0	6
09:00	0	1	2	0	0	0	0	**1**	0	0	0	0	0	4
10:00	**1**	2	1	0	1	**1**	0	0	**1**	0	0	0	0	7
11:00	0	6	3	0	2	0	0	1	0	0	0	0	0	12
12 PM	0	5	3	0	1	0	0	0	0	0	0	0	0	9
13:00	0	2	**4**	**1**	1	**1**	0	0	0	0	0	0	0	9
14:00	0	**6**	3	0	**3**	0	0	**1**	0	0	0	0	0	**13**
15:00	0	5	2	1	3	1	0	0	0	0	0	0	0	12
16:00	0	1	1	0	1	0	0	0	0	0	0	0	0	3
17:00	0	0	2	0	2	0	0	0	0	0	0	0	0	4
18:00	0	3	1	1	2	0	0	0	0	0	0	0	0	7
19:00	0	2	1	0	1	0	0	0	0	0	0	0	0	4
20:00	0	4	0	0	1	0	0	0	0	0	0	0	0	5
21:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	1	56	33	3	21	3	0	3	1	0	0	0	0	121
Percent	0.8%	46.3%	27.3%	2.5%	17.4%	2.5%	0.0%	2.5%	0.8%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	06:00	08:00		08:00	10:00		09:00	10:00					06:00
Vol.	1	9	3		2	1		1	1					12
PM Peak		14:00	13:00	13:00	14:00	13:00		14:00						14:00
Vol.		6	4	1	3	1		1						13
Grand Total	1	56	33	3	21	3	0	3	1	0	0	0	0	121
Percent	0.8%	46.3%	27.3%	2.5%	17.4%	2.5%	0.0%	2.5%	0.8%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Perris
Patterson Avenue
N/ Harley Knox Boulevard
24 Hour Directional Classification Count
Southbound

PERPANHKCL
Site Code: 051-14099
Date Start: 13-Mar-14
Date End: 13-Mar-14

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/13/14	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
06:00	0	2	0	0	**2**	0	0	0	0	0	0	0	0	4
07:00	0	**4**	**1**	0	1	0	0	0	0	0	0	0	0	6
08:00	0	2	0	0	2	0	0	0	0	0	0	0	0	4
09:00	0	1	0	0	0	0	0	**1**	0	0	0	0	0	2
10:00	0	3	1	0	1	0	0	0	0	0	0	0	**1**	6
11:00	0	4	1	**1**	0	0	0	1	0	0	0	0	0	**7**
12 PM	0	6	2	0	1	0	0	0	0	0	0	0	0	9
13:00	0	1	4	0	0	**1**	0	0	0	0	0	0	0	6
14:00	0	5	3	0	**2**	1	0	**1**	0	0	0	0	0	12
15:00	0	**10**	**6**	0	2	1	0	0	0	0	0	0	0	**19**
16:00	0	4	0	0	1	0	0	0	0	0	0	0	0	5
17:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
18:00	0	7	3	**1**	0	0	0	0	0	0	0	0	0	11
19:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
20:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	66	23	2	14	3	0	3	0	0	0	0	1	112
Percent	0.0%	58.9%	20.5%	1.8%	12.5%	2.7%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	0.9%	
AM Peak		07:00	07:00	11:00	06:00			09:00					10:00	11:00
Vol.		4	1	1	2			1					1	7
PM Peak		15:00	15:00	18:00	14:00	13:00		14:00						15:00
Vol.		10	6	1	2	1		1						19
Grand Total	0	66	23	2	14	3	0	3	0	0	0	0	1	112
Percent	0.0%	58.9%	20.5%	1.8%	12.5%	2.7%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	0.9%	

Counts Unlimited, Inc.
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City of Perris
Patterson Avenue
N/ Harley Knox Boulevard
24 Hour Directional Classification Count
Northbound, Southbound

PERPANHKCL
Site Code: 051-14099
Date Start: 13-Mar-14
Date End: 13-Mar-14

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/13/14	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
04:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
05:00	0	4	2	0	1	0	0	0	0	0	0	0	0	7
06:00	0	**11**	2	0	3	0	0	0	0	0	0	0	0	16
07:00	0	6	1	0	1	0	0	0	0	0	0	0	0	8
08:00	0	3	3	0	**4**	0	0	0	0	0	0	0	0	10
09:00	0	2	2	0	0	0	0	**2**	0	0	0	0	0	6
10:00	**1**	5	2	0	2	**1**	0	0	**1**	0	0	0	**1**	13
11:00	0	10	**4**	**1**	2	0	0	2	0	0	0	0	0	**19**
12 PM	0	11	5	0	2	0	0	0	0	0	0	0	0	18
13:00	0	3	**8**	1	1	**2**	0	0	0	0	0	0	0	15
14:00	0	11	6	0	**5**	1	0	**2**	0	0	0	0	0	25
15:00	0	**15**	8	1	5	2	0	0	0	0	0	0	0	**31**
16:00	0	5	1	0	2	0	0	0	0	0	0	0	0	8
17:00	0	3	2	0	2	0	0	0	0	0	0	0	0	7
18:00	0	10	4	**2**	2	0	0	0	0	0	0	0	0	18
19:00	0	9	2	0	1	0	0	0	0	0	0	0	0	12
20:00	0	6	0	0	2	0	0	0	0	0	0	0	0	8
21:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
22:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	1	122	56	5	35	6	0	6	1	0	0	0	1	233
Percent	0.4%	52.4%	24.0%	2.1%	15.0%	2.6%	0.0%	2.6%	0.4%	0.0%	0.0%	0.0%	0.4%	
AM Peak	10:00	06:00	11:00	11:00	08:00	10:00		09:00	10:00				10:00	11:00
Vol.	1	11	4	1	4	1		2	1				1	19
PM Peak		15:00	13:00	18:00	14:00	13:00		14:00						15:00
Vol.		15	8	2	5	2		2						31
Grand Total	1	122	56	5	35	6	0	6	1	0	0	0	1	233
Percent	0.4%	52.4%	24.0%	2.1%	15.0%	2.6%	0.0%	2.6%	0.4%	0.0%	0.0%	0.0%	0.4%	

Counts Unlimited, Inc

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City of Moreno Valley
Cactus Avenue
W/ Heacock Street
24 Hour Directional Classification Count

MRV002
Site Code: 051-15223

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	2	202	31	0	1	1	0	0	10	0	0	0	0	247
01:00	2	115	10	0	0	2	0	0	10	0	0	0	0	139
02:00	4	83	10	0	2	2	0	1	6	0	0	0	0	108
03:00	3	104	10	0	2	3	0	1	3	0	0	0	0	126
04:00	2	132	25	0	2	2	0	1	3	0	0	0	0	167
05:00	1	241	48	2	9	0	0	1	8	0	0	0	0	310
06:00	3	398	69	6	21	4	0	1	9	0	0	0	0	511
07:00	6	**698**	**132**	4	24	4	0	8	7	**1**	0	0	**1**	**885**
08:00	**16**	589	128	2	**26**	**10**	**1**	9	12	0	0	0	0	793
09:00	5	376	109	**7**	18	3	1	**12**	9	0	0	0	0	540
10:00	6	498	112	1	22	4	0	7	7	1	0	0	0	658
11:00	2	504	113	4	20	5	0	7	**18**	0	0	0	0	673
12 PM	**15**	538	140	2	22	7	0	7	**15**	**1**	0	0	0	747
13:00	8	674	148	1	25	**10**	0	**12**	9	1	**1**	0	0	889
14:00	14	700	193	**4**	32	8	0	8	4	0	0	0	0	963
15:00	10	884	264	2	48	7	0	6	3	0	0	0	0	1224
16:00	6	1069	306	1	**67**	3	**3**	7	10	0	0	0	0	1472
17:00	7	**1255**	**330**	2	62	3	0	8	9	0	0	0	0	**1676**
18:00	5	1132	266	4	55	4	0	5	12	0	0	0	0	1483
19:00	3	771	198	1	41	3	0	3	8	0	0	0	0	1028
20:00	11	687	156	0	23	5	0	9	10	0	0	0	0	901
21:00	8	550	103	1	15	5	1	1	10	0	0	0	0	694
22:00	4	441	100	1	23	3	0	1	8	0	0	0	0	581
23:00	3	305	50	0	6	4	0	1	5	0	0	**1**	0	375
Total	146	12946	3051	45	566	102	6	116	205	4	1	1	1	17190
Percent	0.8%	75.3%	17.7%	0.3%	3.3%	0.6%	0.0%	0.7%	1.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	07:00	07:00	09:00	08:00	08:00	08:00	09:00	11:00	07:00			07:00	07:00
Vol.	16	698	132	7	26	10	1	12	18	1			1	885
PM Peak	12:00	17:00	17:00	14:00	16:00	13:00	16:00	13:00	12:00	12:00	13:00	23:00		17:00
Vol.	15	1255	330	4	67	10	3	12	15	1	1	1		1676
Grand Total	146	12946	3051	45	566	102	6	116	205	4	1	1	1	17190
Percent	0.8%	75.3%	17.7%	0.3%	3.3%	0.6%	0.0%	0.7%	1.2%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc

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City of Moreno Valley
Cactus Avenue
W/ Heacock Street
24 Hour Directional Classification Count

MRV002
Site Code: 051-15223

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	8	68	21	1	4	8	0	1	4	0	0	0	0	115
01:00	6	57	20	0	2	9	0	1	2	0	0	0	0	97
02:00	10	84	34	3	9	8	0	1	3	0	0	0	0	152
03:00	9	232	95	0	29	7	0	0	4	0	0	0	0	376
04:00	11	533	213	3	59	4	0	2	3	0	0	0	0	828
05:00	11	630	274	7	**90**	0	0	**14**	5	0	**1**	0	0	1032
06:00	10	821	332	4	63	6	0	8	5	0	0	0	0	1249
07:00	11	**1125**	**379**	**8**	60	7	0	8	1	0	0	0	0	**1599**
08:00	11	773	257	4	49	9	0	6	5	0	0	0	0	1114
09:00	14	570	184	4	50	**13**	0	3	**7**	0	0	0	0	845
10:00	**15**	467	190	6	42	11	0	4	6	0	0	0	0	741
11:00	10	477	168	6	39	9	0	9	4	0	0	0	0	722
12 PM	7	488	188	4	38	6	0	6	6	0	0	0	0	743
13:00	12	550	178	**5**	42	**13**	0	6	6	0	0	0	0	812
14:00	7	565	206	3	51	10	0	4	6	0	0	0	0	852
15:00	9	**673**	**242**	2	**61**	6	0	5	4	0	1	0	0	**1003**
16:00	7	618	215	5	41	5	0	4	3	0	0	0	0	898
17:00	9	568	204	1	33	7	0	**7**	3	0	**2**	0	0	834
18:00	9	508	167	1	29	9	0	5	5	0	0	0	0	733
19:00	9	442	136	0	24	8	0	4	5	0	0	0	0	628
20:00	9	400	108	0	22	8	0	2	2	0	0	0	0	551
21:00	6	312	84	0	7	9	0	1	5	0	0	0	0	424
22:00	**13**	223	52	1	12	10	**1**	5	**7**	0	0	0	0	324
23:00	5	133	36	0	3	6	0	0	4	0	0	0	0	187
Total	228	11317	3983	68	859	188	1	106	105	0	4	0	0	16859
Percent	1.4%	67.1%	23.6%	0.4%	5.1%	1.1%	0.0%	0.6%	0.6%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	07:00	07:00	07:00	05:00	09:00		05:00	09:00		05:00			07:00
Vol.	15	1125	379	8	90	13		14	7		1			1599
PM Peak	22:00	15:00	15:00	13:00	15:00	13:00	22:00	17:00	22:00		17:00			15:00
Vol.	13	673	242	5	61	13	1	7	7		2			1003
Grand Total	228	11317	3983	68	859	188	1	106	105	0	4	0	0	16859
Percent	1.4%	67.1%	23.6%	0.4%	5.1%	1.1%	0.0%	0.6%	0.6%	0.0%	0.0%	0.0%	0.0%	

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City of Moreno Valley
Cactus Avenue
W/ Heacock Street
24 Hour Directional Classification Count

MRV002
Site Code: 051-15223

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	10	270	52	1	5	9	0	1	14	0	0	0	0	362
01:00	8	172	30	0	2	11	0	1	12	0	0	0	0	236
02:00	14	167	44	3	11	10	0	2	9	0	0	0	0	260
03:00	12	336	105	0	31	10	0	1	7	0	0	0	0	502
04:00	13	665	238	3	61	6	0	3	6	0	0	0	0	995
05:00	12	871	322	9	**99**	0	0	15	13	0	**1**	0	0	1342
06:00	13	1219	401	10	84	10	0	9	14	0	0	0	0	1760
07:00	17	**1823**	**511**	**12**	84	11	0	**16**	8	**1**	0	0	**1**	**2484**
08:00	**27**	1362	385	6	75	**19**	**1**	15	17	0	0	0	0	1907
09:00	19	946	293	11	68	16	1	15	16	0	0	0	0	1385
10:00	21	965	302	7	64	15	0	11	13	1	0	0	0	1399
11:00	12	981	281	10	59	14	0	16	**22**	0	0	0	0	1395
12 PM	**22**	1026	328	6	60	13	0	13	**21**	**1**	0	0	0	1490
13:00	20	1224	326	6	67	**23**	0	**18**	15	1	1	0	0	1701
14:00	21	1265	399	**7**	83	18	0	12	10	0	0	0	0	1815
15:00	19	1557	506	4	**109**	13	0	11	7	0	1	0	0	2227
16:00	13	1687	521	6	108	8	**3**	11	13	0	0	0	0	2370
17:00	16	**1823**	**534**	3	95	10	0	15	12	0	**2**	0	0	**2510**
18:00	14	1640	433	5	84	13	0	10	17	0	0	0	0	2216
19:00	12	1213	334	1	65	11	0	7	13	0	0	0	0	1656
20:00	20	1087	264	0	45	13	0	11	12	0	0	0	0	1452
21:00	14	862	187	1	22	14	1	2	15	0	0	0	0	1118
22:00	17	664	152	2	35	13	1	6	15	0	0	0	0	905
23:00	8	438	86	0	9	10	0	1	9	0	0	**1**	0	562
Total	374	24263	7034	113	1425	290	7	222	310	4	5	1	1	34049
Percent	1.1%	71.3%	20.7%	0.3%	4.2%	0.9%	0.0%	0.7%	0.9%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	07:00	07:00	07:00	05:00	08:00	08:00	07:00	11:00	07:00	05:00		07:00	07:00
Vol.	27	1823	511	12	99	19	1	16	22	1	1		1	2484
PM Peak	12:00	17:00	17:00	14:00	15:00	13:00	16:00	13:00	12:00	12:00	17:00	23:00		17:00
Vol.	22	1823	534	7	109	23	3	18	21	1	2	1		2510
Grand Total	374	24263	7034	113	1425	290	7	222	310	4	5	1	1	34049
Percent	1.1%	71.3%	20.7%	0.3%	4.2%	0.9%	0.0%	0.7%	0.9%	0.0%	0.0%	0.0%	0.0%	

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City of Moreno Valley
Heacock Street
S/ Cardinal Avenue
24 Hour Directional Classification Count

MRV005
Site Code: 051-15223

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	1	18	4	0	1	2	0	0	2	0	0	0	0	28
01:00	1	8	1	0	0	3	0	0	1	0	0	0	0	14
02:00	3	12	1	0	0	2	0	1	1	0	0	0	0	20
03:00	1	59	4	0	0	0	0	0	1	0	0	0	0	65
04:00	2	108	11	0	3	0	0	0	0	0	0	0	0	124
05:00	0	117	14	0	3	1	0	0	0	0	0	0	0	135
06:00	1	67	10	0	3	12	0	0	2	0	0	0	0	95
07:00	**5**	**128**	**18**	0	5	3	**1**	0	4	0	0	0	0	**164**
08:00	3	64	11	0	**7**	3	0	0	2	0	0	0	0	90
09:00	3	51	14	0	2	3	0	0	5	0	0	0	0	78
10:00	4	39	14	**1**	4	6	0	1	**7**	0	0	0	0	76
11:00	3	43	13	1	3	**13**	0	**3**	6	0	0	0	0	85
12 PM	5	69	19	**1**	7	15	0	**3**	**4**	0	0	0	0	123
13:00	**6**	135	26	1	8	**18**	0	3	4	0	0	0	0	201
14:00	3	122	29	1	6	8	0	1	2	0	0	0	0	172
15:00	3	101	26	0	5	7	0	2	2	0	0	0	0	146
16:00	2	**213**	**39**	0	**11**	4	0	0	1	0	0	0	0	**270**
17:00	3	153	29	1	8	4	0	0	1	0	0	0	0	199
18:00	1	115	17	0	3	4	0	0	3	0	0	0	0	143
19:00	3	43	5	1	0	3	0	2	3	0	0	0	0	60
20:00	3	30	8	0	2	6	0	0	1	0	0	0	0	50
21:00	2	30	5	0	1	3	0	0	1	0	0	0	0	42
22:00	2	56	5	0	1	0	0	0	4	0	0	0	0	68
23:00	3	40	5	0	0	2	0	0	2	0	0	0	0	52
Total	63	1821	328	7	83	122	1	16	59	0	0	0	0	2500
Percent	2.5%	72.8%	13.1%	0.3%	3.3%	4.9%	0.0%	0.6%	2.4%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	07:00	10:00	08:00	11:00	07:00	11:00	10:00					07:00
Vol.	5	128	18	1	7	13	1	3	7					164
PM Peak	13:00	16:00	16:00	12:00	16:00	13:00		12:00	12:00					16:00
Vol.	6	213	39	1	11	18		3	4					270
Grand Total	63	1821	328	7	83	122	1	16	59	0	0	0	0	2500
Percent	2.5%	72.8%	13.1%	0.3%	3.3%	4.9%	0.0%	0.6%	2.4%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc
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City of Moreno Valley
Heacock Street
S/ Cardinal Avenue
24 Hour Directional Classification Count

MRV005
Site Code: 051-15223

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	2	10	1	0	0	2	0	0	1	0	0	0	0	16
01:00	1	6	0	0	0	0	0	0	3	0	0	0	0	10
02:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
03:00	0	44	5	0	1	0	0	0	1	0	0	0	0	51
04:00	1	142	29	0	0	1	0	0	0	0	0	0	0	173
05:00	2	148	30	0	4	1	0	0	3	0	0	0	0	188
06:00	2	158	**41**	1	5	3	0	1	1	0	0	0	0	212
07:00	**8**	**166**	28	**2**	4	7	1	2	7	0	0	0	0	**225**
08:00	0	58	12	2	2	1	0	1	**11**	0	0	0	0	87
09:00	2	46	10	0	7	4	**2**	**5**	6	0	0	0	0	82
10:00	3	74	20	1	7	**8**	0	3	11	0	0	0	0	127
11:00	3	51	18	1	**9**	5	1	2	3	0	0	0	0	93
12 PM	4	79	26	2	6	3	0	4	6	0	0	0	0	130
13:00	3	112	27	1	8	2	1	**5**	1	0	**1**	0	0	161
14:00	2	74	24	0	1	2	0	3	1	0	0	0	0	107
15:00	3	121	21	**3**	7	1	**2**	1	6	0	0	0	0	165
16:00	**6**	239	34	1	**10**	**9**	0	4	**8**	0	0	0	0	311
17:00	6	**297**	**42**	0	6	2	0	3	6	0	0	0	0	**362**
18:00	4	184	22	0	6	3	2	5	5	0	0	0	0	231
19:00	3	46	12	1	1	1	0	2	6	0	0	0	0	72
20:00	2	56	7	0	0	3	0	2	5	0	0	0	0	75
21:00	2	35	2	0	0	2	0	0	1	0	0	0	0	42
22:00	1	54	5	0	0	0	0	0	2	0	0	0	0	62
23:00	1	18	1	0	0	1	0	0	3	0	0	0	0	24
Total	61	2223	419	15	84	61	9	43	97	0	1	0	0	3013
Percent	2.0%	73.8%	13.9%	0.5%	2.8%	2.0%	0.3%	1.4%	3.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	06:00	07:00	11:00	10:00	09:00	09:00	08:00					07:00
Vol.	8	166	41	2	9	8	2	5	11					225
PM Peak	16:00	17:00	17:00	15:00	16:00	16:00	15:00	13:00	16:00		13:00			17:00
Vol.	6	297	42	3	10	9	2	5	8		1			362
Grand Total	61	2223	419	15	84	61	9	43	97	0	1	0	0	3013
Percent	2.0%	73.8%	13.9%	0.5%	2.8%	2.0%	0.3%	1.4%	3.2%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc

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City of Moreno Valley
Heacock Street
S/ Cardinal Avenue
24 Hour Directional Classification Count

MRV005
Site Code: 051-15223

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	3	28	5	0	1	4	0	0	3	0	0	0	0	44
01:00	2	14	1	0	0	3	0	0	4	0	0	0	0	24
02:00	3	17	3	0	0	2	0	1	1	0	0	0	0	27
03:00	1	103	9	0	1	0	0	0	2	0	0	0	0	116
04:00	3	250	40	0	3	1	0	0	0	0	0	0	0	297
05:00	2	265	44	0	7	2	0	0	3	0	0	0	0	323
06:00	3	225	**51**	1	8	15	0	1	3	0	0	0	0	307
07:00	**13**	**294**	46	**2**	9	10	**2**	2	11	0	0	0	0	**389**
08:00	3	122	23	2	9	4	0	1	13	0	0	0	0	177
09:00	5	97	24	0	9	7	2	**5**	11	0	0	0	0	160
10:00	7	113	34	2	11	14	0	4	**18**	0	0	0	0	203
11:00	6	94	31	2	**12**	**18**	1	5	9	0	0	0	0	178
12 PM	**9**	148	45	**3**	13	18	0	7	**10**	0	0	0	0	253
13:00	9	247	53	2	16	**20**	1	**8**	5	0	**1**	0	0	362
14:00	5	196	53	1	7	10	0	4	3	0	0	0	0	279
15:00	6	222	47	3	12	8	**2**	3	8	0	0	0	0	311
16:00	8	**452**	**73**	1	**21**	13	0	4	9	0	0	0	0	**581**
17:00	9	450	71	1	14	6	0	3	7	0	0	0	0	561
18:00	5	299	39	0	9	7	2	5	8	0	0	0	0	374
19:00	6	89	17	2	1	4	0	4	9	0	0	0	0	132
20:00	5	86	15	0	2	9	0	2	6	0	0	0	0	125
21:00	4	65	7	0	1	5	0	0	2	0	0	0	0	84
22:00	3	110	10	0	1	0	0	0	6	0	0	0	0	130
23:00	4	58	6	0	0	3	0	0	5	0	0	0	0	76
Total	124	4044	747	22	167	183	10	59	156	0	1	0	0	5513
Percent	2.2%	73.4%	13.5%	0.4%	3.0%	3.3%	0.2%	1.1%	2.8%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	06:00	07:00	11:00	11:00	07:00	09:00	10:00					07:00
Vol.	13	294	51	2	12	18	2	5	18					389
PM Peak	12:00	16:00	16:00	12:00	16:00	13:00	15:00	13:00	12:00		13:00			16:00
Vol.	9	452	73	3	21	20	2	8	10		1			581
Grand Total	124	4044	747	22	167	183	10	59	156	0	1	0	0	5513
Percent	2.2%	73.4%	13.5%	0.4%	3.0%	3.3%	0.2%	1.1%	2.8%	0.0%	0.0%	0.0%	0.0%	

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City of Moreno Valley
Indian Street
S/ Krameria Avenue
24 Hour Directional Classification Count

MRV001
Site Code: 051-15223

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
02:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
03:00	0	5	0	0	1	0	0	0	0	0	0	0	0	6
04:00	0	14	2	0	1	0	0	0	0	0	0	0	0	17
05:00	**1**	19	11	0	3	0	0	0	0	0	0	0	0	34
06:00	0	34	15	0	2	0	0	**1**	0	0	0	0	0	52
07:00	1	**91**	**37**	0	**5**	0	0	0	0	0	0	0	0	**134**
08:00	0	42	10	0	4	0	0	0	0	0	0	0	0	56
09:00	1	28	9	0	2	**1**	0	0	0	0	0	0	0	41
10:00	0	32	9	0	0	0	0	1	0	0	0	0	0	42
11:00	0	19	7	0	0	0	0	0	0	0	0	0	0	26
12 PM	0	26	10	0	0	0	0	0	0	0	0	0	0	36
13:00	0	33	10	0	1	0	0	0	0	0	0	0	0	44
14:00	0	**53**	**20**	0	**2**	0	0	0	0	0	0	0	0	**75**
15:00	0	28	17	0	2	0	0	**1**	0	0	0	0	0	48
16:00	0	30	11	0	1	0	0	0	0	0	0	0	0	42
17:00	0	44	8	0	0	0	0	0	0	0	0	0	0	52
18:00	0	28	2	0	1	0	0	0	0	0	0	0	0	31
19:00	0	46	3	0	0	0	0	0	0	0	0	0	0	49
20:00	0	23	5	0	0	0	0	0	0	0	0	0	0	28
21:00	0	19	7	0	0	0	0	0	0	0	0	0	0	26
22:00	0	15	0	0	1	0	0	0	0	0	0	0	0	16
23:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8
Total	3	643	196	0	26	1	0	3	0	0	0	0	0	872
Percent	0.3%	73.7%	22.5%	0.0%	3.0%	0.1%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	07:00	07:00		07:00	09:00		06:00						07:00
Vol.	1	91	37		5	1		1						134
PM Peak		14:00	14:00		14:00			15:00						14:00
Vol.		53	20		2			1						75
Grand Total	3	643	196	0	26	1	0	3	0	0	0	0	0	872
Percent	0.3%	73.7%	22.5%	0.0%	3.0%	0.1%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	

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City of Moreno Valley
Indian Street
S/ Krameria Avenue
24 Hour Directional Classification Count

MRV001
Site Code: 051-15223

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	0	12	2	0	0	0	0	0	0	0	0	0	0	14
01:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
02:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
03:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
05:00	**1**	11	2	0	0	**1**	0	0	0	0	0	0	0	15
06:00	0	7	7	0	0	0	0	0	0	0	0	0	0	14
07:00	0	**47**	**24**	0	**4**	0	0	0	0	0	0	0	0	**75**
08:00	0	27	10	0	0	0	0	0	0	0	0	0	0	37
09:00	1	23	7	0	1	1	0	0	0	0	0	0	0	33
10:00	0	18	3	0	0	0	0	**1**	0	0	0	0	0	22
11:00	1	19	17	0	0	1	0	0	0	0	0	0	0	38
12 PM	0	35	14	0	2	0	0	**1**	0	0	0	0	0	52
13:00	0	33	9	0	0	0	0	0	0	0	0	0	0	42
14:00	**1**	51	**26**	0	3	0	0	1	0	0	0	0	0	82
15:00	0	54	14	0	3	0	0	0	0	0	0	0	0	71
16:00	0	61	25	0	0	0	0	1	0	0	0	0	0	87
17:00	0	**72**	20	**1**	2	0	0	0	0	0	0	0	0	**95**
18:00	0	54	17	0	**4**	0	0	0	0	0	0	0	0	75
19:00	0	43	13	0	1	0	0	0	0	0	0	0	0	57
20:00	0	43	14	0	1	0	0	0	0	0	0	0	0	58
21:00	0	45	3	0	0	0	0	0	0	0	0	0	0	48
22:00	0	29	5	0	1	0	0	0	0	0	0	0	0	35
23:00	0	19	1	0	0	0	0	0	0	0	0	0	0	20
Total	4	719	237	1	22	3	0	4	0	0	0	0	0	990
Percent	0.4%	72.6%	23.9%	0.1%	2.2%	0.3%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	07:00	07:00		07:00	05:00		10:00						07:00
Vol.	1	47	24		4	1		1						75
PM Peak	14:00	17:00	14:00	17:00	18:00			12:00						17:00
Vol.	1	72	26	1	4			1						95
Grand Total	4	719	237	1	22	3	0	4	0	0	0	0	0	990
Percent	0.4%	72.6%	23.9%	0.1%	2.2%	0.3%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	

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City of Moreno Valley
Indian Street
S/ Krameria Avenue
24 Hour Directional Classification Count

MRV001
Site Code: 051-15223

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	0	14	2	0	0	0	0	0	0	0	0	0	0	16
01:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
02:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
03:00	0	9	0	0	1	0	0	0	0	0	0	0	0	10
04:00	0	19	4	0	1	0	0	0	0	0	0	0	0	24
05:00	**2**	30	13	0	3	1	0	0	0	0	0	0	0	49
06:00	0	41	22	0	2	0	0	1	0	0	0	0	0	66
07:00	1	**138**	**61**	0	**9**	0	0	0	0	0	0	0	0	**209**
08:00	0	69	20	0	4	0	0	0	0	0	0	0	0	93
09:00	2	51	16	0	3	**2**	0	0	0	0	0	0	0	74
10:00	0	50	12	0	0	0	0	**2**	0	0	0	0	0	64
11:00	1	38	24	0	0	1	0	0	0	0	0	0	0	64
12 PM	0	61	24	0	2	0	0	**1**	0	0	0	0	0	88
13:00	0	66	19	0	1	0	0	0	0	0	0	0	0	86
14:00	**1**	104	**46**	0	**5**	0	0	1	0	0	0	0	0	**157**
15:00	0	82	31	0	5	0	0	1	0	0	0	0	0	119
16:00	0	91	36	0	1	0	0	1	0	0	0	0	0	129
17:00	0	**116**	28	**1**	2	0	0	0	0	0	0	0	0	147
18:00	0	82	19	0	5	0	0	0	0	0	0	0	0	106
19:00	0	89	16	0	1	0	0	0	0	0	0	0	0	106
20:00	0	66	19	0	1	0	0	0	0	0	0	0	0	86
21:00	0	64	10	0	0	0	0	0	0	0	0	0	0	74
22:00	0	44	5	0	2	0	0	0	0	0	0	0	0	51
23:00	0	25	3	0	0	0	0	0	0	0	0	0	0	28
Total	7	1362	433	1	48	4	0	7	0	0	0	0	0	1862
Percent	0.4%	73.1%	23.3%	0.1%	2.6%	0.2%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	07:00	07:00		07:00	09:00		10:00						07:00
Vol.	2	138	61		9	2		2						209
PM Peak	14:00	17:00	14:00	17:00	14:00			12:00						14:00
Vol.	1	116	46	1	5			1						157
Grand Total	7	1362	433	1	48	4	0	7	0	0	0	0	0	1862
Percent	0.4%	73.1%	23.3%	0.1%	2.6%	0.2%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	

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City of Moreno Valley
Krameria Avenue
E/ Indian Street
24 Hour Directional Classification Count

MRV006
Site Code: 051-15223

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	**2**	17	5	0	0	0	0	0	0	0	0	0	0	24
01:00	0	7	3	0	0	0	0	0	0	0	0	0	0	10
02:00	0	7	3	0	0	0	0	0	0	0	0	0	0	10
03:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
04:00	0	22	8	0	1	0	0	0	0	0	0	0	0	31
05:00	1	30	12	0	0	0	0	0	0	0	0	0	0	43
06:00	1	39	12	0	1	0	0	0	0	0	0	0	0	53
07:00	0	**140**	**52**	0	**5**	0	0	0	0	0	0	0	0	**197**
08:00	1	64	12	0	3	0	0	0	0	0	0	0	0	80
09:00	0	41	11	0	1	0	0	0	0	0	0	0	0	53
10:00	0	52	15	0	2	0	0	**1**	0	0	0	0	0	70
11:00	1	59	15	0	1	0	0	0	0	0	0	0	0	76
12 PM	1	73	28	0	2	0	0	0	0	0	0	0	0	104
13:00	2	106	29	0	1	**1**	0	0	0	0	0	0	0	139
14:00	1	140	**59**	0	**6**	0	0	**1**	**1**	0	0	0	0	**208**
15:00	**4**	108	42	0	4	1	0	0	0	0	0	0	0	159
16:00	0	102	29	0	4	0	0	1	0	0	0	0	0	136
17:00	3	**145**	38	0	3	0	0	1	0	0	0	0	0	190
18:00	0	141	31	0	3	0	0	0	0	0	0	0	0	175
19:00	0	108	20	0	1	0	0	0	0	0	0	0	0	129
20:00	0	84	28	0	0	0	0	0	0	0	0	0	0	112
21:00	0	77	13	0	0	0	0	0	0	0	0	0	0	90
22:00	0	52	6	0	2	0	0	0	0	0	0	0	0	60
23:00	0	26	3	0	1	0	0	0	0	0	0	0	0	30
Total	17	1645	476	0	41	2	0	4	1	0	0	0	0	2186
Percent	0.8%	75.3%	21.8%	0.0%	1.9%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	00:00	07:00	07:00		07:00			10:00						07:00
Vol.	2	140	52		5			1						197
PM Peak	15:00	17:00	14:00		14:00	13:00		14:00	14:00					14:00
Vol.	4	145	59		6	1		1	1					208
Grand Total	17	1645	476	0	41	2	0	4	1	0	0	0	0	2186
Percent	0.8%	75.3%	21.8%	0.0%	1.9%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	

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City of Moreno Valley
Krameria Avenue
E/ Indian Street
24 Hour Directional Classification Count

MRV006
Site Code: 051-15223

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	0	9	1	0	2	0	0	0	0	0	0	0	0	12
01:00	1	2	1	0	0	1	0	0	**1**	0	0	0	0	6
02:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
03:00	0	11	5	0	1	0	0	0	0	0	0	0	0	17
04:00	0	31	9	0	3	0	0	0	0	0	0	0	0	43
05:00	0	44	13	0	3	0	0	0	0	0	0	0	0	60
06:00	**3**	57	18	**2**	3	0	0	0	0	0	0	0	0	83
07:00	1	**157**	**47**	0	**12**	0	0	0	0	0	0	0	0	**217**
08:00	0	72	18	0	2	0	0	0	0	0	0	0	0	92
09:00	0	58	19	0	2	0	0	0	0	0	0	0	0	79
10:00	0	27	17	0	2	0	0	0	0	0	0	0	0	46
11:00	1	45	19	0	2	**2**	0	0	0	0	0	0	0	69
12 PM	0	40	18	0	1	0	0	0	1	0	0	0	0	60
13:00	0	38	19	0	2	0	0	**1**	0	0	0	0	0	60
14:00	0	**94**	**29**	0	2	0	0	0	0	0	0	0	0	**125**
15:00	0	69	20	**2**	2	0	0	0	0	0	0	0	0	93
16:00	0	66	25	0	**4**	0	0	0	0	0	0	0	0	95
17:00	0	52	19	0	3	0	0	0	0	0	0	0	0	74
18:00	**1**	43	15	0	1	0	0	0	0	0	0	0	0	60
19:00	0	47	12	0	1	0	0	0	0	0	0	0	0	60
20:00	1	33	16	0	0	0	0	0	**2**	0	0	0	0	52
21:00	1	26	4	0	2	0	0	0	0	0	0	0	0	33
22:00	0	17	1	0	0	0	0	0	0	0	0	0	0	18
23:00	0	23	1	0	1	**1**	0	0	0	0	0	0	0	26
Total	9	1064	347	4	51	4	0	1	4	0	0	0	0	1484
Percent	0.6%	71.7%	23.4%	0.3%	3.4%	0.3%	0.0%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	07:00	07:00	06:00	07:00	11:00			01:00					07:00
Vol.	3	157	47	2	12	2			1					217
PM Peak	18:00	14:00	14:00	15:00	16:00	23:00		13:00	20:00					14:00
Vol.	1	94	29	2	4	1		1	2					125
Grand Total	9	1064	347	4	51	4	0	1	4	0	0	0	0	1484
Percent	0.6%	71.7%	23.4%	0.3%	3.4%	0.3%	0.0%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	

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24 Hour Directional Classification Count

MRV006
Site Code: 051-15223

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/28/15	2	26	6	0	2	0	0	0	0	0	0	0	0	36
01:00	1	9	4	0	0	1	0	0	**1**	0	0	0	0	16
02:00	0	10	4	0	0	0	0	0	0	0	0	0	0	14
03:00	0	16	7	0	1	0	0	0	0	0	0	0	0	24
04:00	0	53	17	0	4	0	0	0	0	0	0	0	0	74
05:00	1	74	25	0	3	0	0	0	0	0	0	0	0	103
06:00	**4**	96	30	**2**	4	0	0	0	0	0	0	0	0	136
07:00	1	**297**	**99**	0	**17**	0	0	0	0	0	0	0	0	**414**
08:00	1	136	30	0	5	0	0	0	0	0	0	0	0	172
09:00	0	99	30	0	3	0	0	0	0	0	0	0	0	132
10:00	0	79	32	0	4	0	0	**1**	0	0	0	0	0	116
11:00	2	104	34	0	3	**2**	0	0	0	0	0	0	0	145
12 PM	1	113	46	0	3	0	0	0	1	0	0	0	0	164
13:00	2	144	48	0	3	**1**	0	**1**	0	0	0	0	0	199
14:00	1	**234**	**88**	0	**8**	0	0	1	1	0	0	0	0	**333**
15:00	**4**	177	62	**2**	6	1	0	0	0	0	0	0	0	252
16:00	0	168	54	0	8	0	0	1	0	0	0	0	0	231
17:00	3	197	57	0	6	0	0	1	0	0	0	0	0	264
18:00	1	184	46	0	4	0	0	0	0	0	0	0	0	235
19:00	0	155	32	0	2	0	0	0	0	0	0	0	0	189
20:00	1	117	44	0	0	0	0	0	**2**	0	0	0	0	164
21:00	1	103	17	0	2	0	0	0	0	0	0	0	0	123
22:00	0	69	7	0	2	0	0	0	0	0	0	0	0	78
23:00	0	49	4	0	2	1	0	0	0	0	0	0	0	56
Total	26	2709	823	4	92	6	0	5	5	0	0	0	0	3670
Percent	0.7%	73.8%	22.4%	0.1%	2.5%	0.2%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	07:00	07:00	06:00	07:00	11:00		10:00	01:00					07:00
Vol.	4	297	99	2	17	2		1	1					414
PM Peak	15:00	14:00	14:00	15:00	14:00	13:00		13:00	20:00					14:00
Vol.	4	234	88	2	8	1		1	2					333
Grand Total	26	2709	823	4	92	6	0	5	5	0	0	0	0	3670
Percent	0.7%	73.8%	22.4%	0.1%	2.5%	0.2%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	

APPENDIX 3.2:

EXISTING (2015) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	333	36	351	1280	0	0	0	539	0	0	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5	4.0	5.5				5.6			4.0
Lane Util. Factor		*1.00	1.00	1.00	*1.00				1.00			1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	1.00	1.00	1.00				1.00			1.00
Flt Protected		1.00	1.00	1.00	1.00				1.00			1.00
Satd. Flow (prot)		3800	1900	1900	3800				1900			1900
Flt Permitted		1.00	1.00	1.00	1.00				1.00			1.00
Satd. Flow (perm)		3800	1900	1900	3800				1900			1900
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	351	38	369	1347	0	0	0	567	0	0	225
RTOR Reduction (vph)	0	0	23	0	0	0	0	0	501	0	0	101
Lane Group Flow (vph)	0	351	15	369	1347	0	0	0	66	0	0	124
Confl. Bikes (#/hr)									2			2
Turn Type		NA	Perm	Prot	NA				Prot			Prot
Protected Phases		2		1	6				3			7
Permitted Phases			2									
Actuated Green, G (s)		23.2	23.2	14.7	41.9				7.0			8.6
Effective Green, g (s)		23.2	23.2	14.7	41.9				7.0			8.6
Actuated g/C Ratio		0.39	0.39	0.24	0.70				0.12			0.14
Clearance Time (s)		5.5	5.5	4.0	5.5				5.6			4.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0				2.0			2.0
Lane Grp Cap (vph)		1469	734	465	2653				221			272
v/s Ratio Prot		0.09		c0.19	c0.35				0.03			c0.07
v/s Ratio Perm			0.01									
v/c Ratio		0.24	0.02	0.79	0.51				0.30			0.46
Uniform Delay, d1		12.4	11.4	21.2	4.2				24.3			23.6
Progression Factor		1.00	1.00	1.00	1.00				1.00			1.00
Incremental Delay, d2		0.4	0.1	8.5	0.7				0.3			0.4
Delay (s)		12.8	11.4	29.7	4.9				24.5			24.0
Level of Service		B	B	C	A				C			C
Approach Delay (s)		12.7			10.3			24.5			24.0	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	382	9	120	163	0	0	0	0	409	2	156
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	406	5	128	173	0				435	2	102
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	950	404	638	2448	0				491	2	440
Arrive On Green	0.00	0.25	0.25	0.71	1.00	0.00				0.27	0.27	0.27
Sat Flow, veh/h	0	3800	1615	1810	3800	0				1802	8	1615
Grp Volume(v), veh/h	0	406	5	128	173	0				437	0	102
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1615
Q Serve(g_s), s	0.0	10.8	0.3	2.9	0.0	0.0				27.8	0.0	5.9
Cycle Q Clear(g_c), s	0.0	10.8	0.3	2.9	0.0	0.0				27.8	0.0	5.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	950	404	638	2448	0				493	0	440
V/C Ratio(X)	0.00	0.43	0.01	0.20	0.07	0.00				0.89	0.00	0.23
Avail Cap(c_a), veh/h	0	950	404	638	2448	0				830	0	740
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.99	0.99	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	37.8	33.9	11.9	0.0	0.0				41.9	0.0	33.9
Incr Delay (d2), s/veh	0.0	1.4	0.1	0.1	0.1	0.0				6.5	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.8	0.1	1.4	0.0	0.0				14.7	0.0	2.7
LnGrp Delay(d),s/veh	0.0	39.2	33.9	11.9	0.1	0.0				48.4	0.0	34.2
LnGrp LOS		D	C	B	A					D		C
Approach Vol, veh/h		411			301						539	
Approach Delay, s/veh		39.1			5.1						45.7	
Approach LOS		D			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	47.3	35.0		37.7		82.3		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	20.5	* 30		55.0		55.0		
Max Q Clear Time (g_c+I1), s	4.9	12.8		29.8		2.0		
Green Ext Time (p_c), s	0.7	1.4		2.9		0.8		

Intersection Summary	
HCM 2010 Ctrl Delay	33.8
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	24	811	37	0	1521	196	388	278	5	34	0	43
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		0.99	1.00		0.99
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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	24	828	32	0	1552	156	396	284	5	35	0	39
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	1	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	164	2035	79	0	1905	190	484	533	9	285	0	456
Arrive On Green	0.56	0.56	0.56	0.00	0.56	0.56	0.29	0.29	0.29	0.29	0.00	0.29
Sat Flow, veh/h	291	3635	140	0	3402	339	1390	1861	33	1107	0	1593
Grp Volume(v), veh/h	24	433	427	0	860	848	396	0	289	35	0	39
Grp Sat Flow(s),veh/h/ln	291	1900	1875	0	1900	1840	1390	0	1894	1107	0	1593
Q Serve(g_s), s	4.8	8.4	8.4	0.0	23.6	24.4	17.4	0.0	8.4	1.8	0.0	1.2
Cycle Q Clear(g_c), s	29.2	8.4	8.4	0.0	23.6	24.4	18.6	0.0	8.4	10.1	0.0	1.2
Prop In Lane	1.00		0.07	0.00		0.18	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	164	1064	1050	0	1064	1031	484	0	542	285	0	456
V/C Ratio(X)	0.15	0.41	0.41	0.00	0.81	0.82	0.82	0.00	0.53	0.12	0.00	0.09
Avail Cap(c_a), veh/h	164	1064	1050	0	1064	1031	484	0	542	285	0	456
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.6	8.1	8.1	0.0	11.5	11.7	24.3	0.0	19.5	23.8	0.0	17.0
Incr Delay (d2), s/veh	1.9	1.2	1.2	0.0	6.6	7.4	14.3	0.0	3.7	0.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.7	4.6	0.0	14.1	14.4	9.0	0.0	4.9	0.6	0.0	0.6
LnGrp Delay(d),s/veh	25.5	9.3	9.3	0.0	18.1	19.1	38.6	0.0	23.3	24.7	0.0	17.3
LnGrp LOS	C	A	A		B	B	D		C	C		B
Approach Vol, veh/h		884			1708			685			74	
Approach Delay, s/veh		9.7			18.6			32.1			20.8	
Approach LOS		A			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.4		23.6		41.4		23.6
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		36.4		18.6		36.4		18.6
Max Q Clear Time (g_c+I1), s		31.2		12.1		26.4		20.6
Green Ext Time (p_c), s		4.2		1.1		7.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	19.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	203	587	0	0	279	334	4	0	96	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	221	638	0	0	303	328	4	0	18			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	247	2755	0	0	2126	904	347	0	310			
Arrive On Green	0.27	1.00	0.00	0.00	0.56	0.56	0.19	0.00	0.19			
Sat Flow, veh/h	1810	3800	0	0	3800	1615	1809	0	1615			
Grp Volume(v), veh/h	221	638	0	0	303	328	4	0	18			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1810	0	1615			
Q Serve(g_s), s	14.1	0.0	0.0	0.0	4.6	13.5	0.2	0.0	1.1			
Cycle Q Clear(g_c), s	14.1	0.0	0.0	0.0	4.6	13.5	0.2	0.0	1.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	247	2755	0	0	2126	904	347	0	310			
V/C Ratio(X)	0.90	0.23	0.00	0.00	0.14	0.36	0.01	0.00	0.06			
Avail Cap(c_a), veh/h	550	2755	0	0	2126	904	347	0	310			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.98	0.98	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.8	0.0	0.0	0.0	12.7	14.6	39.3	0.0	39.6			
Incr Delay (d2), s/veh	4.5	0.2	0.0	0.0	0.1	1.1	0.1	0.0	0.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.3	0.1	0.0	0.0	2.4	6.3	0.1	0.0	0.5			
LnGrp Delay(d),s/veh	47.3	0.2	0.0	0.0	12.8	15.7	39.4	0.0	40.0			
LnGrp LOS	D	A			B	B	D		D			
Approach Vol, veh/h		859			631			22				
Approach Delay, s/veh		12.3			14.3			39.9				
Approach LOS		B			B			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		92.0			19.9	72.1		28.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		87.0			36.5	47.0		23.0
Max Q Clear Time (g_c+I1), s		2.0			16.1	15.5		3.1
Green Ext Time (p_c), s		4.7			0.3	4.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	13.6
HCM 2010 LOS	B

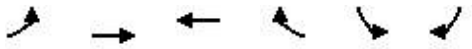
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	165	1265	231	104	1475	81	51	222	21	77	116	104
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	174	1332	0	109	1553	77	54	234	1	81	122	56
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	158	2448	694	119	2324	659	445	465	2	152	159	275
Arrive On Green	0.09	0.43	0.00	0.07	0.41	0.41	0.25	0.25	0.25	0.08	0.08	0.08
Sat Flow, veh/h	1810	5700	1615	1810	5700	1615	1810	1890	8	1810	1900	1591
Grp Volume(v), veh/h	174	1332	0	109	1553	77	54	0	235	81	122	56
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1898	1810	1900	1591
Q Serve(g_s), s	10.5	20.9	0.0	7.2	26.6	3.6	2.8	0.0	12.8	5.2	7.5	3.6
Cycle Q Clear(g_c), s	10.5	20.9	0.0	7.2	26.6	3.6	2.8	0.0	12.8	5.2	7.5	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	158	2448	694	119	2324	659	445	0	467	152	159	275
V/C Ratio(X)	1.10	0.54	0.00	0.91	0.67	0.12	0.12	0.00	0.50	0.53	0.77	0.20
Avail Cap(c_a), veh/h	158	2448	694	119	2324	659	445	0	467	445	467	533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	25.5	0.0	55.7	28.9	22.1	35.2	0.0	38.9	52.7	53.8	42.7
Incr Delay (d2), s/veh	100.5	0.9	0.0	55.8	0.6	0.0	0.6	0.0	3.8	1.1	2.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	11.2	0.0	5.4	14.1	1.6	1.5	0.0	7.2	2.6	4.1	1.6
LnGrp Delay(d),s/veh	155.2	26.4	0.0	111.5	29.5	22.1	35.7	0.0	42.8	53.8	56.7	42.8
LnGrp LOS	F	C		F	C	C	D		D	D	E	D
Approach Vol, veh/h		1506			1739			289			259	
Approach Delay, s/veh		41.2			34.3			41.5			52.8	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	57.0		15.6	15.0	54.4		35.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	7.9	32.1		29.5	10.5	29.5		29.5
Max Q Clear Time (g_c+I1), s	9.2	22.9		9.5	12.5	28.6		14.8
Green Ext Time (p_c), s	0.0	7.4		0.5	0.0	0.8		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	38.9
HCM 2010 LOS	D

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	174	1058	1663	156	106	68
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	191	1163	1827	161	116	19
Adj No. of Lanes	1	2	3	1	2	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	215	1995	1995	553	1221	737
Arrive On Green	0.12	0.52	0.35	0.35	0.34	0.34
Sat Flow, veh/h	1810	3800	5700	1579	3619	1615
Grp Volume(v), veh/h	191	1163	1827	161	116	19
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1579	1810	1615
Q Serve(g_s), s	8.3	16.8	24.5	5.9	1.8	0.5
Cycle Q Clear(g_c), s	8.3	16.8	24.5	5.9	1.8	0.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	215	1995	1995	553	1221	737
V/C Ratio(X)	0.89	0.58	0.92	0.29	0.09	0.03
Avail Cap(c_a), veh/h	215	1995	1995	553	1221	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.37	0.37	1.00	1.00
Uniform Delay (d), s/veh	34.7	13.0	24.9	18.8	18.1	12.0
Incr Delay (d2), s/veh	32.4	1.3	3.4	0.5	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	9.1	13.5	2.6	0.9	0.7
LnGrp Delay(d),s/veh	67.1	14.3	28.2	19.3	18.3	12.0
LnGrp LOS	E	B	C	B	B	B
Approach Vol, veh/h		1354	1988		135	
Approach Delay, s/veh		21.7	27.5		17.4	
Approach LOS		C	C		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.5		32.5	14.0	33.5		
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		
Max Green Setting (Gmax), s		42.0		27.0	9.5	28.0		
Max Q Clear Time (g_c+I1), s		18.8		3.8	10.3	26.5		
Green Ext Time (p_c), s		16.0		0.2	0.0	1.4		

Intersection Summary	
HCM 2010 Ctrl Delay	24.9
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	56	627	573	35	8	40
Conflicting Peds, #/hr	0	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	62	697	637	39	9	44

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	637	0	-	0	1110	318
Stage 1	-	-	-	-	637	-
Stage 2	-	-	-	-	473	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	956	-	-	-	*349	684
Stage 1	-	-	-	-	*494	-
Stage 2	-	-	-	-	*804	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	956	-	-	-	*312	684
Mov Cap-2 Maneuver	-	-	-	-	*312	-
Stage 1	-	-	-	-	*494	-
Stage 2	-	-	-	-	*719	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	956	-	-	-	571
HCM Lane V/C Ratio	0.065	-	-	-	0.093
HCM Control Delay (s)	9	0.4	-	-	12
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	99	906	177	15	1618	69	138	53	10	60	53	54
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		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	106	974	0	16	1740	72	148	57	8	65	57	23
Adj No. of Lanes	1	2	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1362	4190	1781	27	1918	79	170	1039	143	84	1249	1739
Arrive On Green	0.75	1.00	0.00	0.01	0.35	0.35	0.05	0.32	0.32	0.05	0.33	0.33
Sat Flow, veh/h	1810	3800	1615	1810	5436	225	3619	3271	449	1810	3800	1593
Grp Volume(v), veh/h	106	974	0	16	1216	596	148	33	32	65	57	23
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1860	1810	1900	1820	1810	1900	1593
Q Serve(g_s), s	1.3	0.0	0.0	0.7	25.9	25.9	3.5	1.0	1.1	3.0	0.9	0.1
Cycle Q Clear(g_c), s	1.3	0.0	0.0	0.7	25.9	25.9	3.5	1.0	1.1	3.0	0.9	0.1
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	1362	4190	1781	27	1341	657	170	604	578	84	1249	1739
V/C Ratio(X)	0.08	0.23	0.00	0.60	0.91	0.91	0.87	0.05	0.06	0.78	0.05	0.01
Avail Cap(c_a), veh/h	1362	4190	1781	85	1341	657	170	604	578	85	1249	1739
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)	0.83	0.83	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	2.8	0.0	0.0	41.6	26.2	26.2	40.2	20.1	20.1	40.1	19.4	7.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.7	1.1	2.3	33.8	0.2	0.2	31.8	0.1	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	0.7	0.1	0.0	0.4	13.7	13.7	2.5	0.6	0.6	2.3	0.5	0.2
LnGrp Delay(d),s/veh	2.8	0.1	0.0	42.3	27.3	28.5	74.1	20.3	20.3	71.9	19.5	7.1
LnGrp LOS	A	A		D	C	C	E	C	C	E	B	A
Approach Vol, veh/h		1080			1828			213			145	
Approach Delay, s/veh		0.4			27.8			57.7			41.0	
Approach LOS		A			C			E			D	

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	5.8	100.5	8.5	33.4	70.8	35.5	9.4	32.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.3	30.0	4.0	27.0	4.0	* 30	4.0	* 27
Max Q Clear Time (g_c+I1), s	12.7	2.0	5.5	2.9	3.3	27.9	5.0	3.1
Green Ext Time (p_c), s	0.0	4.3	0.0	0.3	0.0	1.5	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	21.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	592	20	0	519	2	110	0	7	0	2	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	6	623	21	0	546	2	116	0	7	0	2	6
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	11	750	637	3	604	2	697	3	36	0	829	704
Arrive On Green	0.01	0.39	0.39	0.00	0.32	0.32	0.44	0.00	0.44	0.00	0.44	0.44
Sat Flow, veh/h	1810	1900	1615	1810	1892	7	1351	8	82	0	1900	1615
Grp Volume(v), veh/h	6	623	21	0	0	548	123	0	0	0	2	6
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1899	1441	0	0	0	1900	1615
Q Serve(g_s), s	0.2	19.2	0.5	0.0	0.0	18.0	3.3	0.0	0.0	0.0	0.0	0.1
Cycle Q Clear(g_c), s	0.2	19.2	0.5	0.0	0.0	18.0	3.4	0.0	0.0	0.0	0.0	0.1
Prop In Lane	1.00		1.00	1.00		0.00	0.94		0.06	0.00		1.00
Lane Grp Cap(c), veh/h	11	750	637	3	0	606	736	0	0	0	829	704
V/C Ratio(X)	0.52	0.83	0.03	0.00	0.00	0.90	0.17	0.00	0.00	0.00	0.00	0.01
Avail Cap(c_a), veh/h	111	750	637	111	0	686	736	0	0	0	829	704
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	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	17.7	12.1	0.0	0.0	21.2	11.3	0.0	0.0	0.0	10.3	10.4
Incr Delay (d2), s/veh	13.1	7.4	0.0	0.0	0.0	13.5	0.5	0.0	0.0	0.0	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	0.1	11.6	0.2	0.0	0.0	11.6	1.5	0.0	0.0	0.0	0.0	0.1
LnGrp Delay(d),s/veh	45.3	25.1	12.1	0.0	0.0	34.7	11.8	0.0	0.0	0.0	10.3	10.4
LnGrp LOS	D	C	B			C	B				B	B
Approach Vol, veh/h		650			548			123			8	
Approach Delay, s/veh		24.9			34.7			11.8			10.4	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		33.9	0.0	31.1		33.9	4.9	26.2
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	23.5		22.0	4.0	23.5
Max Q Clear Time (g_c+I1), s		5.4	0.0	21.2		2.1	2.2	20.0
Green Ext Time (p_c), s		0.4	0.0	1.2		0.4	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	27.6
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	89	524	341	9	1011	96	694	373	11	46	270	47
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	97	570	294	10	1099	95	754	405	10	50	293	35
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	103	2578	1094	18	2177	188	695	1537	38	64	834	99
Arrive On Green	0.06	0.68	0.68	0.01	0.63	0.63	0.19	0.42	0.42	0.04	0.25	0.25
Sat Flow, veh/h	1810	3800	1613	1810	3449	298	3619	3691	91	1810	3335	395
Grp Volume(v), veh/h	97	570	294	10	605	589	754	208	207	50	166	162
Grp Sat Flow(s),veh/h/ln	1810	1900	1613	1810	1900	1847	1810	1900	1882	1810	1900	1829
Q Serve(g_s), s	5.3	5.7	8.0	0.6	17.2	17.3	19.2	7.2	7.2	2.7	7.2	7.3
Cycle Q Clear(g_c), s	5.3	5.7	8.0	0.6	17.2	17.3	19.2	7.2	7.2	2.7	7.2	7.3
Prop In Lane	1.00		1.00	1.00		0.16	1.00		0.05	1.00		0.22
Lane Grp Cap(c), veh/h	103	2578	1094	18	1199	1166	695	791	784	64	475	457
V/C Ratio(X)	0.94	0.22	0.27	0.57	0.50	0.51	1.09	0.26	0.26	0.78	0.35	0.35
Avail Cap(c_a), veh/h	103	2578	1094	72	1199	1166	695	791	784	121	475	457
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)	0.77	0.77	0.77	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	6.1	7.9	49.3	10.0	10.0	40.4	19.1	19.1	47.8	30.8	30.9
Incr Delay (d2), s/veh	58.9	0.2	0.5	10.3	1.5	1.6	58.7	0.8	0.8	7.2	2.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	3.0	3.7	0.3	9.4	9.2	15.2	3.9	3.9	1.5	4.0	4.0
LnGrp Delay(d),s/veh	105.9	6.2	8.4	59.6	11.5	11.6	99.1	19.9	19.9	55.0	32.8	33.0
LnGrp LOS	F	A	A	E	B	B	F	B	B	E	C	C
Approach Vol, veh/h		961			1204			1169			378	
Approach Delay, s/veh		17.0			11.9			71.0			35.8	
Approach LOS		B			B			E			D	

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	5.5	74.3	24.7	30.5	10.2	69.6	8.1	47.1
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	31.8	19.2	* 25	5.7	30.1	6.7	37.5
Max Q Clear Time (g_c+I1), s	12.6	10.0	21.2	9.3	7.3	19.3	4.7	9.2
Green Ext Time (p_c), s	0.0	8.1	0.0	0.9	0.0	5.7	0.0	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	34.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	43	62	26	108	257	68	717	47	130	421	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.95	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	47	22	28	117	118	74	779	36	141	458	10
Adj No. of Lanes	1	1	1	1	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	15	197	167	42	225	189	96	1211	487	528	2167	909
Arrive On Green	0.01	0.10	0.10	0.02	0.12	0.12	0.05	0.32	0.32	0.29	0.57	0.57
Sat Flow, veh/h	1810	1900	1615	1810	1900	1595	1810	3800	1529	1810	3800	1594
Grp Volume(v), veh/h	8	47	22	28	117	118	74	779	36	141	458	10
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1595	1810	1900	1529	1810	1900	1594
Q Serve(g_s), s	0.4	1.8	1.0	1.2	4.6	5.6	3.2	14.1	1.0	4.8	4.7	0.2
Cycle Q Clear(g_c), s	0.4	1.8	1.0	1.2	4.6	5.6	3.2	14.1	1.0	4.8	4.7	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	15	197	167	42	225	189	96	1211	487	528	2167	909
V/C Ratio(X)	0.54	0.24	0.13	0.67	0.52	0.62	0.77	0.64	0.07	0.27	0.21	0.01
Avail Cap(c_a), veh/h	90	589	501	118	618	518	190	1211	487	528	2167	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	39.5	33.0	32.6	38.8	33.1	33.6	37.4	23.4	11.6	21.7	8.4	7.4
Incr Delay (d2), s/veh	11.0	0.2	0.1	6.6	0.7	1.3	4.9	2.6	0.3	0.1	0.2	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	0.2	1.0	0.4	0.7	2.5	2.6	1.7	7.8	0.5	2.4	2.5	0.1
LnGrp Delay(d),s/veh	50.6	33.2	32.7	45.4	33.8	34.8	42.3	26.0	11.9	21.8	8.6	7.5
LnGrp LOS	D	C	C	D	C	C	D	C	B	C	A	A
Approach Vol, veh/h		77			263			889			609	
Approach Delay, s/veh		34.9			35.5			26.8			11.6	
Approach LOS		C			D			C			B	

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	8.9	31.0	6.4	13.8	8.7	51.1	5.2	15.0
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.5	* 26	5.2	24.8	8.4	21.6	4.0	26.0
Max Q Clear Time (g_c+I1), s	6.8	16.1	3.2	3.8	5.2	6.7	2.4	7.6
Green Ext Time (p_c), s	0.0	2.3	0.0	0.9	0.0	1.7	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	23.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	3	92	563	2	55	430
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	0	-	65	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	97	593	2	58	453

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1161	593	0	0	593	0
Stage 1	593	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	218	509	-	-	993	-
Stage 1	556	-	-	-	-	-
Stage 2	571	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	205	509	-	-	993	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	556	-	-	-	-	-
Stage 2	538	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	205	509	993	-
HCM Lane V/C Ratio	-	-	0.015	0.19	0.058	-
HCM Control Delay (s)	-	-	22.8	13.7	8.8	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0.7	0.2	-

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Vol, veh/h	0	45	383	0	183	36	0	200	230
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	48	407	0	195	38	0	213	245
Number of Lanes	0	1	1	0	1	0	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	17.6	13.5	13.7
HCM LOS	C	B	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	84%	0%	0%	0%	100%
Vol Right, %	16%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	219	45	383	200	230
LT Vol	0	45	0	200	0
Through Vol	183	0	0	0	230
RT Vol	36	0	383	0	0
Lane Flow Rate	233	48	407	213	245
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.403	0.092	0.646	0.398	0.423
Departure Headway (Hd)	6.222	6.926	5.709	6.738	6.23
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	578	517	632	534	577
Service Time	4.279	4.678	3.461	4.493	3.984
HCM Lane V/C Ratio	0.403	0.093	0.644	0.399	0.425
HCM Control Delay	13.5	10.4	18.4	13.9	13.5
HCM Lane LOS	B	B	C	B	B
HCM 95th-tile Q	1.9	0.3	4.7	1.9	2.1



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	9	51	209	7	31	243
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	63	258	9	38	300
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	94	84	865	735	491	1503
Arrive On Green	0.05	0.05	0.46	0.46	0.27	0.79
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	11	63	258	9	38	300
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.4	2.7	6.0	0.2	1.1	2.7
Cycle Q Clear(g_c), s	0.4	2.7	6.0	0.2	1.1	2.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	94	84	865	735	491	1503
V/C Ratio(X)	0.12	0.75	0.30	0.01	0.08	0.20
Avail Cap(c_a), veh/h	439	392	865	735	491	1503
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	31.7	32.7	12.0	10.4	19.0	1.8
Incr Delay (d2), s/veh	0.2	5.0	0.9	0.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.3	3.4	0.1	0.6	1.5
LnGrp Delay(d),s/veh	31.9	37.7	12.9	10.5	19.3	2.1
LnGrp LOS	C	D	B	B	B	A
Approach Vol, veh/h	74		267			338
Approach Delay, s/veh	36.9		12.8			4.0
Approach LOS	D		B			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.5	37.4				60.9		9.1
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	19.0	18.5				42.0		17.0
Max Q Clear Time (g_c+I1), s	3.1	8.0				4.7		4.7
Green Ext Time (p_c), s	0.0	1.4				1.8		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	1	179	3	5	230
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	0	-	0	140	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1	252	4	7	324

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	590	126	0	0	252	0
Stage 1	252	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	458	907	-	-	1325	-
Stage 1	773	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	456	907	-	-	1325	-
Mov Cap-2 Maneuver	616	-	-	-	-	-
Stage 1	773	-	-	-	-	-
Stage 2	723	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	907	1325	-
HCM Lane V/C Ratio	-	-	-	0.002	0.005	-
HCM Control Delay (s)	-	-	0	9	7.7	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	4	4	7	5	137	1	39	5	76	88	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	5	2	9	7	116	1	52	7	101	117	8
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	6	93	79	81	171	145	2	618	525	673	1341	1140
Arrive On Green	0.00	0.05	0.05	0.04	0.09	0.09	0.00	0.32	0.32	0.37	0.71	0.71
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Grp Volume(v), veh/h	3	5	2	9	7	116	1	52	7	101	117	8
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	0.2	0.3	0.1	0.5	0.3	7.0	0.1	1.9	0.3	3.7	1.9	0.1
Cycle Q Clear(g_c), s	0.2	0.3	0.1	0.5	0.3	7.0	0.1	1.9	0.3	3.7	1.9	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	6	93	79	81	171	145	2	618	525	673	1341	1140
V/C Ratio(X)	0.52	0.05	0.03	0.11	0.04	0.80	0.50	0.08	0.01	0.15	0.09	0.01
Avail Cap(c_a), veh/h	100	551	468	81	523	444	81	618	525	673	1341	1140
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	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	45.4	36.2	45.9	41.6	44.6	49.9	23.4	22.9	20.9	4.6	1.8
Incr Delay (d2), s/veh	24.3	0.1	0.0	0.2	0.0	3.3	58.7	0.3	0.0	0.0	0.1	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	0.1	0.1	0.0	0.2	0.2	3.3	0.1	1.0	0.1	1.9	1.1	0.0
LnGrp Delay(d),s/veh	74.1	45.5	36.2	46.1	41.6	47.9	108.6	23.7	22.9	20.9	4.7	1.8
LnGrp LOS	E	D	D	D	D	D	F	C	C	C	A	A
Approach Vol, veh/h		10			132			60			226	
Approach Delay, s/veh		52.2			47.4			25.0			11.9	
Approach LOS		D			D			C			B	

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	12.7	38.0	9.0	10.4	4.6	76.1	4.8	14.5
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	14.5	* 33	4.0	29.0	4.5	42.5	5.5	27.5
Max Q Clear Time (g_c+I1), s	15.7	3.9	2.5	2.3	2.1	3.9	2.2	9.0
Green Ext Time (p_c), s	0.3	0.1	0.0	0.0	0.0	0.5	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	25.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	7.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	40	0	2	91	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	43	0	2	97	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	196	1	0	0	2	0
Stage 1	1	-	-	-	-	-
Stage 2	195	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	797	1090	-	-	1634	-
Stage 1	1028	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	750	1090	-	-	1634	-
Mov Cap-2 Maneuver	752	-	-	-	-	-
Stage 1	1028	-	-	-	-	-
Stage 2	793	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	1090	1634	-
HCM Lane V/C Ratio	-	-	-	0.039	0.059	-
HCM Control Delay (s)	-	-	0	8.4	7.3	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0.2	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	372	1	0	371	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	465	1	0	464	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	466	0	930	466
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	464	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1114	-	299	716
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	693	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	1114	-	299	716
Mov Cap-2 Maneuver	-	-	-	-	299	-
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	693	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	716	-	-	1114	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	10	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	23	9	0	0	0	47	3	6	3	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	0	200	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	28	11	0	0	0	57	4	7	4	0	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	133	133	8	153	141	4	16	0	0	4	0	0
Stage 1	15	15	-	118	118	-	-	-	-	-	-	-
Stage 2	118	118	-	35	23	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	844	761	1080	819	754	1085	1615	-	-	1631	-	-
Stage 1	1010	887	-	891	802	-	-	-	-	-	-	-
Stage 2	891	802	-	986	880	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	820	732	1080	764	726	1085	1615	-	-	1631	-	-
Mov Cap-2 Maneuver	811	729	-	793	728	-	-	-	-	-	-	-
Stage 1	974	885	-	860	774	-	-	-	-	-	-	-
Stage 2	860	774	-	943	878	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	0	6.1	1.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1615	-	-	803	-	1631	-	-
HCM Lane V/C Ratio	0.035	-	-	0.056	-	0.002	-	-
HCM Control Delay (s)	7.3	-	-	9.8	0	7.2	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	-	0	-	-

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	1	6	0	0	2	37	188	0	14	99	12
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	1	7	0	0	2	44	221	0	16	116	14
Number of Lanes	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	3
HCM Control Delay	9.3	10.1	9.9
HCM LOS	A	B	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	99	12	1	6	2	37	188	192	79	1
LT Vol	14	0	0	1	0	2	0	0	192	0	0
Through Vol	0	99	0	0	6	0	37	0	0	79	0
RT Vol	0	0	12	0	0	0	0	188	0	0	1
Lane Flow Rate	16	116	14	1	7	2	44	221	226	93	1
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.03	0.196	0.021	0.002	0.013	0.004	0.07	0.315	0.387	0.146	0.002
Departure Headway (Hd)	6.549	6.046	5.343	6.934	6.434	6.445	5.945	5.246	6.163	5.661	4.958
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	549	595	672	517	557	559	606	690	587	637	725
Service Time	4.264	3.761	3.058	4.66	4.16	4.145	3.645	2.946	3.873	3.371	2.668
HCM Lane V/C Ratio	0.029	0.195	0.021	0.002	0.013	0.004	0.073	0.32	0.385	0.146	0.001
HCM Control Delay	9.5	10.2	8.2	9.7	9.2	9.2	9.1	10.3	12.7	9.3	7.7
HCM Lane LOS	A	B	A	A	A	A	A	B	B	A	A
HCM 95th-tile Q	0.1	0.7	0.1	0	0	0	0.2	1.3	1.8	0.5	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	192	79	1
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	226	93	1
Number of Lanes	0	1	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	3
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	11.7
HCM LOS	B

Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	59	36	54	165	5	278	11	91	3	5	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.94	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	81	37	74	226	4	381	15	93	4	7	0
Adj No. of Lanes	1	1	1	1	2	1	2	1	1	1	2	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	14	180	738	96	531	213	1311	1231	1047	8	1064	0
Arrive On Green	0.00	0.03	0.03	0.05	0.14	0.14	0.36	0.65	0.65	0.00	0.28	0.00
Sat Flow, veh/h	1810	1900	1615	1810	3800	1523	3619	1900	1615	1810	3800	0
Grp Volume(v), veh/h	8	81	37	74	226	4	381	15	93	4	7	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1523	1810	1900	1615	1810	1900	0
Q Serve(g_s), s	0.4	4.2	0.2	4.0	5.4	0.2	7.5	0.3	2.2	0.2	0.1	0.0
Cycle Q Clear(g_c), s	0.4	4.2	0.2	4.0	5.4	0.2	7.5	0.3	2.2	0.2	0.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	14	180	738	96	531	213	1311	1231	1047	8	1064	0
V/C Ratio(X)	0.55	0.45	0.05	0.77	0.43	0.02	0.29	0.01	0.09	0.53	0.01	0.00
Avail Cap(c_a), veh/h	72	494	1005	172	1197	480	1311	1231	1047	72	1064	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.7	45.9	6.7	46.8	39.3	37.1	22.7	6.2	6.6	49.7	26.0	0.0
Incr Delay (d2), s/veh	11.0	0.6	0.0	4.9	0.2	0.0	0.0	0.0	0.2	19.3	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	0.3	2.2	0.4	2.1	2.9	0.1	3.8	0.2	1.0	0.2	0.1	0.0
LnGrp Delay(d),s/veh	60.7	46.5	6.7	51.7	39.5	37.1	22.8	6.3	6.7	69.0	26.0	0.0
LnGrp LOS	E	D	A	D	D	D	C	A	A	E	C	
Approach Vol, veh/h		126			304			489			11	
Approach Delay, s/veh		35.7			42.5			19.2			41.6	
Approach LOS		D			D			B			D	

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	4.9	70.3	9.8	15.0	41.7	33.5	5.3	19.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	40.5	9.5	26.0	16.5	* 28	4.0	31.5
Max Q Clear Time (g_c+I1), s	2.2	4.2	6.0	6.2	9.5	2.1	2.4	7.4
Green Ext Time (p_c), s	0.0	0.8	0.0	1.1	0.6	0.0	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	29.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	9	14	137	42	22	17	47	347	28	6	68	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	17	108	51	27	19	57	423	32	7	83	1
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	20	177	150	65	224	190	73	2081	157	13	2114	25
Arrive On Green	0.01	0.09	0.09	0.04	0.12	0.12	0.04	0.60	0.60	0.01	0.56	0.56
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3485	262	1810	3747	45
Grp Volume(v), veh/h	11	17	108	51	27	19	57	230	225	7	42	42
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1847	1810	1900	1892
Q Serve(g_s), s	0.5	0.6	4.9	2.1	1.0	0.8	2.3	4.2	4.2	0.3	0.7	0.7
Cycle Q Clear(g_c), s	0.5	0.6	4.9	2.1	1.0	0.8	2.3	4.2	4.2	0.3	0.7	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.02
Lane Grp Cap(c), veh/h	20	177	150	65	224	190	73	1135	1103	13	1072	1068
V/C Ratio(X)	0.56	0.10	0.72	0.79	0.12	0.10	0.78	0.20	0.20	0.53	0.04	0.04
Avail Cap(c_a), veh/h	97	608	517	109	621	528	109	1135	1103	97	1072	1068
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	36.9	31.1	33.1	35.9	29.6	29.5	35.7	6.9	6.9	37.1	7.3	7.3
Incr Delay (d2), s/veh	8.8	0.1	2.4	7.7	0.1	0.1	10.2	0.4	0.4	11.6	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.3	2.3	1.2	0.5	0.4	1.4	2.3	2.3	0.2	0.4	0.4
LnGrp Delay(d),s/veh	45.7	31.2	35.5	43.6	29.7	29.6	45.9	7.3	7.3	48.7	7.3	7.3
LnGrp LOS	D	C	D	D	C	C	D	A	A	D	A	A
Approach Vol, veh/h		136			97			512			91	
Approach Delay, s/veh		35.8			37.0			11.6			10.5	
Approach LOS		D			D			B			B	

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	5.0	50.3	7.2	12.5	7.5	47.8	5.3	14.3
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	22.5	4.5	24.0	4.5	22.0	4.0	24.5
Max Q Clear Time (g_c+I1), s	2.3	6.2	4.1	6.9	4.3	2.7	2.5	3.0
Green Ext Time (p_c), s	0.0	1.5	0.0	0.3	0.0	1.6	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	18.4
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	253	206	71	5	245	15	103	239	25	9	62	148
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	269	219	59	5	261	14	110	254	23	10	66	90
Adj No. of Lanes	1	1	1	1	2	0	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1377	2106	1790	9	1222	65	152	1443	613	35	640	544
Arrive On Green	0.76	1.00	1.00	0.01	0.34	0.34	0.04	0.38	0.38	0.01	0.34	0.34
Sat Flow, veh/h	1810	1900	1615	1810	3573	191	3619	3800	1615	3619	1900	1615
Grp Volume(v), veh/h	269	219	59	5	138	137	110	254	23	10	66	90
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1863	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	4.0	0.0	0.0	0.3	4.9	5.0	2.9	4.2	0.9	0.3	2.3	3.7
Cycle Q Clear(g_c), s	4.0	0.0	0.0	0.3	4.9	5.0	2.9	4.2	0.9	0.3	2.3	3.7
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1377	2106	1790	9	650	638	152	1443	613	35	640	544
V/C Ratio(X)	0.20	0.10	0.03	0.53	0.21	0.21	0.72	0.18	0.04	0.28	0.10	0.17
Avail Cap(c_a), veh/h	1377	2106	1790	76	650	638	152	1443	613	152	640	544
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	3.2	0.0	0.0	47.1	22.2	22.2	45.0	19.6	18.5	46.7	21.6	22.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	16.1	0.7	0.8	13.5	0.3	0.1	1.6	0.3	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	2.0	0.1	0.0	0.2	2.7	2.7	1.7	2.3	0.4	0.1	1.2	1.7
LnGrp Delay(d),s/veh	3.2	0.1	0.0	63.3	22.9	23.0	58.5	19.9	18.7	48.3	22.0	22.8
LnGrp LOS	A	A	A	E	C	C	E	B	B	D	C	C
Approach Vol, veh/h		547			280			387			166	
Approach Delay, s/veh		1.6			23.7			30.8			24.0	
Approach LOS		A			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	5.0	112.3	9.5	37.5	79.3	38.0	5.4	41.6
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	35.0	4.0	* 32	6.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	2.3	2.0	4.9	5.7	6.0	7.0	2.3	6.2
Green Ext Time (p_c), s	0.0	1.1	0.0	0.5	0.0	0.8	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	17.0
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	64	407	132	60	710	76	193	831	85	100	485	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		0.99	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	71	452	130	67	789	75	214	923	82	111	539	36
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	1	2	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	92	977	279	992	2914	277	238	1499	133	141	855	358
Arrive On Green	0.05	0.34	0.34	0.55	0.85	0.85	0.13	0.29	0.29	0.08	0.22	0.22
Sat Flow, veh/h	1810	2841	810	1810	3413	324	1810	5159	457	1810	3800	1590
Grp Volume(v), veh/h	71	301	281	67	439	425	214	679	326	111	539	36
Grp Sat Flow(s),veh/h/ln	1810	1900	1751	1810	1900	1838	1810	1900	1816	1810	1900	1590
Q Serve(g_s), s	3.1	9.9	10.0	1.4	3.5	3.5	9.3	12.3	12.4	4.8	10.2	2.1
Cycle Q Clear(g_c), s	3.1	9.9	10.0	1.4	3.5	3.5	9.3	12.3	12.4	4.8	10.2	2.1
Prop In Lane	1.00		0.46	1.00		0.18	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	92	653	602	992	1622	1569	238	1104	528	141	855	358
V/C Ratio(X)	0.78	0.46	0.47	0.07	0.27	0.27	0.90	0.61	0.62	0.79	0.63	0.10
Avail Cap(c_a), veh/h	102	653	602	992	1622	1569	238	1104	528	170	855	358
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	37.5	20.5	20.5	8.5	1.1	1.1	34.2	24.5	24.5	36.2	28.0	51.6
Incr Delay (d2), s/veh	24.3	2.3	2.6	0.0	0.4	0.4	32.6	2.6	5.3	14.7	3.5	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	2.2	5.6	5.3	0.7	2.0	2.0	6.8	6.8	7.0	3.0	5.8	1.0
LnGrp Delay(d),s/veh	61.8	22.8	23.1	8.5	1.5	1.5	66.8	27.1	29.9	50.9	31.5	52.1
LnGrp LOS	E	C	C	A	A	A	E	C	C	D	C	D
Approach Vol, veh/h		653			931			1219			686	
Approach Delay, s/veh		27.2			2.0			34.8			35.7	
Approach LOS		C			A			C			D	

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	10.2	33.0	16.0	23.5	8.5	74.6	10.7	28.8
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.6	* 28	10.5	* 18	4.5	27.0	7.5	21.0
Max Q Clear Time (g_c+I1), s	11.4	12.0	11.3	12.2	5.1	5.5	6.8	14.4
Green Ext Time (p_c), s	0.0	1.8	0.0	1.2	0.0	3.3	0.0	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	24.8
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	16	158	64	186	107	190	66	816	286	89	570	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	18	174	54	204	118	109	73	897	289	98	626	6
Adj No. of Lanes	0	1	1	0	2	1	1	3	0	1	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	22	212	199	255	268	223	148	2031	652	122	2698	26
Arrive On Green	0.12	0.12	0.12	0.14	0.14	0.14	0.08	0.49	0.49	0.07	0.48	0.48
Sat Flow, veh/h	177	1714	1611	1810	1900	1580	1810	4121	1322	1810	5636	54
Grp Volume(v), veh/h	192	0	54	204	118	109	73	827	359	98	422	210
Grp Sat Flow(s),veh/h/ln	1891	0	1611	1810	1900	1580	1810	1900	1643	1810	1900	1890
Q Serve(g_s), s	11.9	0.0	3.6	13.1	6.8	7.6	4.6	16.9	17.0	6.4	7.8	7.8
Cycle Q Clear(g_c), s	11.9	0.0	3.6	13.1	6.8	7.6	4.6	16.9	17.0	6.4	7.8	7.8
Prop In Lane	0.09		1.00	1.00		1.00	1.00		0.80	1.00		0.03
Lane Grp Cap(c), veh/h	234	0	199	255	268	223	148	1873	810	122	1819	905
V/C Ratio(X)	0.82	0.00	0.27	0.80	0.44	0.49	0.49	0.44	0.44	0.80	0.23	0.23
Avail Cap(c_a), veh/h	473	0	403	452	475	395	148	1873	810	143	1819	905
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	0.0	47.7	49.9	47.2	47.6	52.7	19.7	19.7	55.2	18.3	18.3
Incr Delay (d2), s/veh	2.7	0.0	0.3	2.2	0.4	0.6	11.3	0.8	1.8	20.4	0.3	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	6.4	0.0	1.6	6.7	3.6	3.4	2.8	9.0	8.1	3.9	4.2	4.2
LnGrp Delay(d),s/veh	54.0	0.0	47.9	52.1	47.6	48.2	64.1	20.5	21.5	75.6	18.6	18.9
LnGrp LOS	D		D	D	D	D	E	C	C	E	B	B
Approach Vol, veh/h		246			431			1259			730	
Approach Delay, s/veh		52.7			49.9			23.3			26.4	
Approach LOS		D			D			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	12.6	64.6		20.4	14.3	62.9		22.4
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	9.5	29.5		30.0	9.8	29.2		30.0
Max Q Clear Time (g_c+I1), s	8.4	19.0		13.9	6.6	9.8		15.1
Green Ext Time (p_c), s	0.0	5.5		0.7	0.0	7.7		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	31.2
HCM 2010 LOS	C

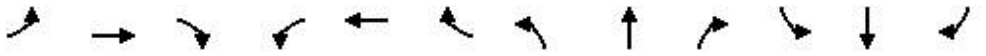
Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	645	125	507	358	0	0	0	694	0	0	185
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	0	1900	1900	1900	1900	0	0	0	1900	0	0	1900
Adj Flow Rate, veh/h	0	679	124	534	377	0	0	0	0	0	0	73
Adj No. of Lanes	0	2	1	1	2	0	0	0	1	0	0	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2229	947	461	3452	0	0	0	0	0	0	0
Arrive On Green	0.00	0.59	0.59	0.25	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3800	1615	1810	3800	0		0			0	
Grp Volume(v), veh/h	0	679	124	534	377	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0						
Q Serve(g_s), s	0.0	5.4	2.1	15.3	0.6	0.0						
Cycle Q Clear(g_c), s	0.0	5.4	2.1	15.3	0.6	0.0						
Prop In Lane	0.00		1.00	1.00		0.00						
Lane Grp Cap(c), veh/h	0	2229	947	461	3452	0						
V/C Ratio(X)	0.00	0.30	0.13	1.16	0.11	0.00						
Avail Cap(c_a), veh/h	0	2229	947	461	3452	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	6.2	5.6	22.3	0.3	0.0						
Incr Delay (d2), s/veh	0.0	0.4	0.3	92.7	0.1	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	2.8	3.0	19.4	0.3	0.0						
LnGrp Delay(d),s/veh	0.0	6.6	5.8	115.0	0.3	0.0						
LnGrp LOS		A	A	F	A							
Approach Vol, veh/h		803			911							
Approach Delay, s/veh		6.5			67.6							
Approach LOS		A			E							

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		
Phs Duration (G+Y+Rc), s	19.3	40.7				60.0		
Change Period (Y+Rc), s	4.0	5.5				5.5		
Max Green Setting (Gmax), s	15.3	19.2				38.5		
Max Q Clear Time (g_c+I1), s	17.3	7.4				2.6		
Green Ext Time (p_c), s	0.0	3.7				4.8		

Intersection Summary	
HCM 2010 Ctrl Delay	39.0
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	393	9	127	133	0	0	0	0	349	2	278
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	418	10	135	141	0				371	2	219
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2097	891	160	2576	0				430	2	385
Arrive On Green	0.00	0.55	0.55	0.18	1.00	0.00				0.24	0.24	0.24
Sat Flow, veh/h	0	3800	1615	1810	3800	0				1800	10	1615
Grp Volume(v), veh/h	0	418	10	135	141	0				373	0	219
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1615
Q Serve(g_s), s	0.0	6.6	0.3	8.7	0.0	0.0				23.7	0.0	14.3
Cycle Q Clear(g_c), s	0.0	6.6	0.3	8.7	0.0	0.0				23.7	0.0	14.3
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	2097	891	160	2576	0				432	0	385
V/C Ratio(X)	0.00	0.20	0.01	0.84	0.05	0.00				0.86	0.00	0.57
Avail Cap(c_a), veh/h	0	2097	891	309	2576	0				830	0	740
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.99	0.99	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.5	12.1	48.5	0.0	0.0				43.8	0.0	40.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	4.5	0.0	0.0				5.2	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.5	0.2	4.5	0.0	0.0				12.4	0.0	6.5
LnGrp Delay(d),s/veh	0.0	13.8	12.1	53.0	0.0	0.0				49.1	0.0	41.6
LnGrp LOS		B	B	D	A					D		D
Approach Vol, veh/h		428			276						592	
Approach Delay, s/veh		13.7			26.0						46.3	
Approach LOS		B			C						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	15.1	71.2		33.6		86.4		
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0		
Max Green Setting (Gmax), s	20.5	30.0		55.0		55.0		
Max Q Clear Time (g_c+I1), s	10.7	8.6		25.7		2.0		
Green Ext Time (p_c), s	0.1	2.1		2.9		2.2		

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												
Volume (veh/h)	14	1181	144	0	1334	66	29	30	0	87	0	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		0.98	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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	1218	144	0	1375	59	30	31	0	90	0	22
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	1	1	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	220	1864	220	0	2026	87	501	544	0	495	0	462
Arrive On Green	0.56	0.56	0.56	0.00	0.56	0.56	0.29	0.29	0.00	0.29	0.00	0.29
Sat Flow, veh/h	379	3329	392	0	3618	155	1412	1900	0	1400	0	1615
Grp Volume(v), veh/h	14	693	669	0	721	713	30	31	0	90	0	22
Grp Sat Flow(s),veh/h/ln	379	1900	1821	0	1900	1873	1412	1900	0	1400	0	1615
Q Serve(g_s), s	1.8	16.4	16.6	0.0	17.5	17.6	1.0	0.8	0.0	3.2	0.0	0.6
Cycle Q Clear(g_c), s	19.4	16.4	16.6	0.0	17.5	17.6	1.7	0.8	0.0	4.0	0.0	0.6
Prop In Lane	1.00		0.22	0.00		0.08	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	220	1064	1020	0	1064	1049	501	544	0	495	0	462
V/C Ratio(X)	0.06	0.65	0.66	0.00	0.68	0.68	0.06	0.06	0.00	0.18	0.00	0.05
Avail Cap(c_a), veh/h	220	1064	1020	0	1064	1049	501	544	0	495	0	462
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.0	9.9	9.9	0.0	10.1	10.2	17.4	16.8	0.0	18.3	0.0	16.8
Incr Delay (d2), s/veh	0.6	3.1	3.3	0.0	3.5	3.6	0.2	0.2	0.0	0.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	9.4	9.1	0.0	10.0	9.9	0.4	0.4	0.0	1.4	0.0	0.3
LnGrp Delay(d),s/veh	17.6	13.0	13.2	0.0	13.6	13.7	17.6	17.0	0.0	19.1	0.0	17.0
LnGrp LOS	B	B	B		B	B	B	B		B		B
Approach Vol, veh/h		1376			1434			61			112	
Approach Delay, s/veh		13.2			13.7			17.3			18.7	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.4		23.6		41.4		23.6
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		36.4		18.6		36.4		18.6
Max Q Clear Time (g_c+I1), s		21.4		6.0		19.6		3.7
Green Ext Time (p_c), s		10.3		0.2		11.2		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	248	494	0	0	251	422	8	1	115	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	279	555	0	0	282	449	9	1	20			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	303	2755	0	0	2007	853	314	35	310			
Arrive On Green	0.34	1.00	0.00	0.00	0.53	0.53	0.19	0.19	0.19			
Sat Flow, veh/h	1810	3800	0	0	3800	1614	1636	182	1615			
Grp Volume(v), veh/h	279	555	0	0	282	449	10	0	20			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1614	1818	0	1615			
Q Serve(g_s), s	17.8	0.0	0.0	0.0	4.5	21.8	0.5	0.0	1.2			
Cycle Q Clear(g_c), s	17.8	0.0	0.0	0.0	4.5	21.8	0.5	0.0	1.2			
Prop In Lane	1.00		0.00	0.00		1.00	0.90		1.00			
Lane Grp Cap(c), veh/h	303	2755	0	0	2007	853	348	0	310			
V/C Ratio(X)	0.92	0.20	0.00	0.00	0.14	0.53	0.03	0.00	0.06			
Avail Cap(c_a), veh/h	550	2755	0	0	2007	853	348	0	310			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.99	0.99	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	39.1	0.0	0.0	0.0	14.4	18.5	39.4	0.0	39.7			
Incr Delay (d2), s/veh	5.4	0.2	0.0	0.0	0.1	2.3	0.2	0.0	0.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	9.3	0.1	0.0	0.0	2.4	10.3	0.3	0.0	0.6			
LnGrp Delay(d),s/veh	44.5	0.2	0.0	0.0	14.6	20.8	39.6	0.0	40.1			
LnGrp LOS	D	A			B	C	D		D			
Approach Vol, veh/h		834			731			30				
Approach Delay, s/veh		15.0			18.4			39.9				
Approach LOS		B			B			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		92.0			23.6	68.4		28.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		87.0			36.5	47.0		23.0
Max Q Clear Time (g_c+I1), s		2.0			19.8	23.8		3.2
Green Ext Time (p_c), s		4.4			0.3	4.2		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	17.0
HCM 2010 LOS	B

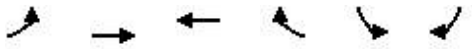
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	97	1262	23	25	1084	74	366	95	181	100	20	168
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	100	1301	0	26	1118	45	304	200	133	118	0	66
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	124	2878	816	33	2589	718	445	262	174	203	0	202
Arrive On Green	0.07	0.50	0.00	0.02	0.45	0.45	0.25	0.25	0.25	0.06	0.00	0.06
Sat Flow, veh/h	1810	5700	1615	1810	5700	1581	1810	1065	709	3619	0	1615
Grp Volume(v), veh/h	100	1301	0	26	1118	45	304	0	333	118	0	66
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1581	1810	0	1774	1810	0	1615
Q Serve(g_s), s	6.5	17.6	0.0	1.7	16.0	1.9	18.3	0.0	20.9	3.8	0.0	4.5
Cycle Q Clear(g_c), s	6.5	17.6	0.0	1.7	16.0	1.9	18.3	0.0	20.9	3.8	0.0	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	124	2878	816	33	2589	718	445	0	436	203	0	202
V/C Ratio(X)	0.80	0.45	0.00	0.80	0.43	0.06	0.68	0.00	0.76	0.58	0.00	0.33
Avail Cap(c_a), veh/h	158	2878	816	119	2589	718	445	0	436	890	0	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.1	19.0	0.0	58.7	22.2	18.4	41.0	0.0	42.0	55.2	0.0	47.9
Incr Delay (d2), s/veh	16.2	0.5	0.0	15.1	0.0	0.0	8.3	0.0	12.0	1.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	9.3	0.0	1.0	8.4	0.8	10.1	0.0	11.7	1.9	0.0	2.0
LnGrp Delay(d),s/veh	71.2	19.6	0.0	73.8	22.3	18.4	49.3	0.0	54.0	56.2	0.0	48.2
LnGrp LOS	E	B		E	C	B	D		D	E		D
Approach Vol, veh/h		1401			1189			637			184	
Approach Delay, s/veh		23.3			23.3			51.7			53.4	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.7	66.1		12.2	12.7	60.0		35.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	7.9	32.1		29.5	10.5	29.5		29.5
Max Q Clear Time (g_c+I1), s	3.7	19.6		6.5	8.5	18.0		22.9
Green Ext Time (p_c), s	0.0	8.3		0.3	0.0	7.8		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	30.2
HCM 2010 LOS	C

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	92	1740	929	167	325	102
Number	5	2	6	16	7	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	95	1794	958	164	335	46
Adj No. of Lanes	1	2	3	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	122	1995	2286	648	1221	654
Arrive On Green	0.07	0.52	0.40	0.40	0.34	0.34
Sat Flow, veh/h	1810	3800	5700	1615	3619	1615
Grp Volume(v), veh/h	95	1794	958	164	335	46
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1615	1810	1615
Q Serve(g_s), s	4.1	34.0	9.7	5.4	5.4	1.4
Cycle Q Clear(g_c), s	4.1	34.0	9.7	5.4	5.4	1.4
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	122	1995	2286	648	1221	654
V/C Ratio(X)	0.78	0.90	0.42	0.25	0.27	0.07
Avail Cap(c_a), veh/h	215	1995	2286	648	1221	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.85	0.85	1.00	1.00
Uniform Delay (d), s/veh	36.7	17.1	17.2	16.0	19.3	14.6
Incr Delay (d2), s/veh	3.9	7.0	0.5	0.8	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	19.6	5.2	2.6	2.8	1.7
LnGrp Delay(d),s/veh	40.6	24.1	17.7	16.8	19.9	14.8
LnGrp LOS	D	C	B	B	B	B
Approach Vol, veh/h		1889	1122		381	
Approach Delay, s/veh		24.9	17.6		19.3	
Approach LOS		C	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.5		32.5	9.9	37.6		
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		
Max Green Setting (Gmax), s		42.0		27.0	9.5	28.0		
Max Q Clear Time (g_c+I1), s		36.0		7.4	6.1	11.7		
Green Ext Time (p_c), s		5.1		0.6	0.0	11.7		

Intersection Summary	
HCM 2010 Ctrl Delay	21.9
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	28	582	609	17	14	64
Conflicting Peds, #/hr	0	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	30	633	662	18	15	70

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	662	0	-	0	1039	331
Stage 1	-	-	-	-	662	-
Stage 2	-	-	-	-	377	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	936	-	-	-	*398	671
Stage 1	-	-	-	-	*480	-
Stage 2	-	-	-	-	*804	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	936	-	-	-	*378	671
Mov Cap-2 Maneuver	-	-	-	-	*378	-
Stage 1	-	-	-	-	*480	-
Stage 2	-	-	-	-	*765	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	936	-	-	-	589
HCM Lane V/C Ratio	0.033	-	-	-	0.144
HCM Control Delay (s)	9	0.2	-	-	12.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	72	1727	277	6	829	43	158	53	11	119	138	105
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		0.99	1.00		1.00	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	78	1877	0	7	901	43	172	58	7	129	150	36
Adj No. of Lanes	1	2	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	85	2968	1261	13	3998	190	170	1059	126	85	1252	601
Arrive On Green	0.05	0.78	0.00	0.01	0.74	0.74	0.05	0.32	0.32	0.05	0.33	0.33
Sat Flow, veh/h	1810	3800	1615	1810	5394	257	3619	3335	395	1810	3800	1595
Grp Volume(v), veh/h	78	1877	0	7	634	310	172	33	32	129	150	36
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1851	1810	1900	1830	1810	1900	1595
Q Serve(g_s), s	3.6	18.2	0.0	0.3	4.4	4.4	4.0	1.0	1.0	4.0	2.3	1.2
Cycle Q Clear(g_c), s	3.6	18.2	0.0	0.3	4.4	4.4	4.0	1.0	1.0	4.0	2.3	1.2
Prop In Lane	1.00		1.00	1.00		0.14	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	85	2968	1261	13	2816	1372	170	604	581	85	1252	601
V/C Ratio(X)	0.92	0.63	0.00	0.54	0.23	0.23	1.01	0.05	0.06	1.51	0.12	0.06
Avail Cap(c_a), veh/h	85	2968	1261	85	2816	1372	170	604	581	85	1252	601
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)	0.50	0.50	0.00	0.72	0.72	0.72	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.3	4.0	0.0	42.1	3.4	3.4	40.5	20.1	20.1	40.5	19.9	16.9
Incr Delay (d2), s/veh	44.7	0.5	0.0	9.0	0.1	0.3	71.6	0.2	0.2	282.7	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	9.3	0.0	0.2	2.3	2.3	3.7	0.6	0.6	8.7	1.3	0.6
LnGrp Delay(d),s/veh	85.1	4.5	0.0	51.1	3.6	3.7	112.1	20.3	20.3	323.2	20.1	17.1
LnGrp LOS	F	A		D	A	A	F	C	C	F	C	B
Approach Vol, veh/h		1955			951			237			315	
Approach Delay, s/veh		7.8			3.9			86.9			143.9	
Approach LOS		A			A			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	5.1	72.9	8.5	33.5	8.5	69.5	9.5	32.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.6	30.0	4.0	27.0	4.0	30.0	4.0	* 27
Max Q Clear Time (g_c+I1), s	12.3	20.2	6.0	4.3	5.6	6.4	6.0	3.0
Green Ext Time (p_c), s	0.0	7.8	0.0	0.7	0.0	15.0	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	24.5
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	431	47	3	468	5	40	4	6	8	4	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	7	490	53	3	532	6	45	5	7	9	5	14
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	13	624	531	6	608	7	589	68	78	507	263	694
Arrive On Green	0.01	0.33	0.33	0.00	0.32	0.32	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1810	1900	1615	1810	1875	21	1139	158	182	967	613	1615
Grp Volume(v), veh/h	7	490	53	3	0	538	57	0	0	14	0	14
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1896	1478	0	0	1580	0	1615
Q Serve(g_s), s	0.3	15.2	1.5	0.1	0.0	17.4	0.8	0.0	0.0	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.3	15.2	1.5	0.1	0.0	17.4	1.3	0.0	0.0	0.3	0.0	0.3
Prop In Lane	1.00		1.00	1.00		0.01	0.79		0.12	0.64		1.00
Lane Grp Cap(c), veh/h	13	624	531	6	0	615	734	0	0	770	0	694
V/C Ratio(X)	0.53	0.78	0.10	0.51	0.00	0.87	0.08	0.00	0.00	0.02	0.00	0.02
Avail Cap(c_a), veh/h	111	687	584	111	0	686	734	0	0	770	0	694
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.2	19.7	15.1	32.3	0.0	20.7	10.9	0.0	0.0	10.6	0.0	10.7
Incr Delay (d2), s/veh	11.7	4.7	0.0	23.2	0.0	10.4	0.2	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	8.7	0.7	0.1	0.0	10.9	0.6	0.0	0.0	0.2	0.0	0.2
LnGrp Delay(d),s/veh	43.8	24.5	15.2	55.6	0.0	31.1	11.1	0.0	0.0	10.7	0.0	10.7
LnGrp LOS	D	C	B	E		C	B			B		B
Approach Vol, veh/h		550			541			57			28	
Approach Delay, s/veh		23.8			31.2			11.1			10.7	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		33.4	4.7	26.9		33.4	5.0	26.6
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	23.5		22.0	4.0	23.5
Max Q Clear Time (g_c+I1), s		3.3	2.1	17.2		2.3	2.3	19.4
Green Ext Time (p_c), s		0.2	0.0	2.3		0.2	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	26.3
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	82	933	781	13	560	67	384	458	19	109	526	43
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	87	993	816	14	596	65	409	487	16	116	560	39
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	2758	1172	24	2283	248	462	1229	40	146	976	68
Arrive On Green	0.06	0.73	0.73	0.01	0.68	0.68	0.26	0.67	0.67	0.08	0.28	0.28
Sat Flow, veh/h	1810	3800	1615	1810	3368	367	3619	3657	120	1810	3513	244
Grp Volume(v), veh/h	87	993	816	14	336	325	409	253	250	116	302	297
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1835	1810	1900	1876	1810	1900	1857
Q Serve(g_s), s	4.3	8.7	37.0	0.7	6.2	6.2	9.8	5.3	5.4	5.7	12.3	12.4
Cycle Q Clear(g_c), s	4.3	8.7	37.0	0.7	6.2	6.2	9.8	5.3	5.4	5.7	12.3	12.4
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.06	1.00		0.13
Lane Grp Cap(c), veh/h	111	2758	1172	24	1288	1244	462	638	631	146	528	516
V/C Ratio(X)	0.79	0.36	0.70	0.59	0.26	0.26	0.88	0.40	0.40	0.79	0.57	0.57
Avail Cap(c_a), veh/h	111	2758	1172	80	1288	1244	462	638	631	175	528	516
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	4.6	14.7	44.2	5.7	5.7	32.9	10.7	10.7	40.6	27.9	27.9
Incr Delay (d2), s/veh	3.2	0.0	0.3	8.4	0.5	0.5	16.6	1.7	1.7	15.6	4.5	4.6
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	2.2	4.6	16.2	0.4	3.4	3.3	5.8	3.0	2.9	3.5	7.1	7.0
LnGrp Delay(d),s/veh	44.9	4.6	15.0	52.5	6.2	6.2	49.4	12.4	12.4	56.2	32.4	32.5
LnGrp LOS	D	A	B	D	A	A	D	B	B	E	C	C
Approach Vol, veh/h		1896			675			912			715	
Approach Delay, s/veh		10.9			7.1			29.0			36.3	
Approach LOS		B			A			C			D	

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	5.7	71.8	17.0	30.5	10.0	67.5	11.8	35.7
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	1.3	29.5	11.5	* 25	5.5	28.0	8.7	27.8
Max Q Clear Time (g_c+I1), s	12.7	39.0	11.8	14.4	6.3	8.2	7.7	7.4
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	8.9	0.0	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	18.6
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	159	221	20	100	144	75	640	50	302	863	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.96	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	169	121	21	106	56	80	681	35	321	918	15
Adj No. of Lanes	1	1	1	1	2	0	1	2	1	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	87	220	187	33	206	101	103	1068	437	636	2229	948
Arrive On Green	0.05	0.12	0.12	0.02	0.09	0.09	0.06	0.28	0.28	0.47	0.78	0.78
Sat Flow, veh/h	1810	1900	1615	1810	2390	1177	1810	3800	1555	1810	3800	1615
Grp Volume(v), veh/h	28	169	121	21	83	79	80	681	35	321	918	15
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1668	1810	1900	1555	1810	1900	1615
Q Serve(g_s), s	1.3	7.8	5.2	1.0	3.7	4.1	3.9	14.1	1.5	11.1	7.0	0.1
Cycle Q Clear(g_c), s	1.3	7.8	5.2	1.0	3.7	4.1	3.9	14.1	1.5	11.1	7.0	0.1
Prop In Lane	1.00		1.00	1.00		0.71	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	87	220	187	33	164	144	103	1068	437	636	2229	948
V/C Ratio(X)	0.32	0.77	0.65	0.64	0.51	0.55	0.77	0.64	0.08	0.50	0.41	0.02
Avail Cap(c_a), veh/h	87	528	449	101	549	482	183	1068	437	636	2229	948
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.65	0.65	0.65
Uniform Delay (d), s/veh	41.4	38.6	24.9	43.9	39.3	39.5	41.9	28.3	23.8	18.5	4.9	1.6
Incr Delay (d2), s/veh	0.8	2.1	1.4	7.5	0.9	1.2	4.6	2.9	0.4	0.2	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	0.7	4.2	2.4	0.6	2.0	1.9	2.1	7.8	0.7	5.6	3.6	0.1
LnGrp Delay(d),s/veh	42.2	40.7	26.3	51.4	40.2	40.7	46.4	31.2	24.1	18.7	5.2	1.6
LnGrp LOS	D	D	C	D	D	D	D	C	C	B	A	A
Approach Vol, veh/h		318			183			796			1254	
Approach Delay, s/veh		35.4			41.7			32.5			8.6	
Approach LOS		D			D			C			A	

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	37.1	30.8	6.1	15.9	9.6	58.3	8.8	13.3
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	14.7	* 25	5.0	25.0	9.1	30.9	4.0	26.0
Max Q Clear Time (g_c+I1), s	13.1	16.1	3.0	9.8	5.9	9.0	3.3	6.1
Green Ext Time (p_c), s	0.2	2.0	0.0	0.7	0.0	4.1	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	21.8
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	1	60	567	7	124	923
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	0	-	65	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	65	610	8	133	992

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1869	610	0	0	610	0
Stage 1	610	-	-	-	-	-
Stage 2	1259	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	80	498	-	-	979	-
Stage 1	546	-	-	-	-	-
Stage 2	270	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	69	498	-	-	979	-
Mov Cap-2 Maneuver	69	-	-	-	-	-
Stage 1	546	-	-	-	-	-
Stage 2	233	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	69	498	979	-
HCM Lane V/C Ratio	-	-	0.016	0.13	0.136	-
HCM Control Delay (s)	-	-	58	13.3	9.3	-
HCM Lane LOS	-	-	F	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0.4	0.5	-

Intersection	
Intersection Delay, s/veh	37.3
Intersection LOS	E

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Vol, veh/h	0	18	243	0	324	18	0	512	391
Peak Hour Factor	0.92	0.86	0.86	0.92	0.86	0.86	0.92	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	21	283	0	377	21	0	595	455
Number of Lanes	0	1	1	0	1	0	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	16.6	22.3	48.9
HCM LOS	C	C	E

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	95%	0%	0%	0%	100%
Vol Right, %	5%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	342	18	243	512	391
LT Vol	0	18	0	512	0
Through Vol	324	0	0	0	391
RT Vol	18	0	243	0	0
Lane Flow Rate	398	21	283	595	455
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.69	0.046	0.531	1	0.789
Departure Headway (Hd)	6.245	7.994	6.766	6.76	6.251
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	573	449	531	542	582
Service Time	4.339	5.725	4.527	4.46	3.951
HCM Lane V/C Ratio	0.695	0.047	0.533	1.098	0.782
HCM Control Delay	22.3	11.1	17	64.6	28.4
HCM Lane LOS	C	B	C	F	D
HCM 95th-tile Q	5.4	0.1	3.1	14.1	7.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	7	36	338	14	38	389
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	9	23	417	17	47	480
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	48	43	913	776	491	1551
Arrive On Green	0.03	0.03	0.48	0.48	0.27	0.82
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	9	23	417	17	47	480
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.3	1.0	10.2	0.4	1.4	4.3
Cycle Q Clear(g_c), s	0.3	1.0	10.2	0.4	1.4	4.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	48	43	913	776	491	1551
V/C Ratio(X)	0.19	0.54	0.46	0.02	0.10	0.31
Avail Cap(c_a), veh/h	439	392	913	776	491	1551
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	33.3	33.7	12.1	9.5	19.1	1.6
Incr Delay (d2), s/veh	0.7	3.9	1.6	0.1	0.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.5	5.7	0.2	0.7	2.4
LnGrp Delay(d),s/veh	34.0	37.5	13.7	9.6	19.5	2.1
LnGrp LOS	C	D	B	A	B	A
Approach Vol, veh/h	32		434			527
Approach Delay, s/veh	36.5		13.6			3.6
Approach LOS	D		B			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.5	39.1				62.6		7.4
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	19.0	18.5				42.0		17.0
Max Q Clear Time (g_c+I1), s	3.4	12.2				6.3		3.0
Green Ext Time (p_c), s	0.0	1.8				3.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	9.0
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	1	3	356	0	0	421
Conflicting Peds, #/hr	0	0	0	3	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	140	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	4	501	0	0	593

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1094	251	0	0	501	0
Stage 1	501	-	-	-	-	-
Stage 2	593	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	225	755	-	-	1074	-
Stage 1	580	-	-	-	-	-
Stage 2	556	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	224	755	-	-	1074	-
Mov Cap-2 Maneuver	430	-	-	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	555	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	430	755	1074	-
HCM Lane V/C Ratio	-	-	0.003	0.006	-	-
HCM Control Delay (s)	-	-	13.4	9.8	0	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	11	6	5	11	0	203	0	71	3	153	212	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	9	7	16	0	290	0	101	0	219	303	3
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	25	371	315	25	371	316	2	925	786	248	1257	1068
Arrive On Green	0.01	0.20	0.20	0.01	0.00	0.20	0.00	0.49	0.00	0.14	0.66	0.66
Sat Flow, veh/h	1810	1900	1611	1810	1900	1615	1810	1900	1615	1810	1900	1615
Grp Volume(v), veh/h	16	9	7	16	0	290	0	101	0	219	303	3
Grp Sat Flow(s),veh/h/ln	1810	1900	1611	1810	1900	1615	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	1.1	0.5	0.4	1.1	0.0	21.1	0.0	3.5	0.0	14.3	7.7	0.1
Cycle Q Clear(g_c), s	1.1	0.5	0.4	1.1	0.0	21.1	0.0	3.5	0.0	14.3	7.7	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	371	315	25	371	316	2	925	786	248	1257	1068
V/C Ratio(X)	0.64	0.02	0.02	0.64	0.00	0.92	0.00	0.11	0.00	0.88	0.24	0.00
Avail Cap(c_a), veh/h	113	467	396	113	467	397	60	925	786	445	1257	1068
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	0.82	0.00	0.82	0.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	39.0	39.0	58.9	0.0	47.3	0.0	16.7	0.0	50.8	8.2	6.9
Incr Delay (d2), s/veh	9.8	0.0	0.0	8.1	0.0	17.8	0.0	0.2	0.0	4.0	0.5	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	0.6	0.2	0.2	0.6	0.0	11.0	0.0	1.9	0.0	7.4	4.2	0.0
LnGrp Delay(d),s/veh	68.7	39.0	39.0	67.0	0.0	65.2	0.0	16.9	0.0	54.9	8.6	6.9
LnGrp LOS	E	D	D	E		E		B		D	A	A
Approach Vol, veh/h		32			306			101			525	
Approach Delay, s/veh		53.8			65.3			16.9			27.9	
Approach LOS		D			E			B			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	31.0	63.9	6.2	29.0	0.0	84.9	6.2	29.0
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	29.5	33.5	7.5	29.5	4.0	59.0	7.5	29.5
Max Q Clear Time (g_c+I1), s	16.3	5.5	3.1	2.5	0.0	9.7	3.1	23.1
Green Ext Time (p_c), s	0.2	1.2	0.0	0.5	0.0	1.3	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	39.5
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	70	2	8	200	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	93	3	11	267	13

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	555	8	0	0	13	0
Stage 1	8	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	496	1080	-	-	1619	-
Stage 1	1020	-	-	-	-	-
Stage 2	584	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	414	1080	-	-	1619	-
Mov Cap-2 Maneuver	462	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	488	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	1080	1619	-
HCM Lane V/C Ratio	-	-	-	0.086	0.165	-
HCM Control Delay (s)	-	-	0	8.6	7.7	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.3	0.6	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	452	0	0	352	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	497	0	0	387	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	497	0	884	497
Stage 1	-	-	-	-	497	-
Stage 2	-	-	-	-	387	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1087	-	318	713
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	756	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	1087	-	318	713
Mov Cap-2 Maneuver	-	-	-	-	318	-
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	756	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	713	-	-	1087	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	10.1	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	11	21	29	0	0	0	20	4	0	3	2	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	0	200	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	16	30	42	0	0	0	29	6	0	4	3	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	86	86	14	123	97	6	25	0	0	6	0	0
Stage 1	22	22	-	64	64	-	-	-	-	-	-	-
Stage 2	64	64	-	59	33	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	905	808	1072	856	797	1083	1603	-	-	1628	-	-
Stage 1	1002	881	-	952	846	-	-	-	-	-	-	-
Stage 2	952	846	-	958	872	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	891	791	1072	786	781	1083	1603	-	-	1628	-	-
Mov Cap-2 Maneuver	879	781	-	804	776	-	-	-	-	-	-	-
Stage 1	984	879	-	935	831	-	-	-	-	-	-	-
Stage 2	935	831	-	886	870	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	0	6.1	1.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1603	-	-	918	-	1628	-	-
HCM Lane V/C Ratio	0.018	-	-	0.096	-	0.003	-	-
HCM Control Delay (s)	7.3	-	-	9.3	0	7.2	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	-	0	-	-

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	8	17	10	0	4	11	55	0	6	51	4
Peak Hour Factor	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	9	19	11	0	4	12	62	0	7	57	4
Number of Lanes	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	3
HCM Control Delay	8.4	8.1	8.6
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	63%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	37%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	51	4	8	27	4	11	55	175	73	3
LT Vol	6	0	0	8	0	4	0	0	175	0	0
Through Vol	0	51	0	0	17	0	11	0	0	73	0
RT Vol	0	0	4	0	10	0	0	55	0	0	3
Lane Flow Rate	7	57	4	9	30	4	12	62	197	82	3
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.011	0.086	0.006	0.015	0.045	0.008	0.019	0.083	0.298	0.113	0.004
Departure Headway (Hd)	5.899	5.398	4.697	6.092	5.333	6.024	5.525	4.826	5.465	4.965	4.264
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	606	663	760	587	670	594	647	741	657	721	837
Service Time	3.64	3.139	2.438	3.836	3.077	3.762	3.263	2.563	3.202	2.701	2
HCM Lane V/C Ratio	0.012	0.086	0.005	0.015	0.045	0.007	0.019	0.084	0.3	0.114	0.004
HCM Control Delay	8.7	8.7	7.5	8.9	8.3	8.8	8.4	8	10.5	8.3	7
HCM Lane LOS	A	A	A	A	A	A	A	A	B	A	A
HCM 95th-tile Q	0	0.3	0	0	0.1	0	0.1	0.3	1.2	0.4	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	175	73	3
Peak Hour Factor	0.92	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	197	82	3
Number of Lanes	0	1	1	1

Approach	SB
Opposing Approach	NB
Opposing Lanes	3
Conflicting Approach Left	WB
Conflicting Lanes Left	3
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	9.8
HCM LOS	A

Lane

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	11	143	233	147	235	45	270	54	115	103	131	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.99	1.00		1.00	1.00		0.49
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	17	217	283	223	356	45	409	82	89	156	198	24
Adj No. of Lanes	1	1	1	1	2	1	2	1	1	1	2	0
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	26	324	710	252	1121	473	1007	515	437	458	739	81
Arrive On Green	0.00	0.06	0.06	0.14	0.29	0.29	0.28	0.27	0.27	0.25	0.25	0.25
Sat Flow, veh/h	1810	1900	1534	1810	3800	1604	3619	1900	1612	1810	3007	331
Grp Volume(v), veh/h	17	217	283	223	356	45	409	82	89	156	118	104
Grp Sat Flow(s),veh/h/ln	1810	1900	1534	1810	1900	1604	1810	1900	1612	1810	1900	1438
Q Serve(g_s), s	1.1	13.4	4.7	14.5	8.7	1.3	11.0	3.9	3.6	8.5	6.0	7.1
Cycle Q Clear(g_c), s	1.1	13.4	4.7	14.5	8.7	1.3	11.0	3.9	3.6	8.5	6.0	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	26	324	710	252	1121	473	1007	515	437	458	467	354
V/C Ratio(X)	0.65	0.67	0.40	0.89	0.32	0.10	0.41	0.16	0.20	0.34	0.25	0.29
Avail Cap(c_a), veh/h	83	420	788	354	1409	595	1007	515	437	458	467	354
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.62	0.62	0.62	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.4	53.3	9.9	50.7	32.9	8.4	35.2	33.3	16.3	36.6	36.4	36.8
Incr Delay (d2), s/veh	6.2	0.8	0.1	14.0	0.1	0.0	0.1	0.6	1.0	0.2	1.3	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.2	3.8	8.2	4.6	0.6	5.5	2.2	1.7	4.3	3.3	3.0
LnGrp Delay(d),s/veh	65.6	54.1	9.9	64.7	33.0	8.4	35.3	34.0	17.3	36.8	37.7	38.9
LnGrp LOS	E	D	A	E	C	A	D	C	B	D	D	D
Approach Vol, veh/h		517			624			580			378	
Approach Delay, s/veh		30.3			42.5			32.4			37.6	
Approach LOS		C			D			C			D	

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	34.9	38.0	21.2	25.9	37.9	35.0	6.2	40.9
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	17.5	32.5	23.5	26.5	20.5	29.5	5.5	44.5
Max Q Clear Time (g_c+I1), s	10.5	5.9	16.5	15.4	13.0	9.1	3.1	10.7
Green Ext Time (p_c), s	0.6	0.3	0.2	2.2	0.7	0.7	0.0	2.7

Intersection Summary	
HCM 2010 Ctrl Delay	35.8
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	38	210	42	19	14	56	377	49	50	368	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	10	54	179	60	27	1	80	539	66	71	526	60
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	169	223	190	77	127	108	103	1737	212	91	1731	197
Arrive On Green	0.09	0.12	0.12	0.04	0.07	0.07	0.06	0.52	0.52	0.05	0.52	0.52
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3322	406	1810	3352	381
Grp Volume(v), veh/h	10	54	179	60	27	1	80	308	297	71	297	289
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1828	1810	1900	1833
Q Serve(g_s), s	0.4	1.9	6.5	2.5	1.0	0.0	3.3	6.9	7.0	2.9	6.7	6.8
Cycle Q Clear(g_c), s	0.4	1.9	6.5	2.5	1.0	0.0	3.3	6.9	7.0	2.9	6.7	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		0.21
Lane Grp Cap(c), veh/h	169	223	190	77	127	108	103	993	956	91	981	946
V/C Ratio(X)	0.06	0.24	0.94	0.78	0.21	0.01	0.78	0.31	0.31	0.78	0.30	0.30
Avail Cap(c_a), veh/h	169	608	517	97	608	517	109	993	956	109	981	946
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	31.0	30.1	20.2	35.6	33.1	21.1	34.9	10.2	10.2	35.2	10.4	10.4
Incr Delay (d2), s/veh	0.1	0.2	9.3	21.0	0.3	0.0	24.9	0.8	0.8	18.0	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.0	3.4	1.7	0.5	0.0	2.4	3.8	3.7	1.9	3.7	3.6
LnGrp Delay(d),s/veh	31.1	30.3	29.5	56.5	33.5	21.1	59.8	11.0	11.0	53.2	11.1	11.1
LnGrp LOS	C	C	C	E	C	C	E	B	B	D	B	B
Approach Vol, veh/h		243			88			685			657	
Approach Delay, s/veh		29.7			49.0			16.7			15.6	
Approach LOS		C			D			B			B	

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	8.3	44.7	7.7	14.3	8.8	44.2	11.5	10.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.5	22.5	4.0	24.0	4.5	22.5	4.0	24.0
Max Q Clear Time (g_c+I1), s	4.9	9.0	4.5	8.5	5.3	8.8	2.4	3.0
Green Ext Time (p_c), s	0.0	3.5	0.0	0.4	0.0	3.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	19.9
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	212	207	74	18	145	6	57	265	7	30	320	328
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	275	269	96	23	188	8	74	344	9	39	416	421
Adj No. of Lanes	1	1	1	1	2	0	2	2	1	2	2	0
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1016	1700	1445	35	1238	52	130	1354	575	98	640	544
Arrive On Green	0.56	0.89	0.89	0.02	0.34	0.34	0.04	0.36	0.36	0.03	0.34	0.34
Sat Flow, veh/h	1810	1900	1615	1810	3618	153	3619	3800	1615	3619	1900	1615
Grp Volume(v), veh/h	275	269	96	23	98	98	74	344	9	39	416	421
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1871	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	7.5	1.6	2.8	1.2	3.4	3.4	1.9	6.1	0.3	1.0	17.7	22.2
Cycle Q Clear(g_c), s	7.5	1.6	2.8	1.2	3.4	3.4	1.9	6.1	0.3	1.0	17.7	22.2
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1016	1700	1445	35	650	640	130	1354	575	98	640	544
V/C Ratio(X)	0.27	0.16	0.07	0.66	0.15	0.15	0.57	0.25	0.02	0.40	0.65	0.77
Avail Cap(c_a), veh/h	1016	1700	1445	99	650	640	152	1354	575	152	640	544
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	10.8	0.6	10.7	46.3	21.7	21.7	45.1	21.6	19.8	45.5	26.7	28.3
Incr Delay (d2), s/veh	0.1	0.2	0.1	7.8	0.5	0.5	1.4	0.5	0.0	1.0	5.1	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	3.7	0.9	1.3	0.7	1.9	1.9	1.0	3.3	0.2	0.5	10.1	11.4
LnGrp Delay(d),s/veh	10.8	0.8	10.8	54.1	22.2	22.2	46.5	22.1	19.8	46.4	31.8	38.5
LnGrp LOS	B	A	B	D	C	C	D	C	B	D	C	D
Approach Vol, veh/h		640			219			427			876	
Approach Delay, s/veh		6.6			25.5			26.3			35.7	
Approach LOS		A			C			C			D	

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	6.3	91.9	8.9	37.5	60.3	38.0	7.1	39.3
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	5.3	33.8	4.0	* 32	6.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	3.2	4.8	3.9	24.2	9.5	5.4	3.0	8.1
Green Ext Time (p_c), s	0.0	1.3	0.0	2.0	0.0	0.6	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	24.2
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	551	203	48	406	73	157	754	47	125	929	38
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	51	562	186	49	414	65	160	769	37	128	948	28
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	65	916	302	533	1943	303	174	1557	75	161	1021	434
Arrive On Green	0.04	0.33	0.33	0.29	0.61	0.61	0.10	0.29	0.29	0.09	0.27	0.27
Sat Flow, veh/h	1810	2735	902	1810	3204	499	1810	5395	259	1810	3800	1615
Grp Volume(v), veh/h	51	390	358	49	244	235	160	541	265	128	948	28
Grp Sat Flow(s),veh/h/ln	1810	1900	1738	1810	1900	1804	1810	1900	1854	1810	1900	1615
Q Serve(g_s), s	2.2	13.7	13.8	1.6	4.6	4.7	7.0	9.4	9.5	5.5	19.4	1.2
Cycle Q Clear(g_c), s	2.2	13.7	13.8	1.6	4.6	4.7	7.0	9.4	9.5	5.5	19.4	1.2
Prop In Lane	1.00		0.52	1.00		0.28	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	65	637	582	533	1152	1093	174	1096	535	161	1021	434
V/C Ratio(X)	0.78	0.61	0.62	0.09	0.21	0.21	0.92	0.49	0.50	0.79	0.93	0.06
Avail Cap(c_a), veh/h	90	637	582	533	1152	1093	174	1096	535	188	1021	434
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	38.3	22.3	22.3	20.5	7.1	7.1	35.8	23.6	23.6	35.7	28.5	28.7
Incr Delay (d2), s/veh	17.0	4.4	4.8	0.0	0.4	0.4	44.7	1.6	3.3	15.4	15.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	7.9	7.3	0.8	2.6	2.5	5.7	5.2	5.3	3.5	12.3	0.6
LnGrp Delay(d),s/veh	55.2	26.6	27.1	20.5	7.5	7.6	80.5	25.2	26.9	51.1	43.9	29.0
LnGrp LOS	E	C	C	C	A	A	F	C	C	D	D	C
Approach Vol, veh/h		799			528			966			1104	
Approach Delay, s/veh		28.7			8.8			34.8			44.4	
Approach LOS		C			A			C			D	

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	9.6	32.3	13.2	27.0	7.4	54.6	11.6	28.6
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	* 27	7.7	* 22	4.0	26.8	8.3	20.9
Max Q Clear Time (g_c+I1), s	3.6	15.8	9.0	21.4	4.2	6.7	7.5	11.5
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.0	1.6	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	32.4
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	24	97	39	156	55	87	34	845	174	18	775	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	114	17	184	65	43	40	994	191	21	912	21
Adj No. of Lanes	0	1	1	0	2	1	1	3	0	1	3	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	36	146	156	239	251	207	148	2689	515	30	2856	66
Arrive On Green	0.10	0.10	0.10	0.13	0.13	0.13	0.08	0.58	0.58	0.02	0.51	0.51
Sat Flow, veh/h	371	1510	1610	1810	1900	1572	1810	4640	889	1810	5548	128
Grp Volume(v), veh/h	142	0	17	184	65	43	40	814	371	21	624	309
Grp Sat Flow(s),veh/h/ln	1881	0	1610	1810	1900	1572	1810	1900	1729	1810	1900	1875
Q Serve(g_s), s	8.8	0.0	1.2	11.8	3.7	2.9	2.5	13.7	13.8	1.4	11.4	11.5
Cycle Q Clear(g_c), s	8.8	0.0	1.2	11.8	3.7	2.9	2.5	13.7	13.8	1.4	11.4	11.5
Prop In Lane	0.20		1.00	1.00		1.00	1.00		0.51	1.00		0.07
Lane Grp Cap(c), veh/h	182	0	156	239	251	207	148	2203	1002	30	1956	965
V/C Ratio(X)	0.78	0.00	0.11	0.77	0.26	0.21	0.27	0.37	0.37	0.69	0.32	0.32
Avail Cap(c_a), veh/h	470	0	402	452	475	393	148	2203	1002	143	1956	965
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	0.0	49.5	50.3	46.8	46.5	51.7	13.5	13.5	58.7	16.9	16.9
Incr Delay (d2), s/veh	2.8	0.0	0.1	2.0	0.2	0.2	4.5	0.5	1.1	10.0	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	0.5	6.0	1.9	1.3	1.4	7.3	6.9	0.8	6.1	6.2
LnGrp Delay(d),s/veh	55.7	0.0	49.6	52.3	47.0	46.7	56.2	14.0	14.6	68.6	17.3	17.8
LnGrp LOS	E		D	D	D	D	E	B	B	E	B	B
Approach Vol, veh/h		159			292			1225			954	
Approach Delay, s/veh		55.1			50.3			15.5			18.6	
Approach LOS		E			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.5	75.1		17.1	14.3	67.3		21.3
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	9.5	29.5		30.0	9.8	29.2		30.0
Max Q Clear Time (g_c+I1), s	13.4	15.8		10.8	4.5	13.5		13.8
Green Ext Time (p_c), s	0.0	7.5		0.5	0.0	8.1		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	22.9
HCM 2010 LOS	C

Notes

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

APPENDIX 3.3:

EXISTING (2015) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

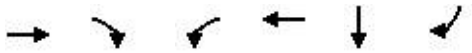
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Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	351	38	369	1347	567	225
v/c Ratio	0.24	0.05	0.79	0.51	0.73	0.60
Control Delay	14.1	0.1	35.5	5.4	7.7	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.1	0.1	35.5	5.4	7.7	18.8
Queue Length 50th (ft)	42	0	120	83	0	36
Queue Length 95th (ft)	74	0	#242	154	51	87
Internal Link Dist (ft)	658			955		
Turn Bay Length (ft)						
Base Capacity (vph)	1468	807	504	2652	849	474
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.05	0.73	0.51	0.67	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	406	10	128	173	437	166
v/c Ratio	0.26	0.01	0.40	0.07	0.79	0.25
Control Delay	24.8	0.0	34.2	9.9	49.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.8	0.0	34.2	9.9	49.6	4.8
Queue Length 50th (ft)	101	0	40	24	311	0
Queue Length 95th (ft)	158	0	64	42	382	44
Internal Link Dist (ft)	844			267	1109	
Turn Bay Length (ft)		100	80			270
Base Capacity (vph)	1589	831	324	2381	870	960
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.01	0.40	0.07	0.50	0.17

Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	24	866	1752	396	289	35	44
v/c Ratio	0.21	0.41	0.82	1.00	0.53	0.14	0.08
Control Delay	12.5	8.7	15.4	73.4	23.7	19.1	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	8.7	15.4	73.4	23.7	19.1	8.8
Queue Length 50th (ft)	4	87	249	~156	95	10	3
Queue Length 95th (ft)	19	120	338	#321	164	30	23
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	117	2133	2144	395	544	250	560
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.41	0.82	1.00	0.53	0.14	0.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	221	638	303	363	4	104
v/c Ratio	0.76	0.23	0.15	0.30	0.01	0.23
Control Delay	40.5	6.1	14.7	2.4	39.5	9.1
Queue Delay	0.0	0.6	0.0	0.0	0.0	0.0
Total Delay	40.5	6.7	14.7	2.4	39.5	9.1
Queue Length 50th (ft)	157	71	56	0	3	0
Queue Length 95th (ft)	212	119	90	49	13	47
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	577	2755	2059	1195	364	448
Starvation Cap Reductn	10	1623	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.56	0.15	0.30	0.01	0.23

Intersection Summary

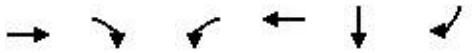


Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	679	132	534	377	731	195
v/c Ratio	0.56	0.19	1.10	0.15	0.96	0.25
Control Delay	19.0	4.2	98.0	4.5	35.6	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	4.2	98.0	4.5	35.6	0.7
Queue Length 50th (ft)	100	0	~227	22	72	0
Queue Length 95th (ft)	144	30	#391	35	#285	0
Internal Link Dist (ft)	658			955		
Turn Bay Length (ft)						
Base Capacity (vph)	1216	697	484	2438	758	790
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.19	1.10	0.15	0.96	0.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	418	10	135	141	373	296
v/c Ratio	0.21	0.01	0.66	0.06	0.76	0.42
Control Delay	18.4	0.0	62.5	8.1	50.7	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	0.0	62.5	8.1	50.7	5.1
Queue Length 50th (ft)	85	0	108	16	268	0
Queue Length 95th (ft)	148	0	175	33	336	59
Internal Link Dist (ft)	844			267	1109	
Turn Bay Length (ft)		100	80			270
Base Capacity (vph)	1950	1004	324	2501	870	1031
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	10	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.01	0.42	0.06	0.43	0.29

Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	14	1366	1443	30	31	90	37
v/c Ratio	0.11	0.64	0.68	0.08	0.06	0.23	0.06
Control Delay	9.3	11.2	12.0	17.7	17.3	19.6	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.3	11.2	12.0	17.7	17.3	19.6	6.5
Queue Length 50th (ft)	2	162	181	9	9	27	0
Queue Length 95th (ft)	11	220	243	26	26	60	17
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	128	2138	2133	398	543	400	572
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.64	0.68	0.08	0.06	0.23	0.06

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	279	555	282	474	10	129
v/c Ratio	0.79	0.20	0.15	0.40	0.03	0.28
Control Delay	45.7	2.2	16.7	2.8	39.8	8.6
Queue Delay	0.2	0.3	0.0	0.0	0.0	0.0
Total Delay	45.9	2.5	16.7	2.8	39.8	8.6
Queue Length 50th (ft)	185	38	56	0	6	0
Queue Length 95th (ft)	65	18	89	55	22	51
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	577	2755	1941	1189	364	468
Starvation Cap Reductn	37	1503	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.44	0.15	0.40	0.03	0.28

Intersection Summary

APPENDIX 3.4:

EXISTING (2015) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

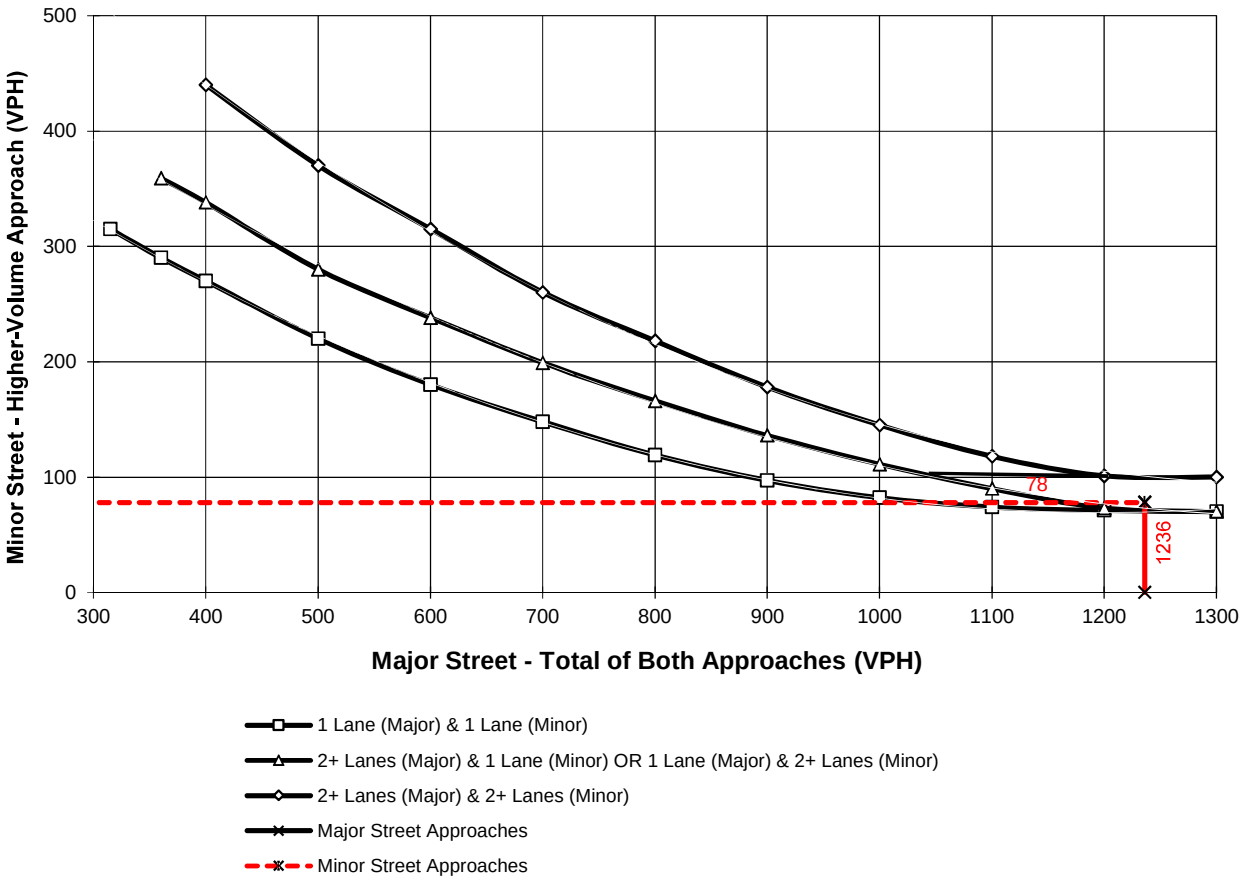
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2015) Conditions - Weekday PM Peak Hour**

Major Street Name = **Harley Knox Boulevard** Total of Both Approaches (VPH) = **1236**
Number of Approach Lanes Major Street = **2**

Minor Street Name = **Western Way** High Volume Approach (VPH) = **78**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

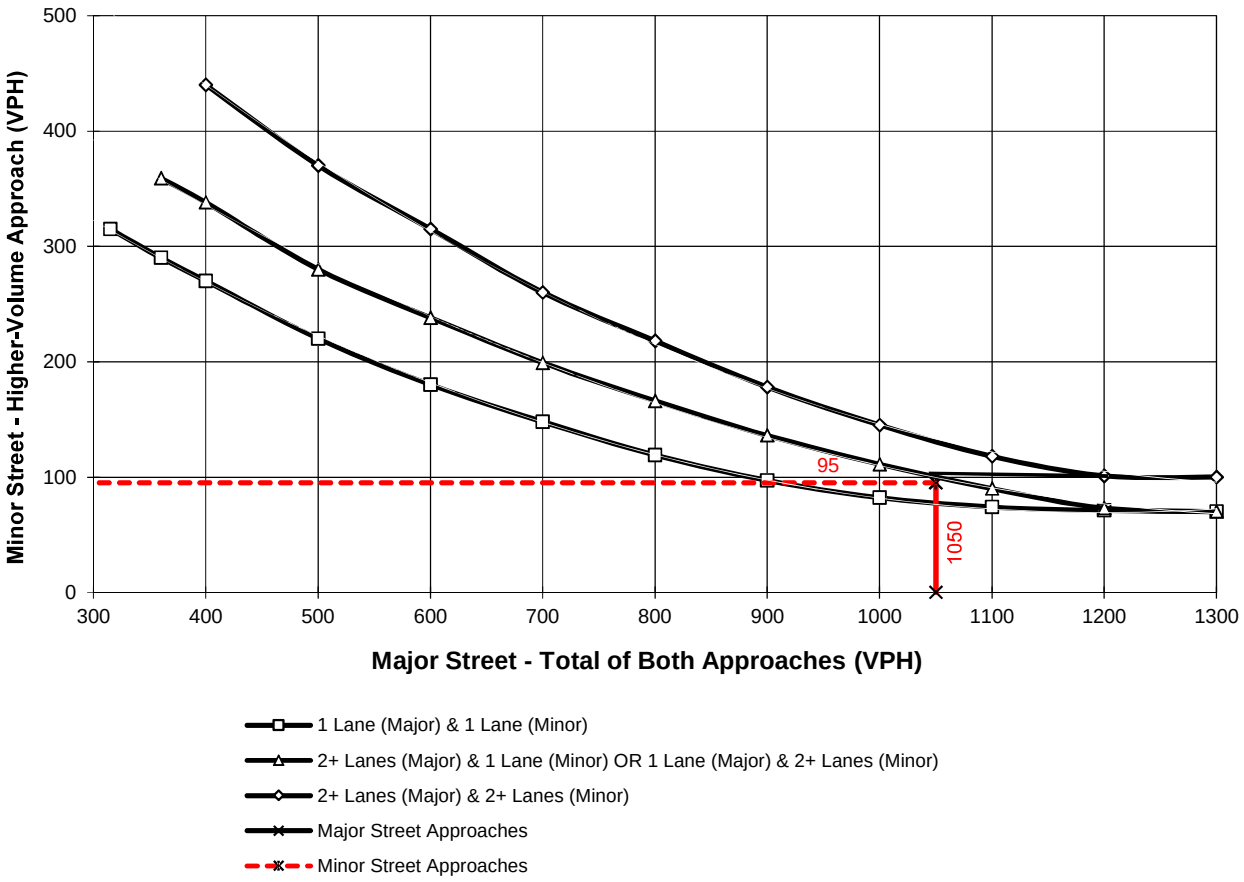
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2015) Conditions - Weekday AM Peak Hour**

Major Street Name = **Heacock Street** Total of Both Approaches (VPH) = **1050**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Gentian Avenue** High Volume Approach (VPH) = **95**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

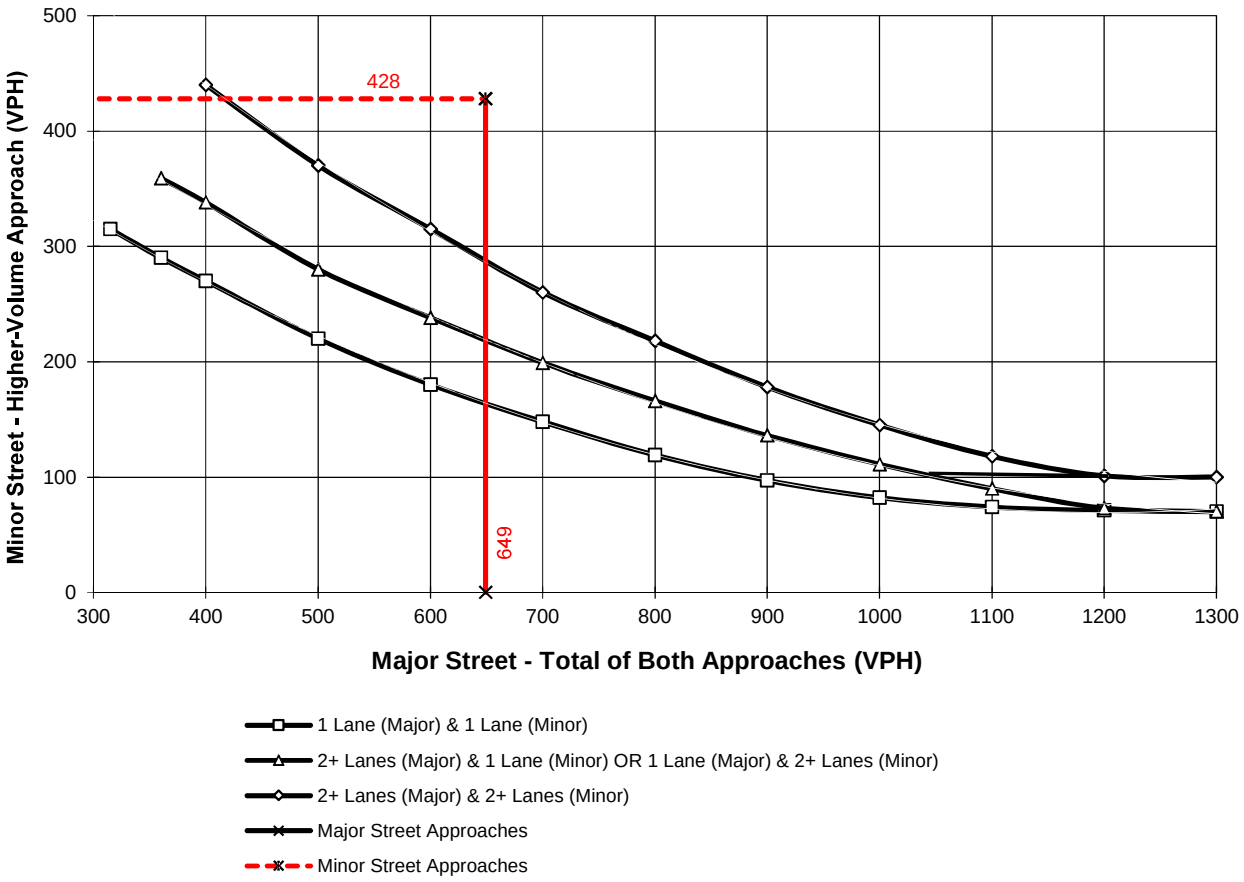
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2015) Conditions - Weekday AM Peak Hour**

Major Street Name = **Heacock Street** Total of Both Approaches (VPH) = **649**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Iris Avenue** High Volume Approach (VPH) = **428**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

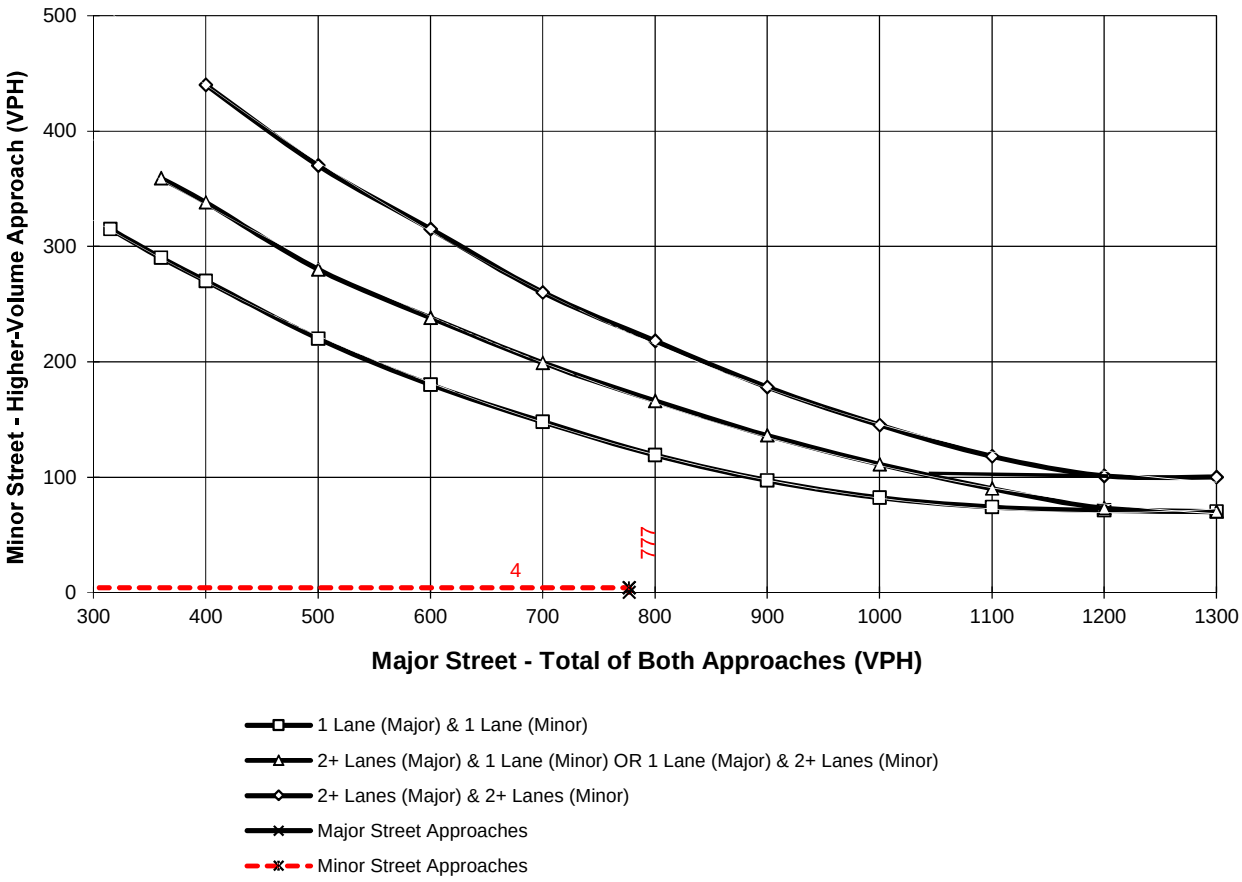
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2015) Conditions - Weekday PM Peak Hour**

Major Street Name = **Heacock Street** Total of Both Approaches (VPH) = **777**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Cardinal Avenue** High Volume Approach (VPH) = **4**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

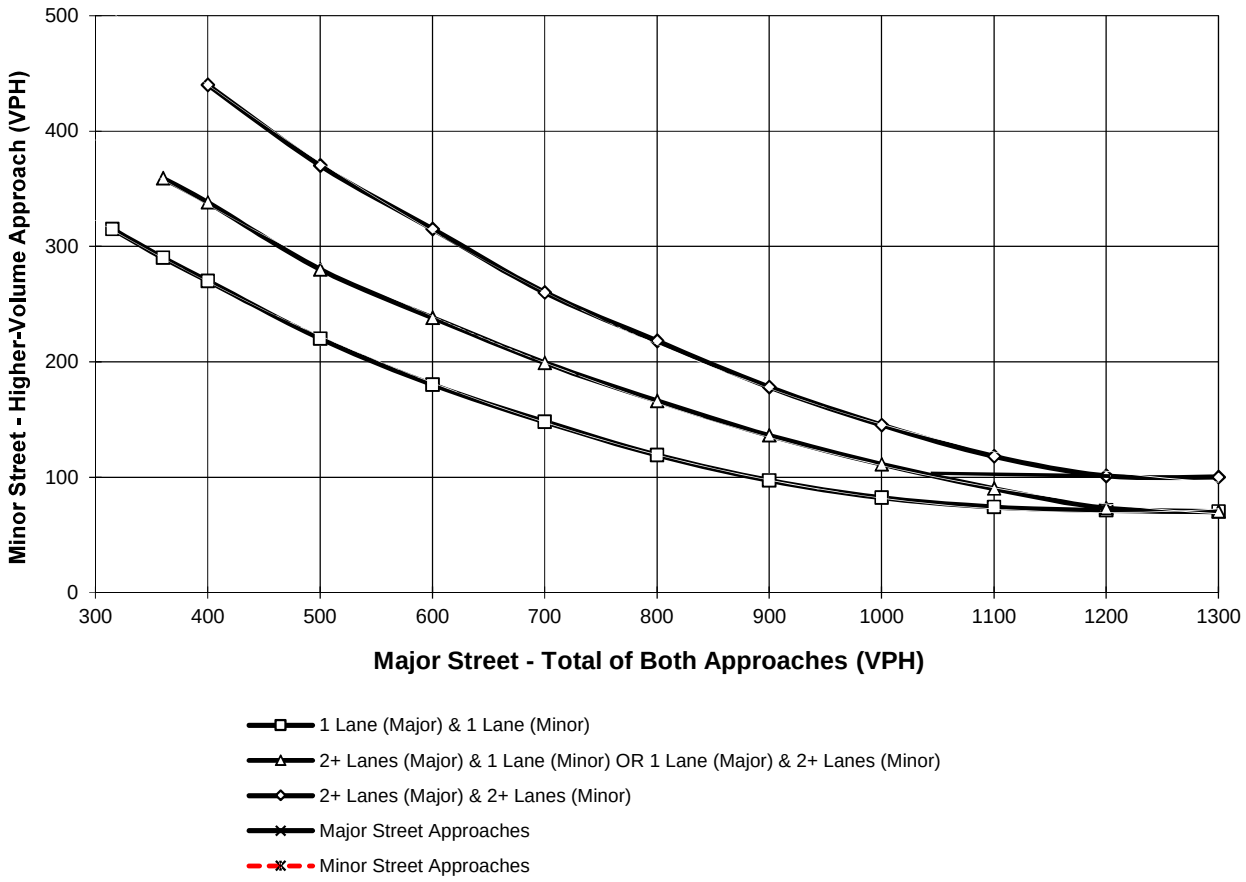
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2015) Conditions - Weekday PM Peak Hour**

Major Street Name = **Heacock Street** Total of Both Approaches (VPH) = **220**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Nandina Avenue** High Volume Approach (VPH) = **70**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

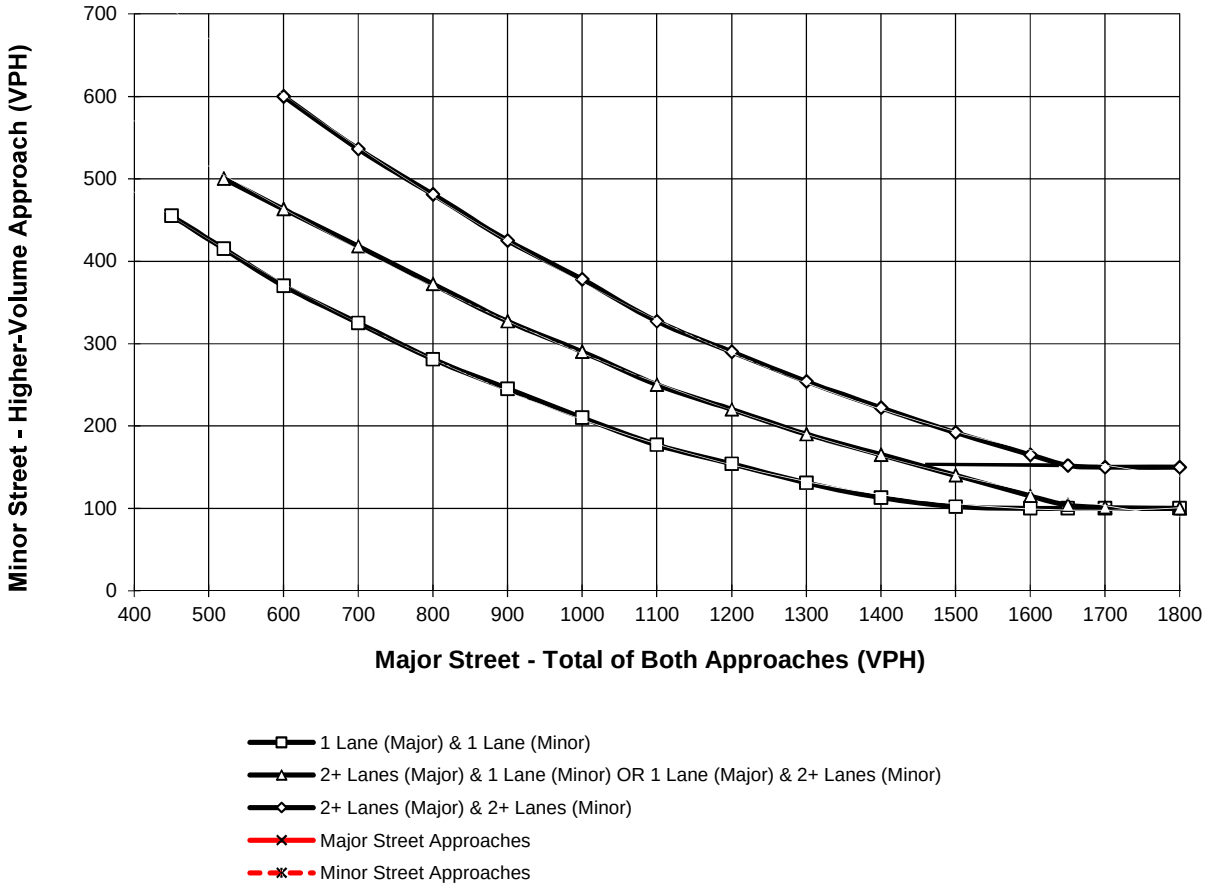
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Existing (2015) Conditions - Weekday AM Peak Hour**

Major Street Name = **Cosmos Street** Total of Both Approaches (VPH) = **72**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Krameria Avenue (North)** High Volume Approach (VPH) = **37**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

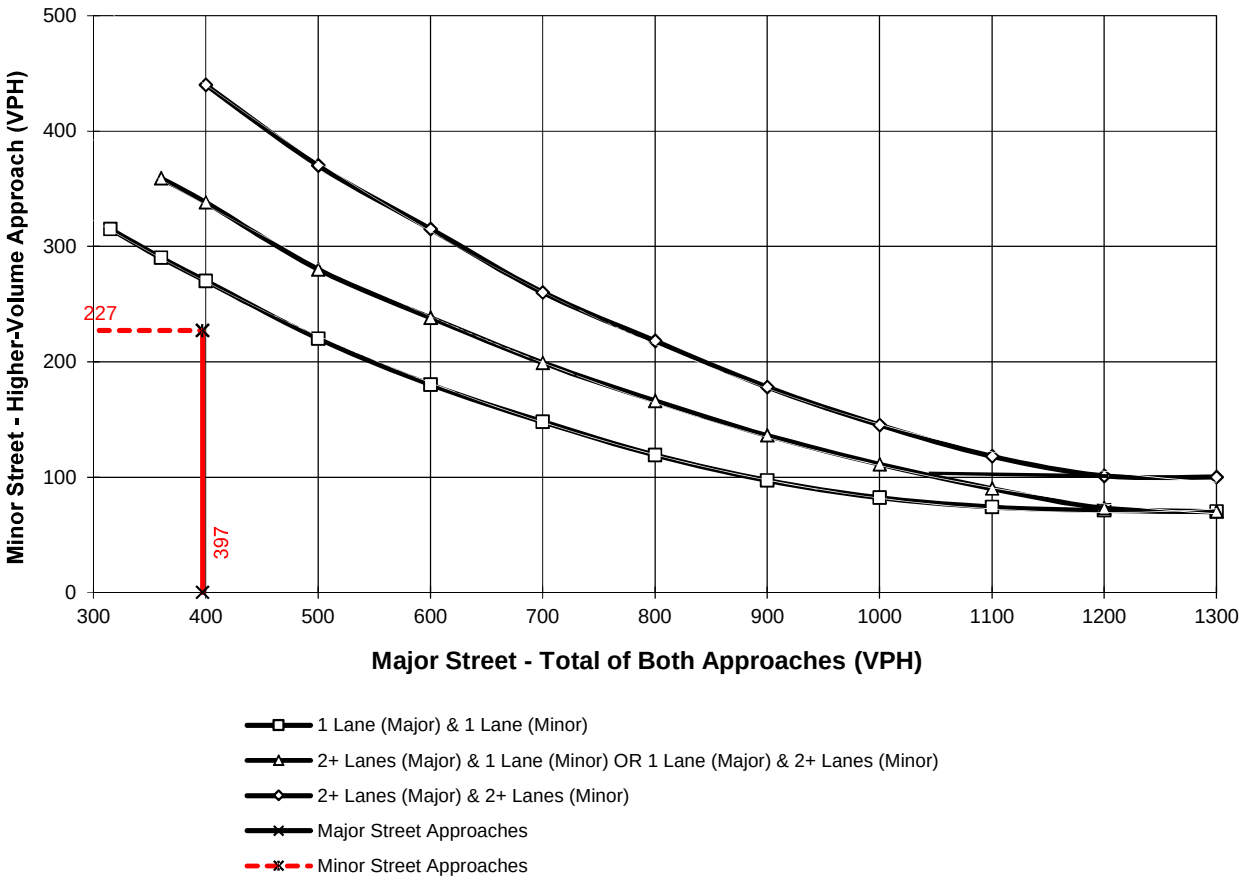
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2015) Conditions - Weekday AM Peak Hour**

Major Street Name = **Indian Avenue** Total of Both Approaches (VPH) = **397**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Krameria Avenue** High Volume Approach (VPH) = **227**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 3.5:

EXISTING (2015) CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4985	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1388	pc/h/ln
S	69.6	mph
D = v_p / S	19.9	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4693	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1301	pc/h/ln
S	69.9	mph
D = v_p / S	18.6	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2544	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	940	pc/h/ln
S	70.0	mph
D = v_p / S	13.4	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2186	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	2
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	800	pc/h/ln
S	70.0	mph
D = v_p / S	11.4	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2724	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	7
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.966

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	766	pc/h/ln
S	70.0	mph
D = v_p / S	10.9	pc/mi/ln
LOS	A	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3679	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1025	pc/h/ln
S	70.0	mph
D = v_p / S	14.6	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4092	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1512	pc/h/ln
S	68.9	mph
D = v_p / S	22.0	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3721	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	3
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.985

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1368	pc/h/ln
S	69.7	mph
D = v_p / S	19.6	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5540	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1543	pc/h/ln
S	68.6	mph
D = v_p / S	22.5	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5354	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1484	pc/h/ln
S	69.1	mph
D = v_p / S	21.5	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3855	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1425	pc/h/ln
S	69.4	mph
D = v_p / S	20.5	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3445	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	3
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.985

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1267	pc/h/ln
S	69.9	mph
D = v_p / S	18.1	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2523	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	703	pc/h/ln
S	70.0	mph
D = v_p / S	10.0	pc/mi/ln
LOS	A	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2678	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	742	pc/h/ln
S	70.0	mph
D = v_p / S	10.6	pc/mi/ln
LOS	A	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3247	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1200	pc/h/ln
S	70.0	mph
D = v_p / S	17.1	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/9/2015
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2779	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	3
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.985

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1022	pc/h/ln
S	70.0	mph
D = v_p / S	14.6	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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APPENDIX 3.6:

EXISTING (2015) CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/9/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off

L_{up} = 1000 ft

V_u = 173 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	4812
Ramp Volume, V_R	484
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4812	0.92	Level	4	0	0.980	1.00	5335
Ramp	484	0.92	Level	8	0	0.962	1.00	547
UpStream	173	0.92	Level	14	0	0.935	1.00	201
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 2635 pc/h

V_3 or V_{av34} 1350 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5335	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	4788	Exhibit 13-8	9600	No
V_R	547	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2635	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 26.9 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.737 (Exhibit 13-12)

S_R = 49.4 mph (Exhibit 13-12)

S_0 = 75.4 mph (Exhibit 13-12)

S = 59.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/9/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2015)

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	4812
Ramp Volume, V_R	484
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1500 ft; V_D = 365 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4812	0.92	Level	4	0	0.980	1.00	5335
Ramp	484	0.92	Level	8	0	0.962	1.00	547
UpStream								
DownStream	365	0.92	Level	6	0	0.971	1.00	409

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 2635 pc/h

V_3 or V_{av34} 1350 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5335	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	4788	Exhibit 13-8	9600	No
V_R	547	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2635	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 26.9 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.737 (Exhibit 13-12)

S_R = 49.4 mph (Exhibit 13-12)

S_0 = 75.4 mph (Exhibit 13-12)

S = 59.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/9/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2015)

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	2544
Ramp Volume, V_R	456
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1420 ft; V_D = 98 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2544	0.92	Level	4	0	0.980	1.00	2821
Ramp	456	0.92	Level	17	0	0.922	1.00	538
UpStream								
DownStream	98	0.92	Level	28	0	0.877	1.00	121

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.665 using Equation (Exhibit 13-7)

V_{12} = 2056 pc/h

V_3 or V_{av34} 765 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2821	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2283	Exhibit 13-8	7200	No
V_R	538	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2056	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 20.2 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.346 (Exhibit 13-12)

S_R = 60.3 mph (Exhibit 13-12)

S_0 = 76.8 mph (Exhibit 13-12)

S = 64.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/9/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2015)

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 456 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2088	
	Ramp Volume, V_R: 98	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2088	0.92	Level	1	0	0.995	1.00	2281
Ramp	98	0.92	Level	28	0	0.877	1.00	121
UpStream	456	0.92	Level	17	0	0.922	1.00	538
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 580.87 (Equation 13-6 or 13-7)

P_{FM} = 0.585 using Equation (Exhibit 13-6)

V_{12} = 1334 pc/h

V_3 or V_{av34} = 947 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1334 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2402	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1455	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.314 (Exibit 13-11)

S_R = 61.2 mph (Exhibit 13-11)

S_0 = 68.4 mph (Exhibit 13-11)

S = 63.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/9/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2015)

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1075 ft	Acceleration Lane Length, L_A: 0	L_{down} = ft
V_u = 15 veh/h	Deceleration Lane Length L_D	V_D = veh/h
	Freeway Volume, V_F: 2433	
	Ramp Volume, V_R: 291	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2433	0.92	Level	7	0	0.966	1.00	2737
Ramp	291	0.92	Level	7	0	0.966	1.00	327
UpStream	15	0.92	Level	87	0	0.697	1.00	23
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 1581 pc/h

V_3 or V_{av34} = 1156 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1581 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3064	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1908	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 20.2 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.347 (Exibit 13-11)

S_R = 60.3 mph (Exhibit 13-11)

S_0 = 67.6 mph (Exhibit 13-11)

S = 62.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/9/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2015)

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 90 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3631	
	Ramp Volume, V_R: 461	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3631	0.92	Level	3	0	0.985	1.00	4006
Ramp	461	0.92	Level	13	0	0.939	1.00	534
UpStream	90	0.92	Level	10	0	0.952	1.00	103
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1056.16 (Equation 13-6 or 13-7)

P_{FM} = 0.586 using Equation (Exhibit 13-6)

V_{12} = 2347 pc/h

V_3 or V_{av34} = 1659 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2347 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4540	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2881	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 25.8 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.364 (Exibit 13-11)

S_R = 59.8 mph (Exhibit 13-11)

S_0 = 65.8 mph (Exhibit 13-11)

S = 61.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/9/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2015)

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	3721
Ramp Volume, V_R	90
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1395 ft
V_D = 461 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3721	0.92	Level	3	0	0.985	1.00	4105
Ramp	90	0.92	Level	10	0	0.952	1.00	103
UpStream								
DownStream	461	0.92	Level	13	0	0.939	1.00	534

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.653 using Equation (Exhibit 13-7)
V_{12} = 2715 pc/h
V_3 or V_{av34} 1390 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4105	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4002	Exhibit 13-8	7200	No
V_R	103	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2715	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 25.1 (pc/mi/ln)
LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.307 (Exhibit 13-12)
S_R = 61.4 mph (Exhibit 13-12)
S_0 = 75.3 mph (Exhibit 13-12)
S = 65.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/9/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2015)

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off; L_{up} = 1000 ft; V_u = 152 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	5388
Ramp Volume, V_R	653
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{down} = ft; V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5388	0.92	Level	4	0	0.980	1.00	5974
Ramp	653	0.92	Level	4	0	0.980	1.00	724
UpStream	152	0.92	Level	13	0	0.939	1.00	176
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3013 pc/h

V_3 or V_{av34} 1480 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5974	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5250	Exhibit 13-8	9600	No
V_R	724	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3013	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 30.2 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.753 (Exhibit 13-12)

S_R = 48.9 mph (Exhibit 13-12)

S_0 = 74.9 mph (Exhibit 13-12)

S = 59.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/9/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2015)

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	5388
Ramp Volume, V_R	653
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1500 ft

V_D = 619 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5388	0.92	Level	4	0	0.980	1.00	5974
Ramp	653	0.92	Level	4	0	0.980	1.00	724
UpStream								
DownStream	619	0.92	Level	2	0	0.990	1.00	680

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3013 pc/h

V_3 or V_{av34} 1480 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5974	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5250	Exhibit 13-8	9600	No
V_R	724	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3013	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 30.2 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.753 (Exhibit 13-12)

S_R = 48.9 mph (Exhibit 13-12)

S_0 = 74.9 mph (Exhibit 13-12)

S = 59.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/9/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2015)

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	3855
Ramp Volume, V_R	532
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1420 ft; V_D = 122 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3855	0.92	Level	4	0	0.980	1.00	4274
Ramp	532	0.92	Level	13	0	0.939	1.00	616
UpStream								
DownStream	122	0.92	Level	10	0	0.952	1.00	139

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.625 using Equation (Exhibit 13-7)

V_{12} = 2902 pc/h

V_3 or V_{av34} 1372 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4274	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3658	Exhibit 13-8	7200	No
V_R	616	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2902	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 27.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.353 (Exhibit 13-12)

S_R = 60.1 mph (Exhibit 13-12)

S_0 = 75.3 mph (Exhibit 13-12)

S = 64.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/9/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2015)

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 532 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3323	
	Ramp Volume, V_R: 122	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3323	0.92	Level	3	0	0.985	1.00	3666
Ramp	122	0.92	Level	10	0	0.952	1.00	139
UpStream	532	0.92	Level	13	0	0.939	1.00	616
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 881.11 (Equation 13-6 or 13-7)

P_{FM} = 0.585 using Equation (Exhibit 13-6)

V_{12} = 2144 pc/h

V_3 or V_{av34} = 1522 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2144 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3805	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2283	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 21.6 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.336 (Exibit 13-11)

S_R = 60.6 mph (Exhibit 13-11)

S_0 = 66.3 mph (Exhibit 13-11)

S = 62.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/9/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1075 ft	Acceleration Lane Length, L_A: 0	L_{down} = ft
V_u = 113 veh/h	Deceleration Lane Length L_D	V_D = veh/h
	Freeway Volume, V_F: 2027	
	Ramp Volume, V_R: 496	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2027	0.92	Level	6	0	0.971	1.00	2269
Ramp	496	0.92	Level	5	0	0.976	1.00	553
UpStream	113	0.92	Level	16	0	0.926	1.00	133
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 1310 pc/h

V_3 or V_{av34} 959 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1310 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2822	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1863	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 19.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.346 (Exibit 13-11)

S_R = 60.3 mph (Exhibit 13-11)

S_0 = 68.3 mph (Exhibit 13-11)

S = 62.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/9/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2015)

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 115 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2664	
	Ramp Volume, V_R: 583	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2664	0.92	Level	2	0	0.990	1.00	2925
Ramp	583	0.92	Level	11	0	0.948	1.00	669
UpStream	115	0.92	Level	9	0	0.957	1.00	131
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 853.72 (Equation 13-6 or 13-7)

P_{FM} = 0.586 using Equation (Exhibit 13-6)

V_{12} = 1714 pc/h

V_3 or V_{av34} 1211 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1714 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3594	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2383	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 21.9 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.336 (Exibit 13-11)

S_R = 60.6 mph (Exhibit 13-11)

S_0 = 67.4 mph (Exhibit 13-11)

S = 62.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/9/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing (2015)

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	2779
Ramp Volume, V_R	115
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1395 ft; V_D = 583 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2779	0.92	Level	3	0	0.985	1.00	3066
Ramp	115	0.92	Level	9	0	0.957	1.00	131
UpStream								
DownStream	583	0.92	Level	11	0	0.948	1.00	669

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.677 using Equation (Exhibit 13-7)

V_{12} = 2119 pc/h

V_3 or V_{av34} 947 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3066	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2935	Exhibit 13-8	7200	No
V_R	131	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2119	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 20.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.310 (Exhibit 13-12)

S_R = 61.3 mph (Exhibit 13-12)

S_0 = 76.8 mph (Exhibit 13-12)

S = 65.4 mph (Exhibit 13-13)

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APPENDIX 3.7:

EXISTING (2015) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	3	92	563	2	55	430
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	97	593	2	58	453
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	138	123	735	624	573	1476
Arrive On Green	0.08	0.08	0.77	0.77	0.32	0.78
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	3	97	593	2	58	453
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.1	4.4	14.1	0.0	1.7	5.2
Cycle Q Clear(g_c), s	0.1	4.4	14.1	0.0	1.7	5.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	138	123	735	624	573	1476
V/C Ratio(X)	0.02	0.79	0.81	0.00	0.10	0.31
Avail Cap(c_a), veh/h	627	560	735	624	573	1476
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.85	0.85	1.00	1.00
Uniform Delay (d), s/veh	32.0	34.0	6.8	5.2	18.1	2.5
Incr Delay (d2), s/veh	0.0	4.1	8.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.1	8.4	0.0	0.8	2.9
LnGrp Delay(d),s/veh	32.1	38.1	14.8	5.2	18.1	3.0
LnGrp LOS	C	D	B	A	B	A
Approach Vol, veh/h	100		595			511
Approach Delay, s/veh	38.0		14.8			4.7
Approach LOS	D		B			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.3	34.5				63.8		11.2
Change Period (Y+Rc), s	5.5	* 5.5				5.5		5.5
Max Green Setting (Gmax), s	4.5	* 29				38.0		26.0
Max Q Clear Time (g_c+I1), s	3.7	16.1				7.2		6.4
Green Ext Time (p_c), s	0.2	1.8				1.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.4
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	45	383	183	36	200	230
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	48	407	195	38	213	245
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	500	447	515	100	308	1096
Arrive On Green	0.28	0.28	0.33	0.33	0.23	0.77
Sat Flow, veh/h	1810	1615	1546	301	1810	1900
Grp Volume(v), veh/h	48	407	0	233	213	245
Grp Sat Flow(s),veh/h/ln	1810	1615	0	1847	1810	1900
Q Serve(g_s), s	1.5	18.3	0.0	7.2	8.1	2.7
Cycle Q Clear(g_c), s	1.5	18.3	0.0	7.2	8.1	2.7
Prop In Lane	1.00	1.00		0.16	1.00	
Lane Grp Cap(c), veh/h	500	447	0	616	308	1096
V/C Ratio(X)	0.10	0.91	0.00	0.38	0.69	0.22
Avail Cap(c_a), veh/h	627	560	0	616	308	1096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.96	0.96
Uniform Delay (d), s/veh	20.2	26.2	0.0	19.1	27.2	4.0
Incr Delay (d2), s/veh	0.0	15.0	0.0	1.8	5.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	9.9	0.0	4.0	4.5	1.5
LnGrp Delay(d),s/veh	20.2	41.2	0.0	20.8	32.5	4.5
LnGrp LOS	C	D		C	C	A
Approach Vol, veh/h	455		233			458
Approach Delay, s/veh	39.0		20.8			17.5
Approach LOS	D		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	18.3	30.5				48.8		26.2
Change Period (Y+Rc), s	5.5	* 5.5				5.5		5.5
Max Green Setting (Gmax), s	8.5	* 25				38.0		26.0
Max Q Clear Time (g_c+I1), s	10.1	9.2				4.7		20.3
Green Ext Time (p_c), s	0.0	0.6				1.0		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	60	567	7	124	923
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	65	610	8	133	992
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	92	82	830	705	596	1571
Arrive On Green	0.05	0.05	0.44	0.44	0.33	0.83
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	1	65	610	8	133	992
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.0	3.6	24.0	0.3	4.8	17.0
Cycle Q Clear(g_c), s	0.0	3.6	24.0	0.3	4.8	17.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	92	82	830	705	596	1571
V/C Ratio(X)	0.01	0.79	0.74	0.01	0.22	0.63
Avail Cap(c_a), veh/h	523	467	830	705	596	1571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.79	0.79	1.00	1.00
Uniform Delay (d), s/veh	40.6	42.2	21.0	14.4	21.9	2.8
Incr Delay (d2), s/veh	0.0	6.3	4.6	0.0	0.1	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	0.0	1.7	13.6	0.1	2.4	9.4
LnGrp Delay(d),s/veh	40.6	48.6	25.6	14.4	21.9	4.8
LnGrp LOS	D	D	C	B	C	A
Approach Vol, veh/h	66		618			1125
Approach Delay, s/veh	48.4		25.5			6.8
Approach LOS	D		C			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	35.1	44.8				79.9		10.1
Change Period (Y+Rc), s	5.5	* 5.5				5.5		5.5
Max Green Setting (Gmax), s	9.3	* 39				53.0		26.0
Max Q Clear Time (g_c+I1), s	16.8	26.0				19.0		5.6
Green Ext Time (p_c), s	1.2	1.8				4.8		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	18	243	324	18	512	391
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	283	377	21	595	455
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	344	307	490	27	719	1364
Arrive On Green	0.19	0.19	0.28	0.28	0.40	0.72
Sat Flow, veh/h	1810	1615	1783	99	1810	1900
Grp Volume(v), veh/h	21	283	0	398	595	455
Grp Sat Flow(s),veh/h/ln	1810	1615	0	1882	1810	1900
Q Serve(g_s), s	1.1	20.6	0.0	23.3	35.4	10.7
Cycle Q Clear(g_c), s	1.1	20.6	0.0	23.3	35.4	10.7
Prop In Lane	1.00	1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	344	307	0	518	719	1364
V/C Ratio(X)	0.06	0.92	0.00	0.77	0.83	0.33
Avail Cap(c_a), veh/h	392	350	0	518	719	1364
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.72	0.72
Uniform Delay (d), s/veh	39.8	47.7	0.0	40.0	32.5	6.3
Incr Delay (d2), s/veh	0.0	25.7	0.0	10.5	5.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	11.4	0.0	13.7	18.8	5.7
LnGrp Delay(d),s/veh	39.8	73.4	0.0	50.5	38.0	6.7
LnGrp LOS	D	E		D	D	A
Approach Vol, veh/h	304		398			1050
Approach Delay, s/veh	71.1		50.5			24.5
Approach LOS	E		D			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	53.2	38.5				91.7		28.3
Change Period (Y+Rc), s	5.5	* 5.5				5.5		5.5
Max Green Setting (Gmax), s	45.5	* 33				83.0		26.0
Max Q Clear Time (g_c+I1), s	37.4	25.3				12.7		22.6
Green Ext Time (p_c), s	1.8	0.8				2.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	38.5
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 4.1:

CUMULATIVE DEVELOPMENT PROJECTS

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Charlene Hwang So

From: Julia Descoteaux <juliad@moval.org>
Sent: Monday, June 08, 2015 2:59 PM
To: Charlene Hwang So
Cc: CMS Administrator; 'David Ornelas (dornelas@tbplanning.com)'
Subject: RE: 09301: Cumulative Project Review

Hi Charlene,

Is this list intended to include both entitled (but not built) and existing/built uses?

Please include the following on your list:

Tract 31618 Moreno Beach and Bay Avenue 55 SFD
PA15-0004 Perris south of JFK Retail Restaurant/Fast Food 2973sqft
PA14-0042 Edgemont/Eucalyptus MFDR 112 units

MV-8 Refers to a project never approved.
MC-18 is a Car Wash and Retail Convenience store.
PA13-0009 a Fueling Station on Alessandro at Indian (NEC)

Thank you,
Julia

Julia Descoteaux
Associate Planner
Community & Economic Development
City of Moreno Valley
p: 951.413.3209 | e: juliad@moval.org w: www.moval.org
14177 Frederick St. Moreno Valley CA 92553

From: Charlene Hwang So [mailto:cso@urbanxroads.com]
Sent: Wednesday, June 03, 2015 4:09 PM
To: Julia Descoteaux
Cc: CMS Administrator
Subject: 09301: Cumulative Project Review
Importance: High

Hi Julia,

Could you please review the attached map and list of cumulative developments in the City of Moreno Valley, and provide any updates that you may have? We are trying to get a list of cumulative projects for inclusion in the traffic study for the Moreno Valley Logistics Center (Prologis) project. Please feel free to contact me with any questions or if you require any additional information. We have already reached out the adjacent jurisdictions as well: City of

Riverside, City of Perris, and County of Riverside. All but the City of Perris have already responded. Thank you in advance!

Regards,

CHARLENE SO, P.E.
Senior Transportation Engineer

41 Corporate Park, Suite 300
Irvine, CA 92606
(949) 336-5982 Direct
(949) 861-0177 Cell
(949) 660-1994 Main
urbanxroads.com

Charlene Hwang So

From: Julia Descoteaux <juliad@moval.org>
Sent: Tuesday, June 09, 2015 4:31 PM
To: David Ornelas; Charlene Hwang So
Cc: CMS Administrator
Subject: RE: 09301: Cumulative Project Review
Attachments: Cum deveop list.pdf

Attached please find the list with redlines. Please contact me with any questions.

Regards,
Julia

Julia Descoteaux
Associate Planner
Community & Economic Development
City of Moreno Valley
p: 951.413.3209 | e: juliad@moval.org w: www.moval.org
14177 Frederick St. Moreno Valley CA 92553

From: David Ornelas [mailto:dornelas@tbplanning.com]
Sent: Monday, June 08, 2015 3:30 PM
To: Julia Descoteaux; Charlene Hwang So
Cc: CMS Administrator
Subject: RE: 09301: Cumulative Project Review

Thank you for your help, Julia. The only projects that need to be removed from the list are projects that are completely built and operational. Projects that are under construction can remain on the list.

Regards,

David Ornelas
Project Manager

T&B PLANNING, INC.
Phone: (619) 501-6041
dornelas@tbplanning.com

From: Julia Descoteaux [mailto:juliad@moval.org]
Sent: Monday, June 08, 2015 3:21 PM
To: David Ornelas; Charlene Hwang So
Cc: CMS Administrator
Subject: RE: 09301: Cumulative Project Review

Hi David,

The list has projects that are built. I will need to go back and review the list to make changes.

Julia

Julia Descoteaux
Associate Planner
Community & Economic Development
City of Moreno Valley
p: 951.413.3209 | e: juliad@moval.org w: www.moval.org
14177 Frederick St. Moreno Valley CA 92553

From: David Ornelas [mailto:dornelas@tbplanning.com]
Sent: Monday, June 08, 2015 3:19 PM
To: Charlene Hwang So; Julia Descoteaux
Cc: CMS Administrator
Subject: RE: 09301: Cumulative Project Review

Hi, Julia:

Just to close the loop, with the addition of the projects listed below, is the cumulative project list approved for use in the CEQA analysis for Moreno Valley Logistics Center? The purpose of the list is to include proposed and approved (unbuilt) projects.

Regards,

David Ornelas
Project Manager

T&B PLANNING, INC.
Phone: (619) 501-6041
dornelas@tbplanning.com

From: Charlene Hwang So [mailto:cso@urbanxroads.com]
Sent: Monday, June 08, 2015 3:08 PM
To: Julia Descoteaux
Cc: CMS Administrator; David Ornelas
Subject: RE: 09301: Cumulative Project Review

Thanks Julia!

Regards,

CHARLENE SO, P.E.
Senior Transportation Engineer

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Irvine, CA 92606
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(949) 861-0177 Cell
(949) 660-1994 Main
urbanxroads.com

From: Julia Descoteaux [mailto:juliad@moval.org]
Sent: Monday, June 08, 2015 2:59 PM
To: Charlene Hwang So
Cc: CMS Administrator; 'David Ornelas (dornelas@tbplanning.com)'
Subject: RE: 09301: Cumulative Project Review

Hi Charlene,

Is this list intended to include both entitled (but not built) and existing/built uses?

Please include the following on your list:

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MV-8 Refers to a project never approved.
MC-18 is a Car Wash and Retail Convenience store.
PA13-0009 a Fueling Station on Alessandro at Indian (NEC)

Thank you,
Julia

Julia Descoteaux
Associate Planner
Community & Economic Development
City of Moreno Valley
p: 951.413.3209 | e: juliad@moval.org w: www.moval.org
14177 Frederick St. Moreno Valley CA 92553

From: Charlene Hwang So [mailto:cso@urbanxroads.com]
Sent: Wednesday, June 03, 2015 4:09 PM
To: Julia Descoteaux
Cc: CMS Administrator
Subject: 09301: Cumulative Project Review
Importance: High

Hi Julia,

Could you please review the attached map and list of cumulative developments in the City of Moreno Valley, and provide any updates that you may have? We are trying to get a list of cumulative projects for inclusion in the traffic study for the Moreno Valley Logistics Center (Prologis) project. Please feel free to contact me with any questions or if you require any additional information. We have already reached out the adjacent jurisdictions as well: City of Riverside, City of Perris, and County of Riverside. All but the City of Perris have already responded. Thank you in advance!

Regards,

CHARLENE SO, P.E.
Senior Transportation Engineer

URBAN CROSSROADS

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(949) 336-5982 Direct
(949) 861-0177 Cell
(949) 660-1994 Main
urbanxroads.com

Cumulative Development Land Use Summary

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
	CITY OF MORENO VALLEY			
MV-1	PA 06-0152 & PA 06-0153 (First Park Nandina I & II)	High-Cube Warehouse	~~1182.918~~	TSF
MV-2	Integra Pacific Industrial Facility	High-Cube Warehouse	880.000	TSF
~~MV-3~~	~~PA 08-0072 (Overton Moore Properties)~~	~~High-Cube Warehouse~~	~~520.000~~	~~TSF~~
~~MV-4~~	~~Harbor Freight Expansion~~	~~High-Cube Warehouse~~	~~1279.910~~	~~TSF~~
MV-5	PA 04-0063 (Centerpointe Buildings 8 and 9)	General Light Industrial	361.384	TSF
MV-6	PA 07-0035; PA 07-0039 (Moreno Valley Industrial Park)	General Light Industrial	204.657	TSF
		High-Cube Warehouse	409.920	TSF
~~MV-7~~	~~PA 07-0079 (Indian Business Park)~~	~~High-Cube Warehouse~~	~~1560.046~~	~~TSF~~
~~MV-8~~	~~PA 08-0047-0052 (Komar Caetus~~ Plaza)[3]	Hotel	~~110~~	~~RMS~~
		Fast Food w/Drive Thru	~~8.000~~	~~TSF~~
		Commercial	~~42.400~~	~~TSF~~
MV-9	First Inland Logistics Center	High-Cube Warehouse	400.130	TSF
MV-10	TM 33607	Condo/Townhomes	52	DU
MV-11	PA 08-0093 (Centerpointe Business Park II)	General Light Industrial	99.988	TSF
MV-12	PA 06-0021; PA 06-0022; PA 06-0048; PA 06-0049 (Komar Investments)	Warehousing	~~2657.680~~	TSF
MV-13	PA 06-0017 (Ivan Devries)	Industrial Park	569.200	TSF
MV-14	Modular Logistics (Dorado Property)	High-Cube Warehouse	1109.378	TSF
MV-15	PA 09-0004 (Vogel)	High-Cube Warehouse	~~1616.132~~	TSF
MV-16	TM 34748	SFDR	135	DU
MV-17	First Nandina Logistics Center	High-Cube Warehouse	1450.000	TSF
~~MV-18~~	~~PA 09-0031~~	~~Gas Station~~	~~12~~	~~VFP~~
MV-19	First Park Nandina III	High-Cube Warehouse	691.960	TSF
	Moreno Valley Commerce Park	High-Cube Warehouse	354.321	TSF
MV-20	March Business Center	General Light Industrial	16.732	TSF
		Warehousing	87.429	TSF
		High-Cube Warehouse	1380.246	TSF
MV-21	TM 33810	SFDR	16	DU
MV-22	TM 34151	SFDR	37	DU
MV-23	373K Industrial Facility	High-Cube Warehouse	373.030	TSF
MV-24	TM 32716	SFDR	57	DU
~~MV-25~~	~~TM 32917~~	~~Condo/Townhomes~~	~~227~~	~~DU~~
MV-26	TM 33417	Condo/Townhomes	60	DU
MV-27	TM 34988	Condo/Townhomes	271	DU
MV-28	TM 34216	Condo/Townhomes	39	DU
MV-29	TM 34681	Condo/Townhomes	49	DU
MV-30	PA 08-0079-0081 (Winco Foods)	Discount Supermarket	95.440	TSF
		Specialty Retail	14.800	TSF
MV-31	Moreno Beach Marketplace (Lowe's)	Commercial Retail	175.000	TSF
	Auto Mall Specific Plan (Planning Area C)	Commercial Retail	304.500	TSF
	Westridge	High-Cube Warehouse	937.260	TSF
	ProLogis	High-Cube Warehouse	1916.190	TSF
		Warehousing	328.448	TSF
	World Logistics Center	High-Cube Warehouse	41400.000	TSF
		Warehousing	200.000	TSF
		Gas Station w/ Market	12	VFP
		Existing SFDR	7	DU

Cumulative Development Land Use Summary

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
MV-32	Quail Ranch Specific Plan	Private School (K-12)	300	STU
		Golf Course	18	Holes
		Hotel	500	RMS
		Specialty Retail	66.667	TSF
		General office	66.667	TSF
		Assisted Living	500	Beds
		Senior Living (Detached)	200	DU
		SFDR	600	DU
MV-33	a TR 32460 (Sussex Capital)	SFDR	57	DU
	b TR 32459 (Sussex Capital)	SFDR	11	DU
	c TR 30411 (Pacific Communities)	SFDR	24	DU
	d TR 33962 (Pacific Scene Homes)	SFDR	31	DU
	e TR 30998 (Pacific Communities)	SFDR	47	DU
MV-34	a Westridge Commerce Center	High-Cube Warehouse	937.260	TSF
	b P06-158 (Gascon)	Commercial Retail	116.360	TSF
	c Auto Mall Specific Plan (PAC)	Commercial Retail	304.500	TSF
	d ProLogis	Warehousing	367.000	TSF
		High-Cube Warehouse	1901.000	TSF
	e TR 35823 (Stowe Passco)	SFDR	261	DU
		Apartments	216	DU
MV-35	TR 36340	SFDR	275	DU
MV-36	a TR 31771 (Sanchez)	SFDR	25	DU
	b TR 34397 (Winchester Associates)	SFDR	52	DU
	c TR 32645 (Winchester Associates)	SFDR	53	DU
MV-37	Lowe's (Moreno Beach Marketplace)	Home Improvement Store	175.000	TSF
MV-38	a Convenience Store/ Fueling Station	Gas Station w/ Market	30.750	TSF
	b Senior Assisted Living	Assisted Living Units	139	DU
	c TR 31590 (Winchester Associates)	SFDR	96	DU
	d TR 32548 (Gabel, Cook & Associates)	SFDR	107	DU
	e 20th Corp. & Granite Capitol	SFDR	92	DU
	f TR 32218 (Whitney)	SFDR	63	DU
	g Moreno Marketplace	Commercial Retail	93.788	TSF
	h Medical Plaza	Medical Offices	311.633	TSF
MV-39	a Moreno Medical Campus	Medical Offices	80.000	TSF
	b Aqua Bella Specific Plan	SFDR	2,922	DU
	c TR 34329 (Granite Capitol)	SFDR	90	DU
	d Cresta Bella	General Office	30.000	TSF
MV-40	Moreno Valley Industrial Center (Industrial Area SP)	General Light Industrial	354.810	TSF
MV-41	Centerpointe Business Park	General Light Industrial	356.000	TSF
MV-42	Moreno Valley Shopping Center	Free Standing Discount Store	189.520	TSF
		Gas Station w/ Market / Car Wash	16	VFP
MV-43	TR 31305 / Richmond American	Residential	87	DU
MV-44	TR 32505 / DR Horton	Residential	72	DU
MV-45	TR 34329 / Granite Capitol	Residential	90	DU
MV-46	TR 31814 / Moreno Valley Investors	Residential	60	DU
MV-47	TR 33771 / Creative Design Associates	Residential	12	DU
MV-48	TR 35663 / Kha	Residential	12	DU
MV-49	TR 22180 / Young Homes	Residential	140	DU
MV-50	TR 32515	Residential	161	DU
MV-51	TR 32142	Residential	81	DU
MV-52	San Michele Industrial Center (Industrial Area SP)	General Light Industrial	865.960	TSF
MV-53	Commercial Medical Plaza	Medical Offices	311.633	TSF
MV-54	Edgemont Street, South of Eucalyptus Av.	Apartments	112	DU
MV-55	28860 Professor's Fun IV, LLC/Winchester Associates, Inc.	SFDR	9	DU
MV-56	20636 Pacific Communities	SFDR	67	DU
MV-57	31297 Randy McFarland	SFDR	7	DU
MV-58	31394 Pigeon Pass, Ltd.	SFDR	78	DU
MV-59	31442 SKG Pacific Enterprises Inc.	SFDR	63	DU
MV-60	31517 Professors Prop Six/Winchester Assoc.	SFDR	83	DU

Cumulative Development Land Use Summary

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
MV-61	31621 Peter Sanchez	SFDR	25	DU
MV-62	32005 Red Hill Village, LLC	SFDR	214	DU
MV-63	32126 Salvador Torres	SFDR	35	DU
MV-64	32194 Arman Pezeshkifar	SFDR	32	DU
MV-65	32408 Sanstone Inc.	SFDR	80	DU
MV-66	32844 Winchester Associates	SFDR	17	DU
MV-67	32978 Focus Estates	SFDR	19	DU
MV-68	33024 Adam Wislar	SFDR	8	DU
MV-69	33275 Jose Guzman	SFDR	4	DU
MV-70	33388 SCH Development, LLC	SFDR	16	DU
MV-71	33436 Winchester Associates	SFDR	105	DU
~~MV-72~~	~~33626 Kincaid Development, Inc.~~	~~SFDR~~	~~25~~	~~DU~~
MV-73	33963 Rance Garrett	SFDR	31	DU
MV-74	34043 RM3 Building and Development	SFDR	12	DU
MV-75	31621 Beazer Homes	SFDR	274	DU
MV-76	30268 Pacific Communities	SFDR	83	DU
MV-77	31414 GRF - Majestic Hills	SFDR	31	DU
MV-78	31494 Winchester Associates	SFDR	12	DU
MV-79	32715 GFR - Trinity	SFDR	30	DU
MV-80	33256 Granite Homes	SFDR	79	DU
MV-81	32711 Isaac Genah	SFDR	9	DU
MV-82	35530 Moreno Gilman 650, LLC-Quail Ranch	SFDR inactive	1,105	DU
MV-83	35534 Leedco Engineers	SFDR	12	DU
MV-84	36436 CV Communities	SFDR	159	DU
MV-85	36401 Continental East Fund III, LLC	SFDR	92	DU
MV-86	32215 Winchester Associates "Scottish Village"	MFDR	194	DU
MV-87	32756 Jimmy Lee	MFDR	24	DU
MV-88	35369 Tason Myers Property	MFDR	12	DU
MV-89	35414 Lincoln Property Co. Southwest	MFDR	266 ~~240~~	DU
MV-90	35769 Michael Chen	MFDR	16	DU
~~MV-91~~	~~PA08-0013 Palm Desert Development "Rancho Dorado North"~~	~~MFDR~~	~~80~~	~~DU~~
MV-92	PA09-0006 Jim Nydam	MFDR	15	DU
MV-93	35861 Frederick Homes	MFDR	24	DU
MV-94	36038 Alessandro Village Plaza, LLC	MFDR	96	DU
MV-95	35304 Jimmy Lee	MFDR	12	DU
MV-96	Alessandro & Lasselle	Shopping Center	140.000	TSF
~~MV-97~~	~~Burger King - Fast Food - 24800 Sunnymead~~	~~Fast Food w/Drive Thru~~	~~--~~	~~TSF~~
MV-98	~~Nightclub~~	Retail	11.000	TSF
	~~Aerosports Trampoline Park~~	~~Recreation Community Center~~	~~34.500~~	~~TSF~~
MV-99	Food 4 Less - Fueling Station	Gas Station with Convenience Market	16	VFP
~~MV-100~~	~~Lakeshore Village Marketplace~~	~~Shopping Center~~	~~140.000~~	~~TSF~~
MV-101	El Paso (food court)	Fast Food no Drive Thru	--	TSF
~~MV-102~~	~~Potato Corner~~	~~Fast Food no Drive Thru~~	~~--~~	~~TSF~~
MV-103	O'Reilly Automotive	Automobile Parts Sale	7.500	TSF
MV-104	O'Reilly Automotive	Automobile Parts Sale	7.500	TSF
MV-105	Restaurant	Restaurant	9.000	TSF
MV-106	Rancho Belago Plaza - Retail	Retail	14.000	TSF
MV-107	~~24 Hour Fitness~~	~~Fitness Club~~	~~--~~	~~TSF~~
	~~Rivals Sports Bar & Grill~~	~~Restaurant~~	~~--~~	~~TSF~~
MV-108	Yum Yum Donut Shop	Coffee/Donut Shop w/o Drive-Thru	4.351	TSF — Not entitled
MV-109	Hawthorn Inn & Suites	Hotel	79	RMS
MV-110	Sleep Inn Suites	Hotel	66	RMS
~~MV-111~~	~~Fresenius Medical Care Center~~	~~Medical Offices~~	~~12.000~~	~~TSF~~
MV-112	Integrated Care Communities	Nursing Home	44.000	TSF
MV-113	Kaiser Permanente - Emergency Room Expansion	Medical Offices	--	TSF
MV-114	Moreno Valley Professional Center	General Office	84.000	TSF
MV-115	Olivewood Plaza - Office Building	General Office	23.000	TSF
MV-116	Renaissance Village of Moreno Valley	Senior Adult Housing-Attached	44 ~~448~~	~~DU~~
MV-117	Riverside County Office Building	General Office	52.000	TSF

Cumulative Development Land Use Summary

TAZ	Project Name	Land Use[1]	Quantity	Units[2]
MV-118	Gateway Business Park	Residential Condo/Townhouse	34	DU
MV-119	Shaw Development	High-Cube Warehouse	367.000	TSF
MV-120	IDS/Real Estate Group - Nandina Distribution Center	High-Cube Warehouse	697.000	TSF
MV-121	Stoneridge Town Centre - Vacant Restaurant	Restaurant	5700.000	TSF
MV-122	Ironwood Residential	SFDR	144	DU
MV-123	TTM 31592 (P 13-078) Covey Ranch	SFDR	115	DU
MV-124	PA 06-0014 (Pierce Hardy Limited Partnership)	Lumbar Yard	67.000	TSF
MV-125	P06-1408	Retail	75.300	TSF
MV-126	Moval Assemblage	High-Cube Warehouse	456.337	TSF
MV-127	Bella Vista Apartments	Apartments	220	DU
MV-128	Moreno Valley Logistics Center	High-Cube Warehouse	1351.770	TSF
		General Light Industrial	385.748	TSF

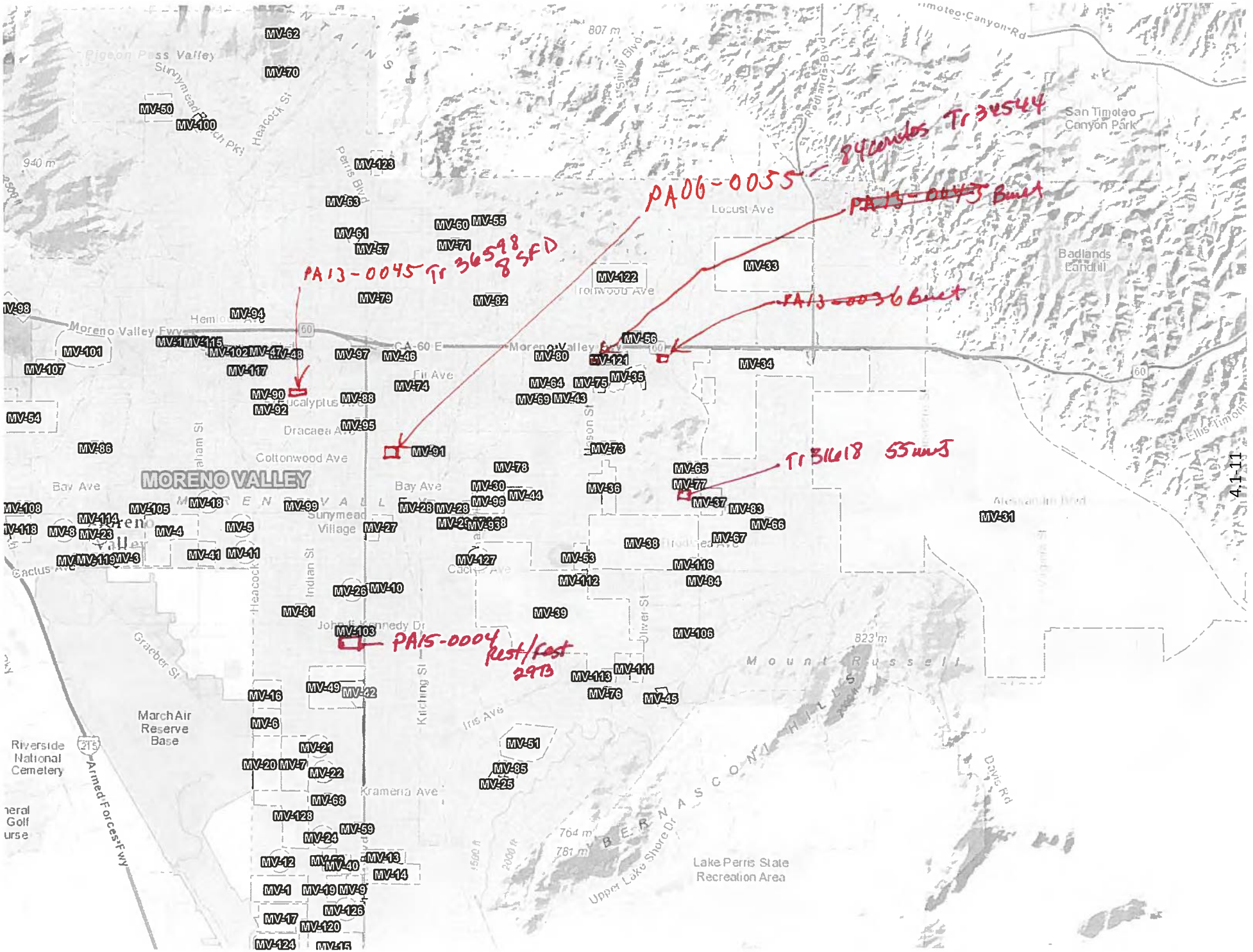
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[1] SFDR = Single Family Detached Residential ; MFDR = Multi-Family Detached Residential

[2] DU = Dwelling Units; TSF = Thousand Square Feet; SP = Spaces; VFP = Vehicle Fueling Positions; RMS = Rooms; AC = Acres; EMP = Employees

[3] Source: Cactus Avenue and Commerce Center Drive Commercial Center TIA, Urban Crossroads, Inc., December 9, 2008 (Revised).

[4] Source: March Lifecare Campus Specific Plan Traffic Impact Analysis, Mountain Pacific, Inc., May 2009 (Revised).


PA06-0055 – 84 condos Tr 34544
PA13-0045 Tr 36598 8 SFD
PA13-0036 Built
PA13-0047 Built
Tr 31618 55 units
PA15-0004 Rest/Fast 2973
MORENO VALLEY
Moreno Valley Fwy
CA-60 E
Locust Ave
Cottonwood Ave
Bay Ave
Fir Ave
Ironwood Ave
Dracaea Ave
Eucalyptus
Hemlock Ave
John F Kennedy Dr
Krameria Ave
Iris Ave
Cactus Ave
Sunnymead Village
Pigeon Pass Valley
San Timoteo Canyon Park
Badlands Landfill
March Air Reserve Base
Riverside National Cemetery
Lake Perris State Recreation Area
Mount Russell
Upper Lake Shore Dr
Heacock St
Perris Blvd
Redlands Blvd
Indian St
Kitching St
Oliver St
Graber St
Davis Rd
Alessandro Blvd
Armed Forces Fwy
807 m
940 m
823 m
764 m
781 m
MV-62
MV-70
MV-50
MV-100
MV-123
MV-63
MV-60
MV-55
MV-61
MV-57
MV-71
MV-122
MV-33
MV-79
MV-82
MV-98
MV-94
MV-101
MV-107
MV-51
MV-115
MV-102
MV-47
MV-48
MV-97
MV-46
MV-117
MV-90
MV-92
MV-88
MV-74
MV-80
MV-121
MV-56
MV-34
MV-64
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MV-35
MV-69
MV-43
MV-54
MV-95
MV-91
MV-86
MV-73
MV-78
MV-65
MV-77
MV-30
MV-44
MV-36
MV-37
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MV-108
MV-105
MV-18
MV-99
MV-28
MV-96
MV-114
MV-118
MV-8
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MV-4
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MV-27
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MV-67
MV-38
MV-119
MV-3
MV-41
MV-11
MV-127
MV-53
MV-116
MV-84
MV-112
MV-26
MV-10
MV-81
MV-39
MV-103
MV-106
MV-111
MV-113
MV-49
MV-42
MV-76
MV-45
MV-16
MV-6
MV-21
MV-20
MV-7
MV-22
MV-51
MV-85
MV-25
MV-68
MV-128
MV-59
MV-24
MV-12
MV-40
MV-13
MV-14
MV-1
MV-19
MV-9
MV-126
MV-17
MV-120
MV-124
MV-31
41-11

Cecilia So

From: David Ornelas [dornelas@tbplanning.com]
Sent: Thursday, May 28, 2015 10:56 AM
To: Charlene Hwang So; Tracy Zinn
Cc: Aric Evatt; CMS Administrator; Cecilia So
Subject: RE: 09301: Moreno Valley Logistics Cumulative Projects

Thanks, Charlene. I have three comments:

- The Gateway Center project (R-77) is included on the City of Riverside list, but the site is actually located in unincorporated Riverside County (but is within the City of Riverside's sphere of influence). Also, the name of the project has changed to "University Highlands" and the land use plan has changed. The updated land use abstract is below.

LAND USE	GROSS ACRES	DENSITY	TARGET DWELLING UNITS	SQUARE FOOTAGE
RESIDENTIAL				
MEDIUM DENSITY RESIDENTIAL - MDR - 2-5 DU/AC	41.0	4.5	185	
MEDIUM HIGH DENSITY RESIDENTIAL - MHDR - 5-8 DU/AC	34.9	6.3	220	
VERY HIGH DENSITY RESIDENTIAL - VHDR - 14-20 DU/AC	22.3	14.4	320	
HIGHEST DENSITY RESIDENTIAL - HHDR - 20+ DU/AC	16.5	30.9	510	
MIXED USE - MU	30.8	31.4	965	
TOTAL RESIDENTIAL	**145.4**	**15.1**	**2,200**	**30,000**
COMMERCIAL				
COMMERCIAL	1.9			20,000
PARKS AND OPEN SPACE				
PARKS	42.4			
OPEN SPACE	95.3			
TOTAL PARKS AND OPEN SPACE	**137.7**			
ROADS	27.2			
N.A.P.	7.5			
PROJECT TOTAL	**319.7**	**6.9**	**2,200**	**50,000**

- Indian Business Park (MV-7): This project has been constructed (north of and adjacent to the Moreno Valley Logistics Center site). If Michael Lloyd does not comment on this project, please confirm with him if he would like it to be included on the list as the traffic from the project should have been captured in your traffic counts.

- Prologis (MV-31): It is my understanding this project was revised at the City Council hearing to include approximately 1.5 million s.f. and 126 homes (I am quoting these numbers from a news article – the City Council meeting minutes are not on the City's website – so they should not be considered 100% accurate). Michael Lloyd should have the specific numbers, but if he does not we can always ask Prologis.

David Ornelas
Project Manager

T&B PLANNING, INC.
Phone: (619) 501-6041
dornelas@tbplanning.com

From: Charlene Hwang So [mailto:cso@urbanxroads.com]
Sent: Wednesday, May 27, 2015 5:56 PM
To: Tracy Zinn; David Ornelas
Cc: Aric Evatt; CMS Administrator; Cecilia So
Subject: 09301: Moreno Valley Logistics Cumulative Projects
Importance: High

Hi Tracy and David,

We have compiled a list of cumulative projects over the past few years for this region (used for First Nandina and Modular) and have that list attached along with a corresponding map. We've modified the list from what we've included in past TIAs to be sorted by jurisdiction in order to improve the efficiency in adding and removing projects over time. We have sent the list to the City of Riverside, City of Moreno Valley and City of Perris to obtain updates. I have attached each of the e-mails we sent requesting review of our current list. I have not yet received any response/updated information from any of the jurisdictions.

We did not contact the County of Riverside as I have already received an updated list of cumulative projects for the area from the County on another project we recently worked on.

Let me know if there are other jurisdictions you would like us to reach out to.

Regards,

CHARLENE SO, P.E.
Senior Transportation Engineer

URBAN CROSSROADS

41 Corporate Park, Suite 300
Irvine, CA 92606
(949) 336-5982 Direct
(949) 861-0177 Cell
(949) 660-1994 Main
urbanxroads.com

Charlene Hwang So

From: Tsang, Kevin <KTSANG@rctlma.org>
Sent: Thursday, April 30, 2015 3:06 PM
To: Charlene Hwang So
Cc: CMS Administrator; Isidro Abreo
Subject: RE: 09347: Cumulative List

Please see below.

Thanks

From: Charlene Hwang So [mailto:cso@urbanxroads.com]
Sent: Thursday, April 23, 2015 1:43 PM
To: Tsang, Kevin
Cc: CMS Administrator; Isidro Abreo
Subject: 09347: Cumulative List
Importance: High

Hi Kevin,

Just trying to sort through the cumulative projects from the County that need to be added to our list. Could you please review and provide us with needed info or if projects should be removed? Thanks in advance!

Below is a list of projects we will be including because there was no expiration date, please let us know if there are projects that should be removed:

1. CUP03527 – 8,000 sf Warehouse: Keep
2. CUP03599 – 52,798 sf hotel: Keep
3. PP09997R2 – 12,800 sf maintenance building: You may remove, existing.
4. PP16932 – 12,000 sf manufacturing building: You may remove, existing.
5. PP24608 – 9,280 sf feed and grain sales: Keep
6. PP25252 – 399,150 sf warehouse: You may remove, existing.

The cumulative projects listed below did not have an expiration date and are missing information or we need to confirm information in order to be added:

1. CUP03632 – Auction/Sales yard (need sf/acreage): You may remove, existing.
2. PM32699 – Need land use and quantity: 2 SFDU
3. PM23532 – Gas Station/Convenience Store (need # of pumps or sf): You may remove, no activity for 5+ years.
4. PP24002 – Feed Store (need sf) : You may remove, no activity for 5+ years.
5. PP25001 – Feed and Grain Sales (need sf) : You may remove, no activity for 3+ years.
6. PP25699 – 2 drive-thru restaurants (need total sf): (2) 2,800 SF fast food w/ DT, 19,000 SF retail
7. PUP00892 – Adult Residential Care (need # of DUs or Beds and type of adult care facility) : You may remove, no activity for 5+ years.
8. PP14485R1 – Heavy Equipment Auction Yard (need sf or acreage): : You may remove, no activity for 5+ years.
9. PP18961 – National Archives Warehouse (need sf): You may remove, existing.
10. PUP00325 – need land use and quantity: You may remove, no activity for 5+ years.
11. PUP00856 – Day Care Center (need # of students): You may remove, existing.
12. TR30592 – 131 single family DUs: Keep

The following cumulative projects will not be included as they are low traffic generators (less than 50 peak hours trips):

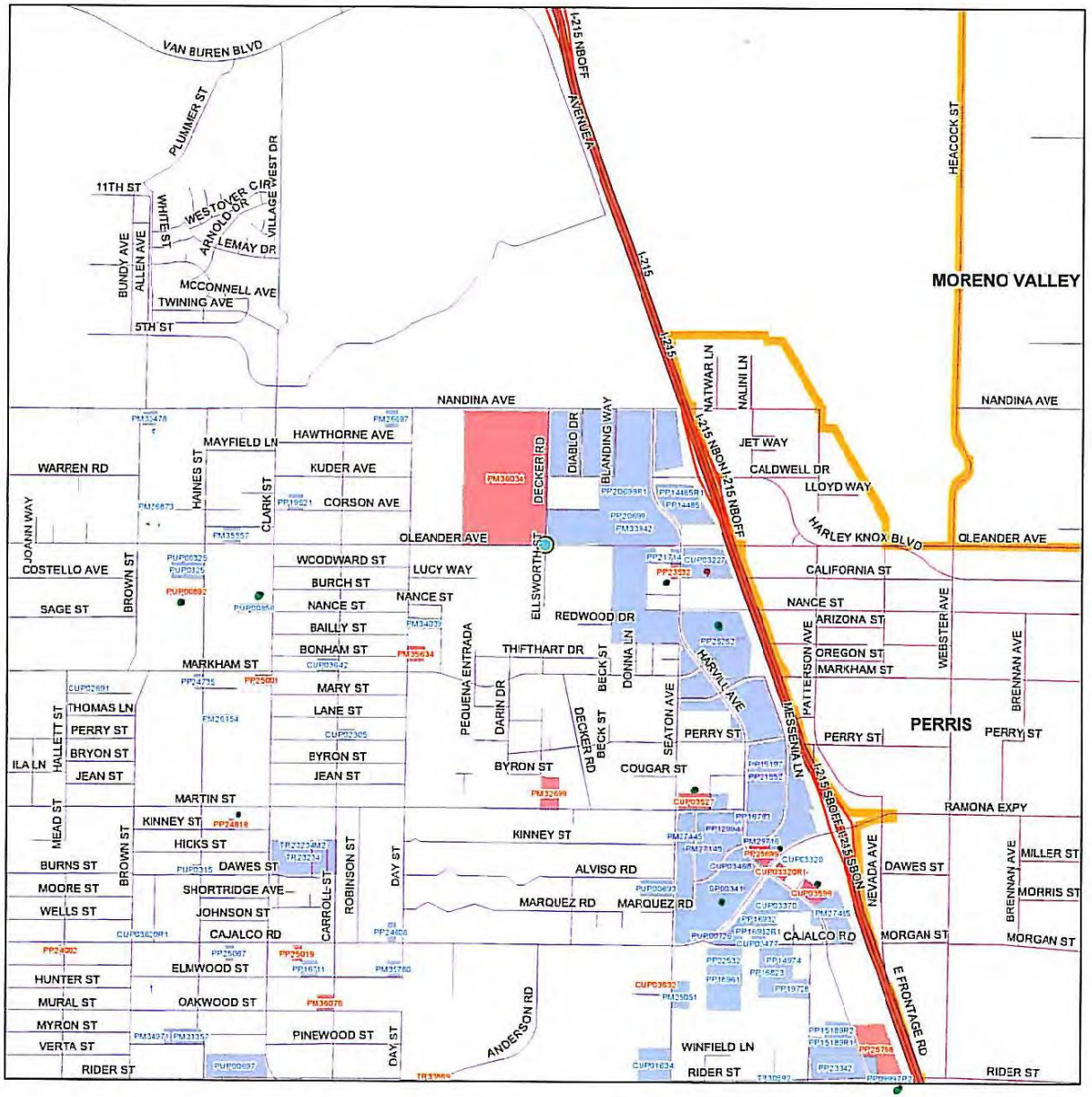
1. PM35634 – 2 single family DUs: OK
2. PM36034 – 16 single family DUs: OK
3. PM36078 – 2 single family DUs: OK
4. PP24818 – Home conversion to 1,860 sf Church: OK
5. PP25019: You may remove, no activity for 4+ years.
6. PP25768: Keep, 52,450 SF manufacturing
7. TR33869 – 39 single family DUs: OK
8. CUP01634: You may remove, existing.
9. CUP03620R1: Keep, 8 VFP gas station w/ Conv. Store
10. CUP03642: You may remove, existing.
11. PM33357 – 2 single family DUs: OK
12. PM34971 – 2 single family DUs: OK
13. PM35780 – 2 single family DUs: OK
14. PP15189R1: You may remove, cell tower.

On a separate note, I wanted to follow up on your review of the scoping agreement for TTM No. 35570 (near Washington and Benton). Let me know if you have any questions.

Regards,

CHARLENE SO, P.E.
Senior Transportation Engineer

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N

COUNTY LIST

Cities (Outline)
ACTIVE CASES
APPROVED CASES

0 1,000 2,000 4,000
Feet

Printed by ktsang on 6/16/10

Active Cases as of 4/9/2015

CASE NAME	STATUS	APPLIED DATE	APPROVAL DATE	EXPIRED DATE
CASE DESCRIPTION				
CUP03320R1	DRT	20051221	0	20000000
ALLOW LIQUOR SALES USE WITHIN EXISTING GAS STATION				
CUP03527	DRT	20060915	0	20000000
8000 SF WAREHOUSE/OFFICE/CONCRETE MIXING SILO&STOR				
CUP03599	DRT	20080625	0	20000000
TO CONSTRUCT A THREE-STORY 52,798 SQ.FT. HOTEL WI				
CUP03632	DRT	20090915	0	20000000
COMMUNITY AUCTION AND SALES YARD				
PM32699	DRT	20060223	0	20000000
SCHED H DIVISION OF 5 ACRES INTO (2) PARCELS				
PM35634	DRT	20071221	0	0
DIVIDE 1.89 ACRES INTO 2 LOTS				
PM36034	DRT	20080612	0	20000000
SCHEDULE "E" DIVISION OF 100 ACRES INTO 16 LOTS				
PM36078	DRT	20090521	0	20000000
SUBDIVIDE 2.9 ACRES INTO TWO LOTS				
PP23532	DRT	20080617	0	20000000
GAS STATION AND MINI MARKET & RETAIL STORES				
PP24002	DRT	20090225	0	20000000
PROPOSED FEED STORE				
PP24818	DRT	20101227	0	20000000
1,860 SQ FT HOUSE CONVERT TO CHURCH				
PP25001	DRT	20110818	0	20000000
FEED AND GRAIN SALES				
PP25019	APPLIED	20110921	0	0
ADD SMOKE SHOP/RECYCL COLL FAC/PROPANE TANK TO EXI				
PP25699	DRT	20141107	0	20000000
PLOT PLAN TO CONSTRUCT TWO (2) DRIVE THRU RESTAURA				
PP25768	DRT	20150226	0	0
PP TO REMOVE AN EXISTING GRAIN STORAGE BINS AND TO				
PUP00892	BOS	20070713	0	20000000
ADULT RESIDENTIAL CARE FACILITY				
TR33869	APPLIED	20051005	0	0
SUBDIVIDE 50.2 AC (3 PARCELS) INTO 39 SFR LOTS				

Approved Cases as of 04/09/2015

CASE NAME	STATUS	APPLIED DATE	APPROVAL DATE	EXPIRED DATE
CASE DESCRIPTION				
CUP01634	APPROVED	02/01/2008	0	NA
PROPOSAL TO REPLACE RESIN PROCESSING SYSTEM				
CUP02305	APPROVED	01/28/2008	0	NA
CUP02691	EXPIRED	12/22/2000	19840904	09/04/1984
AUTOMOBILE DISMANTLER FACILITY				
CUP03227	APPROVED	04/01/1996	19960604	06/04/1998
RESINS MANUFACTURING FACILITY				
CUP03315	APPROVED	05/18/2000	20000725	NA
GAS STATN/CONV STORE/2 FAST FOOD/1 DINE IN RESTRNT				
CUP03320	APPROVED	08/15/2000	20010206	06/01/2030
CONVENIENCE STORE/FAST FOOD RESTAURANT/CAR WASH/				
CUP03370	APPROVED	04/03/2002	20030701	07/01/2006
TRUCK/GASSTATION COMM CTR SEVERAL BLDGS @ 32,000SF				
CUP03425	APPROVED	02/19/2004	20071114	11/14/2009
(4)CONCRETE TILT-UP BUILDINGS(TRUCKING OPERATIONS)				
CUP03468	APPROVED	09/15/2005	20080311	03/11/2010
PROPOSED GAS STATION,FASTFOOD,CARWASH, STORE				
CUP03477	APPROVED	11/14/2005	20080402	04/02/2010
CUP FOR EXISTING STRUCT FOR OFFICE SP/VEHICLE STOR				
CUP03620	APPROVED	03/30/2009	20120118	01/18/2014
GAS STATION/CONV STORE/RETAIL BUILDING				
CUP03620R1	APPROVED	10/23/2013	20141106	NA
ALLOW BEER&WINE SALES WITHIN GAS STATION/MARKET				
CUP03642	APPROVED	04/19/2010	20140128	NA
EXISTING USE AS CONVENIENT STORE W/PROPANE &ALCOHO				
PM25051	APPROVED	01/25/1990	19910514	05/14/1996
DIVIDE APPROX 4 ACRES INTO 4 PARCELS				
PM26154	APPROVED	07/17/1990	19920225	02/25/1998
SUBDIVIDE INTO 4 LOTS				
PM26697	APPROVED	05/02/1991	19970211	02/11/2000
SUBDIVIDE 2.12 ACRES INTO TWO PARCELS.				
PM26873	APPROVED	04/12/1991	19920707	07/07/1998
DIVIDE 2.50 ACRES INTO 4 PARCELS				
PM27140	APPROVED	09/25/1991	19920526	05/26/1998
3.99AC INTO TEN INDUSTRIAL PARCELS				
PM27445	APPROVED	03/25/1992	19930316	03/16/1999
DIVIDE APPROX 14 ACRES INTO 10 LOTS				
PM27485	APPROVED	04/21/1992	19930126	01/26/1999
SUBDIVIDE 26.73 ACRES INTO 10 INDUSTRIAL LOTS				
PM29716	APPROVED	05/18/2000	20000725	07/25/2004
SUBDIVIDE 4.45 ACRES INTO 4 COMMERCIAL PARCELS				
PM33357	APPROVED	10/18/2005	20080421	04/21/2015
SCHED H DIVISION OF 3 AC INTO 3 ONE AC PARCELS.				

Approved Cases as of 04/09/2015

CASE NAME	STATUS	APPLIED DATE	APPROVAL DATE	EXPIRED DATE
CASE DESCRIPTION				
PM33478	APPROVED	03/21/2006	20070730	07/30/2013
SCHED H DIVISION OF 2.35AC INTO TWO 1-AC PARCELS.				
PM33942	APPROVED	07/28/2005	20080625	06/25/2017
PM33942 PROPOSES A SCHEDULE E SUBDIVISION OF 68.85				
PM34039	APPROVED	10/03/2005	20061113	11/13/2014
SCHED H DIVISION OF 3 AC INTO 3 1-AC. MIN PARCELS				
PM34971	APPROVED	05/31/2007	20080616	06/16/2015
SCHED H DIVISION OF 2.29 AC INTO 2 SFR PARCELS.				
PM35557	APPROVED	08/13/2007	20080722	07/22/2015
Schedule H subdivision of 2.5ac into two parcels				
PM35780	APPROVED	09/20/2007	20080630	06/30/2015
SCHED H DIVISION OF 2.02 ACRES INTO TWO PARCELS.				
PP09997R1	APPROVED	02/19/1997	19970424	NA
REV.PP ADD 10,000 SQFT MAINT BLD. 2400 SQFT OFFICE				
PP09997R2	APPROVED	08/10/2000	20010502	NA
RVP FOR 12,800 SQ FT MAINT BLDG W/OUTDOOR STORAGE				
PP12994	APPROVED	09/25/1991	19920309	03/09/1994
PLOT PLAN FOR PLANNED INDUSTRIAL DEVELOPMENT FOR 8				
PP14485	APPROVED	12/19/1995	19960122	01/22/1999
CONSTRUCTION EQUIP AUCTION				
PP14485R1	APPROVED	08/20/2001	20021104	NA
HEAVY EQUIPMENT AUCTION YARD				
PP14974	APPROVED	04/25/1997	19970630	06/30/1999
STEEL BUILDING FABRICATION				
PP15189R1	APPROVED	02/28/2002	20020812	NA
CO-LOCATE ANT'S/EXPAND LEASE AREA-SEE DESCRIPTION				
PP15189R2	APPROVED	07/03/2007	20070809	NA
INSTALL 30KW EMERGENCY GENERATOR W/IN FACILITY			Non-traffic	
PP15197	APPROVED	10/30/1997	19971201	12/01/1999
3 INDUSTRIAL BUILDINGS				
PP16711	APPROVED	09/01/2000	20011217	NA
150' UNMANNED TELECOMMUNICATION MONOPOLE			Non-traffic	
PP16763	APPROVED	10/11/2000	20001212	12/12/2002
19500 SQ FT IND BUILDING (18,570 WAREHOUSE 930 OFF				
PP16823	APPROVED	11/17/2000	20010208	02/08/2006
TO CONSTRUCT A 22,000 SQ FT MANUFACTURING FACILITY				
PP16932	APPROVED	02/02/2001	20010423	NA
SHEET METAL MANUFACTURING, 12,000 SQ FT STEEL BLDG				
PP16932R1	APPROVED	10/17/2008	20110711	07/12/2013
ADD RECYCLING COLLECTION CENTER TO A 12,000 S.F. P				
PP18961	APPROVED	10/28/2003	20041215	NA
NATIONAL ARCHIVES & RECORDS ADMIN. WAREHOUSE FAC.				
PP19521	APPROVED	06/11/2004	20061113	11/13/2008
HAY AND FEED STORE				

Approved Cases as of 04/09/2015

CASE NAME	STATUS	APPLIED DATE	APPROVAL DATE	EXPIRED DATE
CASE DESCRIPTION				
PP19728	APPROVED	09/01/2004	20070227	02/27/2009
CONTRACTORS STORAGE YARD, VEHICLE MAINT AND ADMIN				
PP20699	APPROVED	07/28/2005	20080625	06/25/2012
PP20699 PROPOSES TO DEVELOP FIVE (5) INDUSTRIAL /				
PP20699R1	APPROVED	06/16/2011	20110816	08/16/2013
REDUCE FROM 5 INDUS BLDG TO 3/MODIFY DRAINAGE AND				
PP21552	APPROVED	03/21/2006	20061218	12/18/2008
PROSPD 6 LIGHT INDUS BLDGS; TOTAL OF 14 PARCELS.				
PP21714	APPROVED	05/04/2006	20070921	09/21/2009
UNMNND WRLSS COMM 65' MONOTREE BROADLEAF/OUTDOOR E				
PP22532	APPROVED	02/09/2007	20080107	01/07/2010
OFFICE AND MANUFACTURING FACILITY				
PP23342	APPROVED	03/20/2008	20080820	10/28/2013
MULTI USE INDUSTRIAL PARK WAREHOUSE BUILDINGS				
PP24608	APPROVED	06/17/2010	20140908	09/08/2016
FEED & GRAIN SALES W/6400 SF HAY BARN, 2880 SF STO				
PP24735	APPROVED	09/30/2010	20120326	03/26/2014
50' MONOPINE/12 PANNL ANTS/1 MICRO/6 EQUIP CABINTS				
PP25067	APPROVED	12/22/2011	20130603	06/03/2015
VERIZON 65 FT MONOEUCALYPTUS WIRELESS FACILITY/12			non-traffic	
PP25252	APPROVED	12/20/2012	20130205	NA
399,150 SF WAREHOUSE/OFFICE BLDG FOR DISCOUNT TIRE				
PUP00325	APPROVED	12/26/2000	0	NA
PUP00693	APPROVED	11/17/1989	19910108	01/08/1993
BUILD A CHURCH				
PUP00697	APPROVED	12/22/1989	19940816	08/15/1996
CHURCH FACILITY				
PUP00726	APPROVED	07/26/1991	19911015	10/15/1993
OFFICES AND DAY CARE CENTER				
PUP00765	APPROVED	03/31/1995	19950905	09/05/1997
PUBLIC USE PERMIT FOR 32-BED RESIDENTIAL CARE FACI				
PUP00856	APPROVED	07/19/2002	20030415	NA
DAY CARE CENTER				
PUP00856R1	APPROVED	06/11/2008	20090624	06/24/2011
RENEWTIME&EXPANSION OF EXISTING DAY CARE FACILITY				
PUP00856R2	APPROVED	01/09/2012	20121219	12/29/2014
ADD 2,596 SQ FT CARE TAKERS QUARTER,ADD 2,400SQ FT				
PUP0315	APPROVED	08/07/2000	19751031	11/01/1985
EXPANSION OF FAMILY CARE HOME				
PUP0325	APPROVED	08/07/2000	0	NA
SP00341	APPROVED	04/21/2004	20051012	NA
FOR 6.2 MILLION SQ FT BUS PARK & LGT IND.				

Approved Cases as of 04/09/2015

CASE NAME	STATUS	APPLIED DATE	APPROVAL DATE	EXPIRED DATE
CASE DESCRIPTION				
TR23234	APPROVED	12/14/1987	19880607	06/07/2001
DIVIDE 44.55 ACRES INTO 170 SINGLE FAMILY RESIDENC				
TR23234M2	APPROVED	08/27/1996	19970429	06/07/2001
MC TO TR23234 TO RECONFIGURE STREETS AND LOTS				
TR30592	APPROVED	01/08/2003	20040225	02/25/2016
TO SUBDIVIDE 34 ACRES INTO 131 SFR LOTS				
TR30592M1	APPROVED	09/01/2005	20060208	02/25/2016
REMOVE TRANS COND. 50.TRANS.22 FOR ROW IMPROVEMNT				

non-traffic

Charlene Hwang So

From: Cecilia So
Sent: Thursday, June 18, 2015 5:50 PM
To: Charlene Hwang So
Cc: CMS Administrator
Subject: FW: 09301: City of Perris Cumulative Developments
Attachments: Site Plan.pdf; Case Map Final.pdf

From: Diane Sbardellati [mailto:dsbardellati@cityofperris.org]
Sent: Monday, June 08, 2015 4:56 PM
To: Cecilia So
Subject: RE: 09301: City of Perris Cumulative Developments

Cecelia,

Sorry for the delay. There's been no updates to this map, unfortunately. I can tell you one of Urban Crossroads projects should be on it – the Integra Distribution Center. I've attached a site plan.

Diane Sbardellati, LEED AP
Associate Planner
City of Perris

(951) 943-5003

From: Cecilia So [mailto:ckso@urbanxroads.com]
Sent: Wednesday, June 03, 2015 4:47 PM
To: Cecilia So; Diane Sbardellati
Cc: Charlene Hwang So; CMS Administrator; Ilene Paik
Subject: RE: 09301: City of Perris Cumulative Developments

Hi Diane,

I wanted to make sure you were in receipt of my request for cumulative developments in the City of Perris. Could you please provide me with any updates that you may have at this time?

Thank you,

CECILIA SO
Assistant Analyst

41 Corporate Park, Suite 300
Irvine, CA 92606
(949) 336-5995 Direct
(949) 660-1994 Main
urbanxroads.com

From: Cecilia So
Sent: Monday, May 18, 2015 9:55 AM
To: 'dsbardellati@cityofperris.org'
Cc: Charlene Hwang So; CMS Administrator; 'ipaik@cityofperris.org'
Subject: 09301: City of Perris Cumulative Developments

Hi Diane,

Could you please review the attached map and list of cumulative developments in the City of Perris, and provide any updates that you may have? We have an upcoming project in the City of Moreno Valley that we will be starting soon and wanted to get an updated list of projects for inclusion in the traffic study. Thank you in advance.

CECILIA SO
Assistant Analyst

URBAN CROSSROADS

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Charlene Hwang So

From: Cecilia So
Sent: Wednesday, June 03, 2015 4:23 PM
To: Bawany, Suhaim
Cc: Charlene Hwang So; CMS Administrator; Randel, Travis; Mustafa, Nathan; Eastman, Jay; Murray, David
Subject: RE: City of Riverside Cumulative Developments

Thank you Suhaim, you have been very helpful. Have a great day!

CECILIA SO
Assistant Analyst

URBAN CROSSROADS

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From: Bawany, Suhaim [mailto:SBawany@riversideca.gov]
Sent: Tuesday, June 02, 2015 5:21 PM
To: Cecilia So
Cc: Charlene Hwang So; CMS Administrator; Randel, Travis; Mustafa, Nathan; Eastman, Jay; Murray, David
Subject: RE: City of Riverside Cumulative Developments

Hello Cecilia

The list we have is a comprehensive list of all projects and you can feel free to modify the excel sheet to fit your needs. In terms of projects without an approval date, it usually means they are still in the planning stages and have not been approved by either the Planning Commission or City Council.
And the projects highlighted in yellow, those are fairly new projects in the pipeline that have been presented to the Planning Commission or City Council from February until May 2015. Sorry for not clarifying earlier.

Hope this helps and have a nice day.

Thank you!

Suhaim M. Bawany
Planning Technician
City of Riverside | Planning Division
3900 Main Street | Third Floor | Riverside, CA
tel: (951) 826-5371 | fax: (951) 826-5981

From: Cecilia So [mailto:ckso@urbanxroads.com]
Sent: Tuesday, June 02, 2015 2:00 PM
To: Bawany, Suhaim
Cc: Charlene Hwang So; CMS Administrator; Randel, Travis; Mustafa, Nathan; Eastman, Jay; Murray, David
Subject: RE: City of Riverside Cumulative Developments

Hello Suhaim,

Would it be appropriate to remove projects with an approval date beyond 2 years (2013)? If so, what should we assume for projects without an approval date? Additionally, I was wondering if there was any significance for the items highlighted in yellow?

Thank you again for your help!

CECILIA SO
Assistant Analyst

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urbanxroads.com

From: Bawany, Suhaim [mailto:SBawany@riversideca.gov]
Sent: Monday, June 01, 2015 5:08 PM
To: Cecilia So
Cc: Charlene Hwang So; CMS Administrator; Randel, Travis; Mustafa, Nathan; Eastman, Jay; Murray, David
Subject: RE: City of Riverside Cumulative Developments

Hello Cecilia

All cases have been filtered into one tab labeled "**ALL?**.
Unfortunately we haven't updated the Map associated with this list at this time. I will coordinate with Dave to update the Map.

Sorry for the inconvenience.

Suhaim M. Bawany
Planning Technician
City of Riverside | Planning Division
3900 Main Street | Third Floor | Riverside, CA
tel: (951) 826-5371 | fax: (951) 826-5981

From: Cecilia So [mailto:ckso@urbanxroads.com]
Sent: Monday, June 01, 2015 1:33 PM
To: Bawany, Suhaim
Cc: Charlene Hwang So; CMS Administrator; Randel, Travis; Mustafa, Nathan; Eastman, Jay; Murray, David
Subject: RE: City of Riverside Cumulative Developments

Hi Suhaim,

Thank you for the quick turnaround and your assistance. I was wondering if you could provide me with any guidance in regards to filtering through this comprehensive list (i.e., if there is a specific tab we should focus on, or if we can eliminate projects that were approved older than X amount of years). Additionally, I noticed that there is a column titled "Map ID #," could you send me the accompanying map to this list?

Thank you for your help!

CECILIA SO
Assistant Analyst

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From: Bawany, Suhaim [mailto:SBawany@riversideca.gov]
Sent: Monday, June 01, 2015 1:25 PM
To: Cecilia So
Cc: Charlene Hwang So; CMS Administrator; Randel, Travis; Mustafa, Nathan; Eastman, Jay; Murray, David
Subject: RE: City of Riverside Cumulative Developments

Hello Cecilia

Here is the most updated Cumulative Projects List as of May 2015.

Thank you!

Suhaim M. Bawany
Planning Technician
City of Riverside | Planning Division
3900 Main Street | Third Floor | Riverside, CA
tel: (951) 826-5371 | fax: (951) 826-5981

From: Cecilia So [mailto:ckso@urbanxroads.com]
Sent: Monday, June 01, 2015 11:44 AM
To: Eastman, Jay; Murray, David
Cc: Charlene Hwang So; CMS Administrator; Bawany, Suhaim; Randel, Travis; Mustafa, Nathan
Subject: RE: City of Riverside Cumulative Developments

Hi Jay,

That's no problem. Thank you for the information!

CECILIA SO
Assistant Analyst

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From: Eastman, Jay [mailto:JEastman@riversideca.gov]
Sent: Monday, June 01, 2015 11:40 AM
To: Cecilia So; Murray, David
Cc: Charlene Hwang So; CMS Administrator; Bawany, Suhaim; Randel, Travis; Mustafa, Nathan
Subject: RE: City of Riverside Cumulative Developments

Cecila,

To provide a bit of clarification, a cumulative list was created last week, and was reviewed late Friday by the Principal Planner who leads the Current Planning Projects Team. Dave will get you the list as soon as possible.

Jay S. Eastman, AICP
Interim City Planner
Planning Division
Community & Economic Development Department
City of Riverside
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From: Cecilia So [mailto:ckso@urbanxroads.com]
Sent: Monday, June 01, 2015 11:27 AM
To: Murray, David
Cc: Eastman, Jay; Charlene Hwang So; CMS Administrator; Bawany, Suhaim; Randel, Travis
Subject: RE: City of Riverside Cumulative Developments

Hi Dave,

I wanted to follow up regarding the status of obtaining an updated cumulative list. Could you please provide me with any updates you may have?

Thank you for your help!

CECILIA SO
Assistant Analyst



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From: Cecilia So
Sent: Wednesday, May 20, 2015 12:28 PM
To: 'Murray, David'
Cc: Eastman, Jay; Charlene Hwang So; CMS Administrator; Bawany, Suhaim; Randel, Travis
Subject: RE: City of Riverside Cumulative Developments

Hi Dave,

Thanks for your prompt response. We're estimating that we will need the cumulative development information by the end of next week (05/29), at the latest in order to meet our deadlines. Please let me know if this date is possible for you. Thank you for your help.

CECILIA SO
Assistant Analyst



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From: Murray, David [mailto:DMurray@riversideca.gov]
Sent: Wednesday, May 20, 2015 12:21 PM
To: Cecilia So
Cc: Eastman, Jay; Charlene Hwang So; CMS Administrator; Bawany, Suhaim; Randel, Travis
Subject: RE: City of Riverside Cumulative Developments

Cecilia,
We will take a look at any projects that may have been entitled since we last provided a cumulative list in February. I am copying our Planning Technician, Suhaim Bawany. He compiled the previous list for you and will likely provide assistance on this request. Do you have a target date you would like this data?

Thanks,
Dave

David Murray, Senior Planner
City of Riverside | Community Development Department | Planning Division
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dmurray@riversideca.gov

Riverside RECONNECTS STREETCAR STUDY

From: Cecilia So [mailto:ckso@urbanxroads.com]
Sent: Monday, May 18, 2015 9:41 AM
To: Murray, David
Cc: Eastman, Jay; Charlene Hwang So; CMS Administrator
Subject: City of Riverside Cumulative Developments

Hi Dave,

Could you please review the attached map and list of cumulative developments in the City of Riverside, and provide any updates that you may have? We have an upcoming project in the City of Moreno Valley that we will be starting soon and wanted to get an updated list of projects for inclusion in the traffic study. Thank you in advance.

CECILIA SO
Assistant Analyst

URBAN CROSSROADS

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Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
C1	P07-1161	2111 Iowa St	Conditional use permit to establish an indoor rock climbing facility in an existing industrial building	2.80	5,580	-	CC 1/15/08
C2	P07-1181 P07-0593	381 Alessandro Blvd	Revised Conditional Use Permit, Design Review for Auto Parts Store	1.17	1,500	-	CC 5/6/08
C3	P06-0028 P06-0029 P06-0031	3520 Market St	CUP/DR/TM34945; Fox Plaza Mixed Use Development, Up to 205 Condos, restaurant, retail space, 125 unit Hyatt Place Hotel	1.90	31,600	205	CC 6/10/08
C4	P08-0201 P08-0202	1054 N. Orange St	Conditional use permit and design review of plot plan for Senior Apartment Complex	0.77	-	23	CC 6/17/08
C5	P08-0274 P08-0275	2570 Canyon Springs Pkwy	Conditional Use Permit, Design Review for Commercial Bank w/Drive-thru	0.14	2,746	-	CC 9/9/08
C6	P08-0407	19743 Luren Ave	Conditional use permit to allow the construction of a children's daycare center	3.85	10,000	-	CC 11/4/08
C7	P08-0491 P08-0948	1690 Spruce St	Conditional Use Permit to allow entertainment within an existing 7,004 square foot building located in the Business Manufacturing Park in the Hunter Business Park Specific Plan	-	7,004 (existing bldg)	-	CC 2/17/09
C8	P08-0980 P09-0095	3549 Iowa Ave	Revised Conditional Use Permit to allow double-bedroom occupancy and to increase the number of student beds from 760 up to 874 at an existing student housing establishment	11.70	-	-	CC 4/28/09
C9	P08-0960 P09-0025	1360 University Ave	Revised Conditional Use Permit, Design Review to convert existing ground floor retail space into 8 new student housing units (24 bedrooms), allow double-bedroom occupancy, and increase the number of overall student beds from 528 up to 635 beds	5.00	11,459	8	CC 5/12/09
C10	P09-0147	7840 Indiana Ave	Conditional use permit; Car & tire sales, auto body repair & painting	0.86	12,510 (existing bldg)	-	CC 6/9/09
C11	P09-0142	NE corner of Jurupa and Payton Aves	Conditional Use Permit to allow for the development of a surface vehicular storage lot	4.22	-	-	CC 6/23/09
C12	P09-0125	3500 Iowa Ave	Revised Conditional Use Permit to allow double-bedroom occupancy and to increase the number of student beds from 525 to 548 in existing student housing	1.70	-	-	CC 7/28/09
C13	P09-0185	7590-94 Indiana Ave	Conditional use permit; Drive-thru restaurant	0.90	280 (existing bldg)	-	CC 8/11/09
C14	P09-0207 P09-0209 P09-0210	2624 E. Alessandro Blvd	CUP, PM36205, DR Arco Car Wash	1.88	42 ft. long wash tunnel with 100 ft stacking lane	-	CC 10/20/09
C15	P09-0612	1737 Atlanta Ave	Conditional Use Permit to establish an adult day care/work skills learning facility for up to 39 developmentally disabled adults	7.60	3,900 (lease space in existing 41,000 sq.ft. building)	-	CC 12/15/09
C16	P08-0301	6115 Arlington Ave	Conditional use permit; Harvest Christian Fellowship; 450-stall parking Lot	5.38	-	-	ZA 1/27/10
C17	P09-0530 P09-0531	1821 – 1855 Third St	Conditional Use Permit, Design Review for the temporary storage of buses for RTA	2.60	-	-	CC 2/2/10
C18	P09-0582 P09-0583	150 Palmyrita Ave	Conditional Use Permit, Design Review for the establishment of a Sandals Church within an existing building	7.50	95,654 (existing bldg)	-	CC 1/5/10

Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
C19	P09-0717 P09-0718	807 Blaine St	Site Plan Review; Apartment complex	2.00	5,490	55	CC 4/6/10
C20	P09-0808 P08-0809	2340 Fourteenth St	Conditional Use Permit to allow the development of a 4-story, 134 bed senior housing complex	2.87	101,974 (existing bldg)	121	CC 6/14/11
C21	P09-0811	7170-72 Indiana Ave	Conditional use permit; Veterinary clinic	0.45	4,402	-	CC 5/4/10
C22	P09-0835 P10-0002	3372 University Av	Conditional Use Permit and Certificate of Appropriateness to allow the establishment of an approximately 94-foot tall, 6-story office building with a four-story subterranean parking structure containing 453 parking spaces in the Downtown Specific Plan-Raincross District	0.82	132,136	-	CC 4/27/10
C23	P10-0083	10938 Magnolia Ave	Conditional Use Permit, Initial Study; Walgreens	2.92	14,064	-	CC 7/13/10
C24	P10-0090 P10-0091	6287 Day St	Conditional Use Permit, Design Review; Arco, new Gas Canopy and repainting of building fueling station and add 2 additional multi-product fuel pumps	0.91	2,700	-	CC 6/8/10
C25	P10-0095 P10-0168 P10-0171	3050 Chicago Ave	Conditional Use Permit, Rezoning, Design Review for charter school for approximately 250 students from grades K-8; Rezone from BMP to O	1.85	15,685	-	CC 7/27/10
C26	P12-0248	7500 Jurupa Ave	Time extension of conditional use permit (P10-0128) to establish a building materials supply store with wholesale ancillary retail sales within a previously approved 36,822 square foot industrial building	6.59	36,822	-	ZA 5/25/12
C27	P10-0366 P10-0368	3501 Adams St	Rezoning property from Office to Commercial Retail; Conditional Use Permit to allow Check Cashing facility	0.50	3,176 (lease space in existing bldg)	-	CC 7/13/10
C28	P10-0219	4183 Fairgrounds St	Conditional use permit; establish a church with 180 fixed seats within an existing 10,312 square foot industrial building	0.81	10,312 (existing bldg)	-	CC 7/13/10
C29	P10-0259 P10-0270	6686 Indiana Ave	Conditional Use Permit, Design Review; Baker's drive-thru restaurant	0.65	2,234	-	CC 7/27/10
C30	P10-0380	1820 - 1860 University Ave	Conditional Use Permit allow the establishment of a vocational school for approximately 150 students within an existing 29,870 square foot building in the University Avenue Specific Plan	3.31	29,870	-	CC 10/12/10
C31	P10-0511	4500 Riverwalk Pkwy	Conditional Use Permit; La Sierra University School of Business building	30.44	68,573	-	ZA 11/1/10
C32	P10-0557 P10-0559	6365 Valley Springs Pkwy	Conditional Use Permit, Design Review for construction of Navy Federal Credit Union	1.68	3,500	-	CC 1/11/11
C33	P09-0731 P10-0567 P10-0568	1715 – 1745 University Ave	Amendment to the University Avenue Specific Plan to allow drive-thrus in conjunction with retail pharmacies in Subarea 1; CUP/DR for a Walgreens.	0.8	15,004	-	CC 2/8/11
C34	P10-0506 P10-0507 P10-0508 P10-0509	3020 Iowa Ave; northeast corner of Iowa Ave and Blaine St	Conditional Use Permit, Rezoning, Lot Line Consolidation, Variance; student housing project with 216 one, two and four bedroom units with a total of 614 beds within three four-story buildings; Rezone from R-1-7000 to R-3-1500	8.10	-	216	CC 2/22/11
C35	P10-0733	2059 Atlanta Ave	Conditional Use Permit to establish a church with 598 fixed seats within an existing building	3.52	52,000 (existing bldg)	-	CC 3/8/11

Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
C36	P09-0419 P10-0476	2278 Main St	Conditional Use Permit, Design Review; Redesign of site with a Gas Station & Car Wash; Request includes off sale of beer & wine	0.77	3,100	-	CC 3/8/11
C37	P10-0715	7701 Indiana Ave	Conditional use permit; Vehicle repair facility	0.70	4,085	-	CC 4/5/11
C38	P11-0014 P11-0015	8432 Magnolia Ave	Conditional use permit and design review for California Baptist University to facilitate the construction of a 42 1/2 foot tall, 2-story building (School of Business) in the Magnolia Ave Specific Plan	1.24	56,717	-	CC 4/26/11
C39	P10-0685 P10-0794	1855 Columbia Ave	Conditional Use Permit, Design Review for an automated vehicle wash facility, new fuel pump, overhead canopy structure and façade improvements to an existing convenience store	0.63	1,014	-	CC 5/24/11
C40	P10-0707 P10-0708	North side Van Buren Blvd, 200 ft West of Wood St	Conditional Use Permit, Design Review for construction of Baker's Drive-Thru	1.17	2,361	-	CC 5/24/11
C41	P11-0018	8537 Magnolia Ave	Conditional Use Permit to convert an existing independent senior housing complex to an assisted living facility for seniors within Magnolia Avenue Specific Plan	2.36	-	98	CC 6/14/11
C42	P11-0087 P11-0088	3520 Adams St	Conditional Use Permit and Design Review for California Baptist University to facilitate the first phase renovation of the existing Adams (Lancer) Plaza for the construction of 2-story, 48 foot tall Student Recreation Center toward the rear (west) portion of the complex in the Magnolia Avenue Specific Plan	7.24	62,463	-	CC 6/14/11
C43	P11-0131 P11-0132	8432 Magnolia Ave	Conditional use permit and Certificate of Appropriateness for California Baptist University to construct a single-story building for expansion of the existing Central Energy Plant and relocation of the CBU Ceramics and Sculpture Studio in the Magnolia Avenue Specific Plan; project is in close proximity to historic James Complex and Harden Square	-	5,745	-	CC 7/12/11
C44	P11-0192 P11-0196	3747 Monroe Ave	Conditional use permit and Certificate of Appropriateness for California Baptist University to construct a new 317-space parking lot and associated improvements. In addition, design improvement to the Hawthorne House and the surrounding landscape. Project site is located in the Magnolia Avenue Specific Plan Overlay Zones	4.02	-	-	CC 8/9/11
C45	P11-0082	711 N. Main St	Conditional Use Permit to legalize an existing vehicle impound yard and offices on a site developed with two single-story office buildings and a predominantly unpaved surface parking lot	0.99	7,737 (existing bldgs)	-	CC 10/18/11
C46	P11-0545	1540 Linden St	Conditional use permit to allow the establishment of a church with 80 fixed seats within an existing building	0.64	11,346 (existing bldg)	-	CC 11/1/11

R-3

R-1-4

R-3

R-3

R-3

4.1-32

Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
C47	P11-0460	1044 East La Cadena Dr	Conditional use permit to legalize and expand an adult day care/work skills learning facility for up to 90 developmentally disable adults and 30 staff members within an existing building	1.20	8,562 (existing bldg)	-	CC 12/6/11
C48	P11-0623 P11-0713	10121 Hole Ave	Conditional use permit to convert existing retail space into new fitness facility in the Magnolia Avenue Specific Plan	1.45	15,362	-	CC 2/7/12
C49	P12-0234	3439 Arlington Ave	Design Review; LA Fitness ~9,600 square foot expansion to an existing ~42,000 square foot health and fitness club	5.50	~51,6000	-	ZA 05/31/12
C50	P12-0019 P12-0156 P12-0158	NW cor Riverwalk Parkway and Flat Rock Dr	Conditional Use Permit, Specific Plan Amendment, and Design Review of plot plan and building elevations to facilitate the construction of a vehicle fuel station and wash facility as a 2,400 square foot convenience store and a 3,946 square foot coffee shop in the Commercial Retail La Sierra University Specific Plan Overlay Zone	1.17	6,346	-	CC 9/4/12
C51	P10-0438	3875 Dawes St	DR; Magnolia Garden Condominiums	3.61	-	62	ZA 9/21/12
C52	P12-0266 P12-0267 P12-0268	5938 - 5944 Grand Ave	Conditional Use Permit and Design Review for a 2-story senior housing facility with associated parking, on two vacant parcels approximately 1.4 acres	1.40	-	37	CC 10/9/12
C53	P12-0351	3550 Vine St	Conditional Use Permit to allow the establishment of a vocational/technical school for a maximum of 252 students at any one time within an existing 40,060 square foot 3-story office building in the Marketplace Specific Plan	2.60	10,000 of 2nd floor of existing bldg	-	CC 10/9/12
C54	P11-0627 P11-0628 P11-0777 P11-0778	4901 La Sierra Ave	CUP, DR, LL, RZ; Service Station and Convenience Store at 5-Points	1.01	4,100	-	CC 10/9/12
C55	P12-0360	2100 Alessandro Blvd	Conditional Use Permit to establish a vocational school on a site currently developed with an approximately 11,505 square foot single-story retail building in the Sycamore Canyon Business Park Specific Plan	2.15	11,505 (existing bldg)	-	CPC 12/6/12
C56	P11-0329 P11-0330 P11-0332	1101-1163 Marlborough Ave and 3960 11th St	Conditional use permit, variance and design review for a new passenger train station platform and parking lot for Metrolink Service expansion along with existing SBJL right of way. This is within the Business Manufacturing Park (1101-1163 Marlborough Ave) and Downtown Specific Plan Almond Street District (3960 11th St)	9.56	-	-	CC 12/11/12
C57	P12-0520 P12-0524	3580 Adams St	Conditional use permit; California Baptist University student services complex; rehabilitate existing retail space		36,266	-	CC 1/8/13
C58	P12-0605 P12-0606	4250 Van Buren Blvd	Conditional Use Permit and Design Review, to allow the expansion of a vehicle fuel station consisting of construction of second set of pumps and 1,776 sq.ft. canopy at existing "Food 4 Less" supermarket	7.45	-	-	CC 4/9/13

Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
C59	P12-0419 P12-0557 P12-0558 P12-0559	360 Alessandro Blvd	Conditional Use Permit and Design Review to allow the establishment of a stand-alone financial institution; General Plan Amendment to change property from MDR to C; Rezoning from Residential Estate to Office	0.84	3,858	-	CC 5/7/13
C60	P12-0761 P12-0442 P12-0443 P12-0444	2831 Mary St	Conditional Use Permit to allow the development of a CVS drug store that coincides with Stater Bros redevelopment project (Conditional Use Permit, Rezoning, and Design Review)	6.30	56,101	-	CC 5/14/13
C61	P12-0742	6825 - 6900 Jurupa Ave	Conditional Use Permit; Riverside Auto Auction; Vehicle Storage Yard, Minor Vehicle repair and inspections within an existing office/industrial building where the outdoor storage of wholesale vehicles has been previously approved (P10-0282, CC Approved 10/19/10)	27.71	56,000 (existing bldg)	-	CC 6/11/13
C62	P13-0060	5160 Arlington Ave	Conditional Use Permit request on behalf of Chase Bank to allow an existing one drive-thru lane on an existing 4576.87 square foot building to be demolished and reconstructed to include a two lane 36-foot drive thru lane for business purposes	6.26	4,576.87 (existing bldg)	-	CC 6/25/13
C63	P13-0087 P13-0262	2450 Market St	CUP/DR; Conditional Use Permit to allow the reuse of a Senior assisted living facility to allow it to become a low-income single family apartment complex in the Downtown Specific Plan-Market Street Gateway District	1.42	Existing 16,730 sq.ft.complex	77	CPC 8/8/13
C64	P13-0432	6091 Victoria Ave	Conditional Use Permit to construct and operate a day care center at a church facility in a residential & cultural resources zone	3.40	1,831 (existing bldg)	-	CC 9/24/13
C65	P13-0470	8223 California Ave	Conditional Use Permit to re-establish a church and private school; originally approved in 1950s and revised in 1981	5.20	-	-	CC 11/5/13
C66	P13-0159 P13-0160	6692 Indiana Ave	CUP, DR; Proposal to construct new 7-Eleven vehicle fuel station to operate 24 hours within a commercial retail zone	0.75	2,958	-	CC 12/3/13
C67	P13-0181 P13-0182	4824 Jones Ave	CUP, DR; Requesting the expansion of an existing building with 23,124 square foot building for an assembly of people within the Rural Residential zone.	6.14	Existing 33,542 square feet, proposed expansion 23,124 square feet	-	CC 12/17/13
C68	P10-0212 P10-0213	2069 Massachusetts Ave	CUP, DR; Proposal to legalize a bus storage yard for 180 school buses	4.38	-	-	CC 12/17/13
C69	P13-0650 P13-0651	2586 University Ave	MCUP and Certificate of Appropriateness; Proposal to convert an existing 2500 sqft 2-story residence to a bed and breakfast with an 1118 sqft addition	0.23	3,650	-	ZA 12/19/13; CHB 12/18/13
C70	P08-0402 P13-0822	18580 Van Buren Blvd	Conditional use permit to allow the construction of a one-story minor automobile repair shop; Modification of conditions to extend hours	0.93	8,142	-	Original CUP - CC 11/4/08; Modifications of conditions - CC 1/7/14
C71	P13-0785 P13-0787	4247 Van Buren Blvd	CUP, DR; Expansion of existing church	3.43	12,166	-	CC 2/25/14
C72	P13-0989	1200 Columbia Ave	CUP; Assemblies of People church and conference center within existing 64,910 sqft bldg		Existing 64,910		CC 3/11/14
C73	P13-0364 P13-0365	3399 Adams St	CUP, DR; Gas station, convenience store, car wash	0.51	2,941		CC 4/22/14

Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
C74	P14-0435	5005 Canyon Crest Dr	MCUP; Temporary use of 2 modular buildings for offices; Saint Andrew's Orthodox Church				ZA 5/22/14
C75	P13-0912 P13-0913	3742 Park Sierra Av	CUP, DR; LA Fitness Sports Club facility		45,000	-	CC 6/17/14
C76	P14-0220	4035 Trail Creek Rd	CUP; Allow occupancy of an existing 4,400 sqft industrial building for use as Sunday school classrooms and offices	-	Existing 4,400 sqft bldg	-	CC 6/17/14
C77	P13-0903 P13-0904	3865 Jackson St	CUP, DR; 18,650 sqft expansion of existing medical emergency department and construction of a 2,005 sqft utility building; Parkview Hospital Medical Center		20,655		6/19/2014
C78	P14-0457	6465 Sycamore Canyon Blvd	MCUP; Health & fitness club/studio under 4,000 sqft within existing 92,410 sqft 2-story office bldg	8.02			ZA 6/30/14
C79	P14-0132	7665 Vine St	CUP; Allow a materials (metal) processing facility to operate	2.25	2 existing bldgs, 30,324 sqft total	-	CC 7/8/14
C80	P14-0188 P14-0403	3390 Orange St	MCUP, COA; Use residential building as offices	0.21			ZA 7/21/14
C81	P14-0315 P14-0437	4334 Vine St	Revised CUP, DR; Security operations building for the adjacent Downtown Metrolink station		3,150 sqft		CPC 7/17/14
C82	P14-0450	2900 Adams St	Revised CUP; to establish classrooms and laboratories within 5 office and warehouse lease spaces; California Baptist University	9.78	9085 sqft		CPC 7/17/14
C83	P13-0967 P13-0968	NE cor Indiana & La Sierra Aves	CUP, DR; Gas station, car wash, detail center		7065 sqft		CPC 8/7/14
C84	P13-0165 P13-0166 P13-0167 P13-0168	Westerly side of La Sierra Ave, southerly of Indiana Ave, northerly of Liverpool Ln	CUP, DR, GPA, RZ; Request to construct a new gas station and car wash; GPA from Office to Commercial; Rezone from Single Family Residential to Commercial	6.83	-	-	CC 8/12/14
C85	P14-0525	3622 Adams St	MCUP; Convert apartments into student housing for California Baptist University				CC 10/09/14
C86	P14-0501 P14-0529 P14-0530	northwest corner of intersection of La Sierra Ave and Pierce Street	CUP, DR; Drive-thru fast food restaurant, Pharmacy Drive-thru, Commercial shopping center	5.21			CC 1/13/15
C87	P14-0673 P14-0675 P14-0928	northeast corner of Van Buren and Magnolia	CUP, LC, PC or N; Walgreens with Drive Thru pharmacy	0.73	10,776		CC 2/03/15
C88	P14-0812 P14-0813 P14-0979 P14-0980 P14-0981 P14-0982 P14-0983 P14-1076	9505 Magnolia	CUP, VA, DR; Sonic Dine in and Drive-Thru; VA for landscaping, Interior side landscape planter, minimum lot size, reduce drive-thru width, increase number of signs allowed, corner blade sign, reduce parking spaces.		3,275		CC 2/03/15

Conditional Use Permits

Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
C91	P14-0536 P14-0537	Valley Springs & Corporate Centre	CUP, DR; construct an approximately 3,750-square-foot drive-thru business ("Steak and Shake"), located at the northwesterly corner of Valley Springs Parkway and Corporate Centre Place, APN 291-460-017		3,750		CC 5/5/15
C92	P13-0087 P13-0262	2450 Market Street	CUP, DR; establish a 67-unit senior housing facility within an existing three-story, approximately 51,321-square-foot building, on an approximately 1.7-acre site, located at 2450 Market Street situated on the easterly side of Market Street between Ogden Way and Northbend Street, across from Fairmount Park	1.7	51,321		CC 5/5/15
C97	P15-0247 P15-0248 P15-0250 P15-0251 P15-0252 P15-0363	3744, 3768 and 3776 Main Street	CUP, TM, VR; construction of a mixed-use project, consisting of 91 residential units, approximately 8,841 square feet of commercial space and a 115-stall parking garage, on three parcels totaling 0.62 acres, partially developed with an existing commercial building (Imperial Hardware) and a surface parking lot	1.49			
C98	P15-0155	4135 Chicago Avenue	CUP; Open a charter high school in a 10,000 square foot square site				
M1	P05-1055 P05-1056 P05-1057 P05-1058 P05-1059	5202 La Sierra Ave	Tract Map 33403, PRD, GPA, RZ, DR; Sierra Park, 62 unit	7.50	-	62	CC 7/11/06
M2	P06-0501 P06-0554 P06-0555 P06-0056 P06-0557	4710 Riverwalk Pkwy	Parcel Map 34774, SP, RZ, DR, PP; Griffin Riverwalk Apartments	25.50	-	664	CC 10/3/06
M3	P06-1031	1562 Orange St	Tract Map 31825 time extension; Single Family Residences	2.08	-	7	CPC 10/5/06
M4	P06-0900 P08-0269 P08-0270	southwest corner of Lurin Av and Wood Rd	Tract Map 32301; Single Family Residences	10.50	-	20	CPC 4/19/07
M5	P07-0279	north of California Av, west of Bolton Av	TM35455 (RC Zone), Single family residential lots; Lionhead , RC Map	25.94	-	6	CC 5/27/08
M6	P07-1073	APN: 276060003, 012	Tract Map 32180; Subdivide 2 parcels into 9 Single Family Residences in the RE-RL Zone	9.62	-	9	CPC 6/5/08
M7	P08-0084	8616 California Ave	Parcel Map 35852; California Square Redevelopment (Condos)	6.00	-	21	CC 6/17/08
M8	P06-1355	APN: 266160006, 008, 017, 018	Tract Map 33480; Single Family Residences	21.14	-	32	CPC 7/3/08
M9	P06-1396	APN: 266140029, 030	Tract Map 33481; Single Family Residences	18.78	-	25	CPC 7/3/08
M10	P06-1404	APN: 266140002, 021, 022	Tract Map 33482; Single Family Residences	15.13	-	29	CPC 7/3/08

Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
M11	P05-0269 P08-0416	3719 Strong St	Tract Map 33550 and Rezoning of vacant parcels to establish 9 single family residential lots and rezone the property from Multiple Family Residential to Single Family Residential Zone	2.01	-	9	CC 9/16/08
M12	P06-0782	1006 and 1008 Clark St, north side of Paschels Way, east of Clark St, at the north terminus of Cozumel Ct	Tract Map 34908; single family residences	3.38	-	15	CC 1/6/09
M13	P05-1528 P09-0087	East of Gratton St, West of Corsica Ave, North of Van Buren Blvd	Tract Map 34509; 50 Single family lots; Phase I - Develop approx 60 acres to 11 subdivision lots	254.34	-	50	CC 11/06/07; CPC 4/23/09 (Phase I)
M14	P09-0141 P09-0173	South of Clarke St, west of Crystal View Terrace	Parcel Map 34583 to subdivide 2 vacant parcels into 3 single family residential lots; Rezoning 0.47 acres from R-1-1/2 to Residential Conservation Zone	5.72	-	3	CC 9/1/09
M15	P08-0396 P08-0397 P08-0398 P08-0399	NW corner of Dominion Av and Division St	Tract Map 35620; Design Review, General Plan Amendment, and Rezoning to establish a condominium complex	3.75	-	36	CC 11/10/09
M16	P07-1028 P06-0416 P06-0418 P06-0419 P06-0421 P07-0102	NW cor Alessandro Blvd & San Gorgonio Dr	TM 34707/EIR/ DR Alessandro Business Park 4 Industrial/Manufacturing Bldgs	36.63/80.07	662,018	-	CC 3/9/10; Final map approval CC 5/20/14
M17	P08-0727	6639 Hillside Ave	Parcel Map 35901; 5 lots for future industrial development	9.00	-	5	CPC 11/18/10
M18	P10-0577 P10-0671 P10-0672 P10-0798	La Sierra and Indiana Av	Riverwalk Vista Specific Plan - Village 4 (cross streets La Sierra and Indiana Avenue); Amend the Riverwalk Vista Specific Plan to allow two additional complexes (villages) to be developed. Tract Map 35932 to subdivide 21.89 acres of vacant land into 111 lots; additional Tract Map 36323 to subdivide 11.72 acres of vacant land into 52 lots located with the Single Family Residential Zone and Specific Plan (Riverwalk Vista) Overlay Zones	33.61	-	163	CC 2/22/11; Final map approvals CC 3/25/14
M19	P10-0113 P10-0118 P10-0449	19985 Van Buren Blvd; SW corner of Van Buren Blvd and Barton St	Parcel Map 36434 Scoping Session, EIR, DR; Giess Ranch - commercial retail shopping	40.00	425,447	-	CC 2/21/12
M20	P12-0021 P12-0022 P12-0074	3990 Reynolds Rd	Parcel Map 36442; General Plan Amendment to change property from C to MHDR; Rezoning from CR-SP and O-S-R-SP to R-3-3000-SP to consider the establishment of a 4-story multi-family residential development	9.7	-	102	CC 6/5/12

Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
M21	P11-0675 P11-0676	South of Arlington; between Royale Pl and Sunset Ranch Dr	Tract Map 36377 and PRD; 10 lot subdivision	13.9	-	10	CC 6/11/13
M22	P13-0389	NE cor Martha Way & Everest Ave	Tract Map 36579; subdivide 2 parcels to accommodate 5 single family dwellings	1.36	-	5	CPC 1/9/14
M23	P13-0723 P13-0724 P13-0725	4325, 4335, 4345, 4355, 4375 Adams St	Tract Map 36654, PRD, DR; subdivide 7.76 acres into 62 single family planned residential development	7.76	-	62	CC 2/25/14
M24	P12-0799 P12-0800	west side of Palm Av between Beechwood & Highland Pl	Tract Map 36516 and Design Review; subdivide 1.26 ac vacant parcel into 7 single family residential lots ranging in size from 7,002 to 8,011 sq.ft.	1.26	-	7	CPC 4/3/14
M25	TM 31147	North of intersection of Wycliffe & Buchanan Streets	Final approval of Tract Map 31147; 59 lot single family subdivision	27.09	-	59	CC 4/15/14
M26	P13-0665	18875 Moss Rd	Tract Map 36641; 8 lot subdivision for future development of single family residences	5.03	-	8	CPC 4/17/14
M27	P12-0601 P12-0697 P12-0698	14601 Dauchy Ave	Tract Map 36370; GPA from VLDR to HR; RZ from R-1-1/2 acre to RC; 10 lot subdivision	9		10	4/17/2014
M28	TM32997	SE cor Alta Crest Ave & Krameria St	Final approval of Tract Map 32997 (P06-0715), a 90 lot single family subdivision	38.6		94	CC 5/20/14
M29	P03-0041 P03-0042 P03-0086	both sides of Jurupa Ave bet. Crest & Rutland Aves	Tract Map 28987, GPA, RZ; Final approval of tract map; 113 lot single family subdivision	47.54		113	CC 6/17/14
M30	P14-0593	APN 135280041	Tract Map 34236, DR; 7 lot subdivision for residential			7	11/12/2014
M31	P14-0176	southwest corner of La Sierra and Victoria Avenues	Tract Map 36713, GPA, RZ; Final approval of tract map; 14 lot single family subdivision	8.8		14	CPC 12/18/14
M32	P13-0905 P13-0906	Northerly side of Arlington Avenue, between Royale Place and Hawarden Drive	Tract Map 36604, PRD; subdivide an existing 12.41 acre parcel having an average natural slope of 26.4% into seven lots for the future construction of single family residences, as well as the establishment of an approximately 5.20 acre open space area, four lettered lots, and a public cul-de-sac street; resulting in a density of 0.56 dwellings per acre in the RC – Residential Conversation zone	12.41		.56/acre	
M33	P12-0393 P12-0394	Easterly side of Hawarden Drive, mid-block between Horace Street and Rolling Ridge Road	Parcel Map; subdivide an approximately 14.63 acre, two-parcel site into three parcels ranging in size from 1.02 to 11.61 acres; a variance for a flag lot, parcel 2, and to allow the existing parcel, located at 6260 Hawarden Drive, to increase from 0.63 acres to 1.02 acres in size, where the Hawarden Drive Special Design Area requires a minimum of 2.0 acres, located at 6240 and 6260 Hawarden Drive, in the RC – Residential Conservation Zone	14.63			

Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
M34	P14-1053 P14-1054	Northerly side of Dan Kipper Drive, westerly of the intersection of Dan Kipper Drive and Sycamore Canyon Boulevard	Parcel Map;subdivide three existing parcels, totaling 13.08 acres into 5 lots to facilitate the development of 5 warehouse buildings ranging in size from 36,424 to 53,006 square feet in size.	13.08			
M35	P14-0472 P14-0473 P15-0322 P15-0321	Northerly side of Grove Community Drive, between Trautwein Road and Worchester Lane	TM DR, VR; Tentative Tract Map (TM-39534); a related Planned Residential Development to subdivide an approximately 13.5 acre two-parcel vacant site, into 85 single family residential lots with common open space and shared amenities; the Design Review of the plot plan and building elevations for the proposed residential planned residential development; and variances related to building setback measurements in the R-1-8500-SP – Single Family Residential and Specific Plan (Orangecrest) Overlay Zones.	13.5			

G1	P08-0300	7179 Magnolia Ave	Rezoning property from R-1-7000 to Office	0.41			CC 7/22/08
R-9 G2	P07-0425 P09-0196	Magnolia Ave bet Tyler and Buchanan Sts	Magnolia Avenue Specific Plan; General Plan Amendment involving a text change to the Circulation Element of the general plan increasing Magnolia Avenue from a four lane arterial to a six lane arterial between Tyler Street and Buchanan Street				CC 11/10/09
G3	P08-0125 P07-0790	5372-5392 and 5360 Tyler St	General Plan Amendment from Semi-Rural Residential to Public Facilities Institutional; Rezoning from R-3-1500 to Public Facilities; Elementary School Expansion	2.14	Contact School District		CC 1/27/09
G4	P08-0215 P08-0216	10035-10266 Gould St	General Plan Amendment to change approx 54 parcels from HDR to MDR; Rezoning of approximately 54 parcels developed with single and multiple family residences and two vacant parcels from R-3-1500 to R-1-7000-AP-D	21.40			CC 1/27/09
G5	P08-0823	3345 Madison	Rezoning from Single Family Residential to Commercial Retail	0.50			CC 2/24/09
G6	P09-0749	NW Alamo and Main Sts	Rezoning 41 parcels from Business Manufacturing Park to Industrial	54.22			CC 3/9/10
G7	P07-0682 P07-0683	1919 Atlas Dr; 4500 - 4590 Allstate Dr., 1950 and 2000 Market St and 4300 - 4371 Latham St	General Plan Amendment to O; Rezoning from CR to O; 13 parcels	14.09			CC 3/24/09
G8	P09-0002	2255 Chicago Avenue and 1725 – 1735 Spruce St	Rezone a commercial center from the I-SP to the I-BSR-SP Zone	1.70			CC 3/24/09
R-9 G9	P09-0551	3524 Central Ave	Rezoning property from the R-1-7000 to Commercial Retail in the Magnolia Avenue Specific Plan	0.44			CC 4/13/10
G10	P09-0112 P09-0113	APN: 234231045	Rezoning from R-1-7000 to Business Manufacturing Park; General Plan Amendment from MDR to B/OP	3.27			CC 5/26/09

Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
G11	P09-0424	7797 and 7779 Indiana Ave	Rezoning approximately .51 acres of vacant property on the northwesterly side of Indiana Avenue between Jefferson Street and Winstrom Street, from R-1-7000 to CG in the Riverside Auto Center Specific Plan	0.51			CC 10/13/09
G12	P10-0080	1989 Massachusetts and 2800 – 2880 Hulen Pl	Rezoning from the I zone to the I-ES zone	1.80			CC 6/8/10
G13	P10-0454	4825 Tequesquite Ave	General Plan Amendment to change the Tequesquite Park site from Private Recreational Use to Public Park	43.64			CC 5/17/11
G14	P10-0377	6458 Van Buren Blvd	Rezoning property from Business Manufacturing Park to Commercial Retail	4.04			CC 6/28/11
G15	P11-0595 P11-0596	3375 Arlington Ave	General Plan Amendment to change portion of property from Office to Public Facilites; Rezoning portion of property from Commercial General to Residential Commercial Zone	0.8			CC 7/24/12
G16	P12-0334	NE cor Tequesquite & San Andreas Aves	City initiated General Plan Amendment for compliance with the new Housing Element (2006-2014); From MHDR to HDR for consistency with R-3-1500 multi-family residential zone	2.8			CC 10/22/13
G17	P12-0336	West side of Chicago Ave bet University Ave & 12th St	City initiated Rezoning for compliance with the new Housing Element (2006-2014); From Commercial to Mixed Use Urban (MU-U-SP) in the University Avenue Specific Plan	17.8			CC 10/22/13
G18	P12-0336	9 parcels at SE cor of Duncan Ave & Van Buren Blvd	City initiated Rezoning for compliance with the new Housing Element (2006-2014); From Single Family Residential to Multiple Family Residential & Airport Protection Compatibility Zone E Overlay (R-3-1500-AP-E)	5.6			CC 10/22/13
G19	P13-0263 P13-0264	18171 Van Buren Blvd	GPA from VLDR to C; RZ from R-1-1/2 Acre-SP to CR-SP; to facilitate the development of a retail commercial center on 2 contiguous parcels	7.17			4/21/2014
G20	P13-0553 P13-0554 P13-0583 P14-0065	5940 and 5980 Sycamore Canyon	GP, SP, RZ, DR; 275-unit multiple-family residential development, including common and private amenities and covered and uncovered surface parking, on two contiguous parcels	10.26			CC 03/17/2015
G21	P14-0600, P14-0601, P14-0602 P15-0044	Southeasterly corner of Mt. Baldy Drive and San Gorgonio Drive	RZ, DR, VR, VC; consideration of 1) an Amendment to the Municipal Code (Title 19) to rezone approximately 6.2 acres from the CR-S-2-SP – Commercial Retail, Height of Building (two stories), and Specific Plan (Sycamore Canyon Business Park) Overlay Zones to the BMP-S-2-SP – Business and Manufacturing Park, Height of Building (two stories), and Specific Plan (Sycamore Canyon Business Park) Overlay Zones; 2) for Design Review of the plot plan and building elevations related to the construction of an approximately 121,390 square foot multiple tenant industrial building as associated surface parking and landscaping; 3) for a variance to permit a building to encroach into the required 40-foot front yard setback; 4) vacation of excess right-of-way beyond the terminus of the existing cul-de-sac on Mt. Baldy Drive	6.2			

Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
G22	P13-0956 P13-0959 P13-0960 P13-0963 P13-0964 P13-0965 P13-0966	Southeast corner of Palmyrita Avenue and Michigan Avenue, and north of Sugarloaf Mountain	GP, SP, VC, TM, DR, MCUP, VR; Consideration of a phased development consisting of three (3) industrial buildings totaling approximately 1,461,449 square feet of Industrial Warehouse Distribution space	72.5			
E1	P06-1237	Fourteenth St and Brockton Av	EIR and Design Review; Jacobs Medical Office (Formerly Chinatown Site)	4.6	65,281		CC 10/7/08
E2	P09-0600 P09-0601	5200 Van Buren Blvd	Environmental Impact Report (EIR) certifying that the adopted resolution for the Wal-Mart Expansion is pursuant of the County of Riverside Land Use Compatability Plan	13.73	125,857 (existing bldg) 22,272 (addition)		CC 1/24/12
V1	P08-0175	along easterly side of Sycamore Canyon Blvd, bet. Cottonwood Av and Alessandro Blvd	Vacation of approximately 5,822 square feet of unused right-of-way	5,822.00			CC 6/3/08
V2	P08-0329	Commerce St bet. Mission Inn and University Aves	Summary vacation of a portion of Commerce Street for future development	17,424.00			CC 7/22/08
V3	P08-0144	portion of Chicago Av and Ferrari Dr	Vacation of Street from La Fayette and Ferrari Drive	94,525.20			CC 9/23/08
V4	P08-0474 P08-0475	Intersection at Bushness Av, La Sierra Av, Hole Av, Pierce St	Traffic Pattern Modification at Five Points Intersection; Designation of Five Points as City Historic Landmark	N/A			CC 10/7/08
V5	P08-0549	Intersection at Antioch and Hillside Aves	Traffic Pattern Modification at Antioch at Hillside	43,560.00			CC 10/28/08
V6	P08-0303 P08-0304 P08-0306	Santa Ana Ave between Jack B. Clarke Way and Ninth St; Jack B. Clarke Way between Santa Fe Avenue and the Railroad; Ninth St between Vine St and the Railroad; and 3141 Ninth St (packinghouse)	Street vacation of approximately 11,000 square feet of Santa Ana Ave between Jack B. Clarke Way and Ninth St; approximately 2,760 square feet of Jack B. Clarke Way between Santa Fe Avenue and the Railroad; and approximately 20,000 square feet of Ninth St between Vine St and the Railroad; Variance for parking; Certificate of Appropriateness to rehabilitate and adaptively re-use existing 2-story 20,212 sq.ft. historic packing house as an office; demolition of existing 6,637 sq.ft. rear addition constructed in 1939, in conjunction with proposed 3-story, 19,625 sq.ft. office addition	33,760.00			CC 11/18/2008; CHB 7/16/08

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Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
V7	P09-0130	ROW adjacent to 5236 Olivewood Av bet. Panorama and Boxwood Roads	Summary Vacation of portion of Olivewood Ave	18,982.51			CC 5/5/09
V8	P08-0749	ROW adjacent to 6692 Indiana Ave; ROW adacent to 3355 Jane St bet. Indiana Av and BNSF Railroad	Summary Vacation of portion of Indiana Ave and Jane St	12,465.00			CC 5/26/09
V9	P09-0205 P09-0206	Dufferin Av from Stewart St to McAllister Pkwy	Street Vacation and Traffic Pattern Modification to construct knuckle at Dufferin Ave and Steward St and to prohibit vehicle access at Dufferin Ave from McAllister Parkway	23,846.06			CC 7/14/09
V10	P09-0378	Monroe St southwest of California Ave	Summary vaction of approximately 0.213 acres of unimproved right of way along Monroe Street, southwesterly of California	9,278.28			CC 7/28/09
V11	P09-0217	alley between 4290, 4310 Oakwood Pl and 4291, 4319 Rosewood Pl	Vacation of an alley	4,440.00			CC 8/25/09
V12	P09-0505	portion of cul-de-sac bulb adjacent to 5696-5698 Peggy Ln, westerly of Chadbourne Ave	Summary vacation of approximately 4,425 square feet of unused right-of-way located at the westerly terminus of Peggy Lane	4,425.00			CC 10/6/09
V13	P09-0199	south side of Ninth street, between Orange and Lemon Streets	Vacate an existing alleyway to become a part of an alley port entry in conjunction with a 10-story Office Bldg at 3940-3998 Orange St	2,752.00			CC 1/5/10
V14	P10-0001	Stub portion of Ninth St bet. Lime St and 91 Freeway	Vacate a portion of Ninth St; located between Lime Street and Highway 91	6,600.00			CC 5/25/10
V15	P09-0135	Tenth and Eleventh Streets bet. Lime St and	Close remaining portion of Tenth and Eleventh Streets				CC 10/5/10
V16	P10-0667	alley bet. Sixth St, Mission Inn Ave, Main St, and Market St	Summary vacation of approximately 1,605 square feet of excess right-of-way	1,605.00			CC 1/18/11
V17	P10-0799	end of Payton Ave	Summary vacation of the remaining of unused public Right of Way for 5894 Payton Ave	53,654.43			CC 3/22/11
V18	P09-0810	Eucalyptus St, south of Vasquez St	Vacate a portion of Eucalyptus, southerly of Vasquez Street	4,286.74			CPC 5/5/11
V19	P11-0011	21 ft. of ROW along Palm Ave at Rubidoux Ave	Summary vacation of approximately 2,722 square feet of excess right-of-way located at the intersection of Palm Ave and Rubdioux Ave	8,968.00			CC 6/14/11

Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
V20	P11-0199	Fairmount Blvd bet. Whittier Pl and University Ave	3892 University Ave, 3902 University Ave, 3892 University Ave, 3907 University Ave, 3907 Whittier Pl; Vacation summary of a portion of Fairmount Blvd. between Whittier Pl. anc University Ave. to construct the Riverside Community College Culinary Institute with an underground parking structure	15,566.00			CC 7/26/11
V21	P11-0502	Magnolia Ave adjacent to Palm Shadows Apartments (3697 Monroe St) bet. Adams and Monroe Streets	Summary vacation to vacate an excess right-of-way along Magnolia Ave in the Magnolia Avenue Specific Plan	679,543.00			CC 11/8/11
V22	P11-0599	alley south of the western terminus at 3716 Elizabeth St and north of the Union Pacific Railroad ROW	Summary Vacation of an approximately 25-foot wide by 149-foot long segment of public alley in the Magnolia Avenue Specific Plan	7,043.00			CC 12/6/11
V23	P09-0794	alley in block surrounded by Mission Inn Ave, Sixth St, Market St, and Fairmount Blvd	Summary vacation of a 15 foot wide alley	5,400.00			CC 1/17/12
V24	P11-0601	alley bet. Seventh St and University Ave, easterly Mesa St	1764 Seventh St; Summary vacation approximately 120-foot by five-foot wide portion of public alley, located between Seventh Street and University Avenue, easterly of Mesa Street, adjacent to the southerly property lines of 1764 and 1774 Seventh Street. The approximately 600 square-foot area to be vacated can be considered excess right-of-way and is no longer needed for street purposes	600.00			CC 2/7/12
V25	P12-0127	3649 Mission Inn Ave	Summary Vacation of approximately 116-foot by 19-foot segment of excess right-of-way siutated on the easterly side of Main Street and Southerly of Sixth Street with the Downtown Specific Plan Raincross District Commercial Retail Zone	2,204.00			CC 5/1/12
V26	P12-0136	6900 Jurupa Ave	Summary Vacation of approximately 6,937 square feet of unused public right-of-way and authorize the preparation of a Certificate of Compliance to incorporate the vacated area into the property of 6900 Jurupa Avenue within the Business Manufacturing Park Zone	6,937.00			CC 5/15/12
V27	P11-0543 P10-0762 P10-0763	Magnolia Ave adjacent to 7431 and 7451 Magnolia Ave	Summary vacation of a segment of public right-of-way along the frontage of 7431 and 7451 Magnolia Ave, which is developed with an apartment complex and related parking areas in the Magnolia Avenue Specific Plan	51,179.00			CC 5/22/12

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Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
V28	P12-0066	4900 Golden Ave	Summary Vacation of approximately 11-foot wide by 822-foot long segment of excess public right-of-way on the westerly side of Golden Ave and an approximately 12-foot wide by 766-foot long segment of public right-of-way on the northerly side of Pierce Street located within the Residential Estate Zone	18,234.00			CC 9/11/12
V29	P13-0657	NW cor Van Buren Blvd & Magnolia Ave	Summary Vacation of excess right of way				CC 10/22/13
V30	P13-0728	Stacy Ct bet. Paige Dr & Columbia Ave	Summary Vacation				CC 10/22/13
V31	P12-0309	Monte Vista & Pollard	Vacation of approximately .5-acre of public right-of-way, consisting of portions of Monte Vista Drive and Pollard Way, adjacent to the properties at 739 and 778 Monte Vista Drive for a proposed 88-unit apartment project				CPC 03/19/15
V32	P14-0149	Diana Avenue between Adams and Monroe Streets	Vacation of Diana Avenue between Adams and Monroe Streets, including Wilma Court and Emily Court in their entirety, the area to be vacated is approximately 3.4 acres, in Ward 5	3.40			

D1	P08-0701 P08-0702	4393 Tyler St	DR, Rezoning from R-1-7000 to Office; Remodel and reuse of multi-family buildings as offices	0.49	4,950	-	CC 4/21/09
D2	P10-0406 P10-0407 P10-0408	11500 Magnolia Ave	Site Plan Review, Design Review, Variance; Apartment Complex	7.60	-	168	CC 1/11/11
D3	P12-0184 P12-0185 P12-0187	9241 and 9265 Audrey Ave	General Plan Amendment to change property from MDR to C; Rezoning from R-1-7000 to C; and Design review to facilitate the construction of a multiple tenant retail building on a two parcel site, known as the Azar Plaza	0.6	6,150	-	CC 11/13/12
D4	P12-0507 P12-0508 P12-0509 P12-0510	2325 Cottonwood Av	DR, VR LLA, LS/I; 235,741 sqft addition to an existing 400,580 sqft warehouse/ industrial building	9.5 project site	636,321	-	ZA 12/7/12
D5	P12-0717	1710 Main Street	Family Dollar store	1.01	8,039	-	ZA 3/11/13
D6	P12-0741 P12-0743 P14-0238	3545 Central Ave	Riverside Plaza renovations; Pad 3 renovations to consist of 7 tenant spaces with outdoor dining	35.00	-	-	ZA 6/7/13; ZA 7/9/14
D7	P13-0038 P13-0441	3683 Adams St	Rezoning property from Single Family Residential to Mixed Use Neighborhood Zone in the Magnolia Avenue Specific Plan; Design Review for conversion of an existing single family residence into a live/work unit	0.32	1237 (existing residence)	1	CC 8/27/13
D8	P12-0729 P12-0727	4015 Madison St	RZ/DR; Rezoning from R-1-7000 to O-S-1 to accommodate the expansion of parking lot for existing medical office	0.26	-	-	CC 9/24/13
D9	P13-0198 P13-0199 P13-0200 P13-0201	5731, 5741, 5761, & 5797 Pickler St	GP, RZ, COA, PPE; Proposal for rehabilitation of Camp Anza Officer's Club and development of affordable housing with on-site support services for disabled veterans and their families; Rezoning from single family to multi-family (apartment units)	2.14	-	30	CC 11/19/13

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Map ID #	Case Number	Location	Project Description	Acres	Buildings Total Square Feet	Dwelling Units	Approval Date
D10	P13-0501 P13-0502	3705 Tyler St	PPE, DR; Demolish existing tire building and construct new 2-Tenant Restaurant building within existing shopping center	10.80	6,000	-	CC 12/3/13
D11	P13-0916 P13-0917 P13-0918 P13-0919	10403-10485 Magnolia Ave	DR, RZ, SitePlan Review, VR; Time extension for P05-1521, P08-0706, P08-0740, P08-0794; Magnolia Square mixed use development, Parcel map 36112	16.6	71,211 commercial/retail	315 multi-family; 3 live/work	12/16/2013
D12	P13-0247 P13-0248 P13-0249 P13-0251 P13-0252	9565 Rudicill St	Apartment complex on 4 lots (to be consolidated); Site Plan Review, DR, GPA from B/OP to HDR, Rezone from BMP-SP to R-4-SP, SPA (Citrus Business Park Specific Plan)	4.05	-	102	CC 8/12/14???
D13	P13-0607 P13-0608 P13-0609 P13-0854	SE cor Sycamore Canyon Blvd & Box Springs Rd	Multi-tenant industrial building; GPA, RZ, DR, SPA to remove site from Sycamore Highlands SP and add it to Sycamore Canyon Business Park SP		171,616	-	CC 5/13/14
D14	P13-0207 P13-0208 P13-0209 P13-0210 P13-0211	4445 Magnolia Ave	EIR, GPA, RZ, DR, SP; Riverside Community Hospital proposed expansion				CC 5/20/14
D15	P13-0324 P13-0325 P13-0326 P13-0327	Northerly side of Indiana Ave, Easterly of La Sierra Ave, adjacent to La Sierra Metrolink station	Transit-oriented residential development; Site Plan Review, DR, Rezone from R-1-7000-SP to MU-U-SP, SPA (Riverwalk Vista Specific Plan)	3.7	-	187	CPC 5/8/14
D16	P13-0563 P13-0564	8069 Indiana Ave	DR,VAC; construction of 7,373 sqft addition to facilitate vehicle service and parts sales; Singh Subaru; vacation of Susan Street between Indiana Ave & SR91		7,373		CC 6/3/14
D17	P14-0318	3502 through 3520 Tyler St	PPE, DR; Construct a 10,000 sqft restaurant building; add façade improvements to an existing retail building		10,000		ZA 7/11/14
D18	P14-0183	3105 Market St	DR; Centerpointe Apartments	2.51		146	1/26/2015

A1	P14-0246	NW cor of Sycamore Canyon Blvd & Central Ave	Annexation of a vacant site to facilitate development of retail commercial shopping center	9.4			CC 7/8/14

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APPENDIX 4.2:

POST PROCESSING WORKSHEETS

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INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **I-215 Southbound Ramps / Cactus Avenue**

AM PEAK HOUR	**PM PEAK HOUR**
EXISTING TURNING MOVEMENT VOLUMES:	EXISTING TURNING MOVEMENT VOLUMES:
2015 **173 0 0** < v > **0** ^ ^ **0** **296** > Total = 2,577 < **1259** **28** v v **337** < ^ > **0 0 484**	2015 **152 0 0** < v > **0** ^ ^ **0** **605** > Total = 2,377 < **348** **122** v v **497** < ^ > **0 0 653**
EXISTING MODEL YEAR:	EXISTING MODEL YEAR:
2008 **530 0** v ^ **143** < IN = 946 < **374** **30** > OUT = 946 > **558** v ^ **245 12**	2008 **510 0** v ^ **418** < IN = 1206 < **626** **70** > OUT = 1206 > **567** v ^ **221 0**
FUTURE MODEL YEAR:	FUTURE MODEL YEAR:
2035 **696 0** v ^ **1840** < IN = 3130 < **1329** **768** > OUT = 3130 > **773** v ^ **517 337**	2035 **349 0** v ^ **1172** < IN = 3931 < **1723** **1836** > OUT = 3931 > **1769** v ^ **990 23**
EXISTING (COUNTED) ADTs BY LEG:	EXISTING (COUNTED) ADTs BY LEG:
2015 **1,700** N **13,400** W **LEG** E **23,500** S **13,900**	2015 1,700 N 13,400 W + E 23,500 S 13,900
REFINED FUTURE ADT'S BY LEG:	REFINED FUTURE ADT'S BY LEG:
2035 **9,000** N **42,000** W **LEG** E **42,000** S **12,000**	2035 9,000 N 42,000 W + E 42,000 S 12,000

U:\UcJobs_09100-09500_09300\09301\Post Process\[01 I-215 SB Ramps_Cactus.xls]Input (1)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: I-215 Southbound Ramps / Cactus Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR:
2015

		173	0		
		v	^		
1432	<	IN =	2577	<	1596
324	>	OUT =	2577	>	780
		v	^		
		365	484		

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

		MUL	MUL		
		v	^		
ADD	<			<	ADD
ADD	>			>	ADD
		v	^		
		ADD	ADD		

MINIMUM GROWTH %s 2008 TO 2035

		0%	0%		
		v	^		
0%	<			<	0%
0%	>			>	0%
		v	^		
		-14%	-14%		

REFINED GROWTH: 2008 TO 2035

		57	0		
		v	^		
1700	<			<	960
740	>			>	220
		v	^		
		270	330		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

		40	0		
		v	^		
1260	<			<	710
550	>			>	160
		v	^		
		200	240		

NEW PROJECTED VOLUMES: 2035

		210	0		
		v	^		
2690	<	IN =	4110	<	2310
870	>	OUT =	4200	>	940
		v	^	*	
		570	720		

PM

EXISTING COUNT YEAR:
2015

		152	0		
		v	^		
500	<	IN =	2377	<	845
727	>	OUT =	2377	>	1258
		v	^		
		619	653		

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

		MIN	MUL		
		v	^		
ADD	<			<	ADD
ADD	>			>	ADD
		v	^		
		ADD	ADD		

		0%	0%		
		v	^		
0%	<			<	0%
0%	>			>	0%
		v	^		
		-14%	-14%		

ADJUSTED GROWTH: 2008 TO 2035

		0	0		
		v	^		
750	<			<	1100
1770	>			>	1200
		v	^		
		770	20		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

		0	0		
		v	^		
560	<			<	810
1310	>			>	890
		v	^		
		570	10		

NEW PROJECTED VOLUMES: 2035

		150	0		
		v	^		
1087	<	IN =	4510	<	1660
2040	>	OUT =	4510	>	2204
		v	^	*	
		1220	660		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.
U:\UcJobs_09100-09500_09300\09301\Post Process\[01 I-215 SB Ramps_Cactus.xls] Growth Summary (2)

Project:	Moreno Valley Logistics Center	Job #:	9301
Scenario:	GP Buildout Post 2035 Without Project	Analyst:	CKS
		Date:	7/6/2015

LOCATION: I-215 Southbound Ramps / Cactus Avenue
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	484	582	98	20%	653	648	-5	-1%
	NB Total	484	582	98	20%	653	648	-5	-1%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	173	241	68	39%	152	154	2	1%
	SB Total	173	241	68	39%	152	154	2	1%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	296	358	62	21%	605	1,556	951	157%
	Right	28	401	373	1332%	122	459	337	276%
	EB Total	324	759	435	134%	727	2,015	1,288	177%
WEST BOUND	Left	337	169	-168	-50%	497	761	264	53%
	Through	1,259	2,449	1,190	95%	348	932	584	168%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	1,596	2,618	1,022	64%	845	1,693	848	100%
TOTAL ENTERING VOLUME		2,577	4,200	1623	63%	2,377	4,510	2133	90%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	241	154			
North Leg	Outbound	0	0			
North Leg	**TOTAL**	**241**	**154**	**3%**	**2%**	**9,000**
South Leg	Inbound	582	648			
South Leg	Outbound	570	1,220			
South Leg	**TOTAL**	**1,152**	**1,868**	**10%**	**16%**	**12,000**
East Leg	Inbound	2,618	1,693			
East Leg	Outbound	940	2,204			
East Leg	**TOTAL**	**3,558**	**3,897**	**8%**	**9%**	**42,000**
West Leg	Inbound	759	2,015			
West Leg	Outbound	2,690	1,086			
West Leg	**TOTAL**	**3,449**	**3,101**	**8%**	**7%**	**42,000**
OVERALL TOTAL		***8,400***	***9,020***	**8%**	***9%***	***105,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[01 I-215 SB Ramps_Cactus.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	Horizon Year Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	Existing RivTAM	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM	<===		

LOCATION: **I-215 Southbound Ramps / Harley Knox Boulevard**

AM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

			134	**2**	**320**			
			<	v	>			
	0	^				^	**0**	
	360	>				<	**159**	
	8	v				v	**88**	
			<	^	>			
				0	**0**	**0**		

FUTURE MODEL YEAR:

2035

				598	**0**			
				v	^			
	1094	<	IN =	2158	<	**496**		
	1064	>	OUT =	2158	>	**878**		
				v	^			
				186	**0**			

EXISTING (COUNTED) ADTs BY LEG:

2015

				6,180				
				N				
	8,556	W	**LEG**		E	**10,416**		
				S				
				1,464				

REFINED FUTURE ADT'S BY LEG:

2035

				8,700				
				N				
	24,800	W	**LEG**		E	**13,900**		
				S				
				2,300				

PM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

			248	**2**	**282**			
			<	v	>			
	0	^				^	**0**	
	357	>				<	**117**	
	8	v				v	**112**	
			<	^	>			
				0	**0**	**0**		

FUTURE MODEL YEAR:

2035

				717	**0**			
				v	^			
	1597	<	IN =	2744	<	**880**		
	1147	>	OUT =	2444	>	**645**		
				v	^			
				202	**0**			

EXISTING (COUNTED) ADTs BY LEG:

2015

				6,180				
				N				
	8,556	W	+		E	10,416		
				S				
				1,464				

REFINED FUTURE ADT'S BY LEG:

2035

				8,700				
				N				
	24,800	W	+		E	13,900		
				S				
				2,300				

U:\UcJobs_09100-09500_09300\09301\Post Process\[02 I-215 SB_Harley Knox.xlsx]Input (1)

Project: Moreno Valley Logistics Center
Scenario: Horizon Year Without Project

Job #: ##
Analyst: CKS
Date: 7/6/2015

LOCATION: I-215 Southbound Ramps / Harley Knox Boulevard

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM		PM	
EXISTING COUNT YEAR:		EXISTING COUNT YEAR:	
2015	456 0	2015	532 0
	v ^		v ^
293 <	IN = 1071 < 247	365 <	IN = 1126 < 229
368 >	OUT = 1071 > 680	365 >	OUT = 1126 > 639
	v ^		v ^
	98 0		122 0
GROWTH CALCULATION DECISION RULE			
MIN = Minimum Count Growth Approach		MIN = Minimum Count Growth Approach	
ADD = Additive (Growth Increment) Approach	MUL MUL	ADD = Additive (Growth Increment) Approach	MUL MUL
MUL = Multiplicative (Ratio) Approach	v ^	MUL = Multiplicative (Ratio) Approach	v ^
MUL <	< MUL	MUL <	< MUL
MUL >	> MUL	MUL >	> MUL
	v ^		v ^
	MUL MUL		MUL MUL
MINIMUM GROWTH %s 2015 TO 2035			
	0% 0%		0% 0%
	v ^		v ^
0% <	< 0%	0% <	< 0%
0% >	> 0%	0% >	> 0%
	v ^		v ^
	0% 0%		0% 0%
REFINED GROWTH: 2015 TO 2035		ADJUSTED GROWTH: 2015 TO 2035	
	144 0		188 0
	v ^		v ^
797 <	< 253	1235 <	< 651
692 >	> 200	785 >	> 11
	v ^		v ^
	92 0		78 0
PRORATED GROWTH: 2015 TO 2035		PRORATED GROWTH: 2015 TO 2035	
20 YEARS	140 0	20 YEARS	190 0
	v ^		v ^
800 <	< 250	1240 <	< 650
690 >	> 200	790 >	> 10
	v ^		v ^
	90 0		80 0
NEW PROJECTED VOLUMES: 2035		NEW PROJECTED VOLUMES: 2035	
	600 0		720 0
	v ^		v ^
1090 <	IN = 2160 < 500	1806 <	IN = 2760 < 880
1060 >	OUT = 2160 > 880	1160 >	OUT = 2760 > 729
	v ^ *		v ^ *
	190 0		224 0

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs_09100-09500_09300\09301\Post Process\[02 I-215 SB_Harley Knox.xlsx] Growth Summary (2)

Project:	Moreno Valley Logistics Center	Job #:	9301
Scenario:	Horizon Year Without Project	Analyst:	CKS
		Date:	7/6/2015

LOCATION: I-215 Southbound Ramps / Harley Knox Boulevard
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	320	41	-279	-87%	282	5	-277	-98%
	Through	2	2	0	0%	2	0	-2	-100%
	Right	134	605	471	351%	248	840	592	239%
	SB Total	456	648	192	42%	532	845	313	59%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	360	839	479	133%	357	724	367	103%
	Right	8	133	125	1563%	8	174	166	2075%
	EB Total	368	972	604	164%	365	898	533	146%
WEST BOUND	Left	88	55	-33	-38%	112	50	-62	-55%
	Through	159	485	326	205%	117	967	850	726%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	247	540	293	119%	229	1,017	788	344%
TOTAL ENTERING VOLUME		1,071	2,160	1089	102%	1,126	2,760	1634	145%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	648	845			
North Leg	Outbound	0	0			
North Leg	**TOTAL**	**648**	**845**	**7%**	**10%**	**8,700**
South Leg	Inbound	0	0			
South Leg	Outbound	190	224			
South Leg	**TOTAL**	**190**	**224**	**8%**	**10%**	**2,300**
East Leg	Inbound	540	1,017			
East Leg	Outbound	880	729			
East Leg	**TOTAL**	**1,420**	**1,746**	**10%**	**13%**	**13,900**
West Leg	Inbound	972	898			
West Leg	Outbound	1,090	1,807			
West Leg	**TOTAL**	**2,062**	**2,705**	**8%**	**11%**	**24,800**
OVERALL TOTAL		**4,320**	**5,520**	**9%**	**11%**	**49,700**

U:\UcJobs_09100-09500_09300\09301\Post Process\[02 I-215 SB_Harley Knox.xlsx]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **I-215 Northbound Ramps / Cactus Avenue**

AM PEAK HOUR	**PM PEAK HOUR**
EXISTING TURNING MOVEMENT VOLUMES:	EXISTING TURNING MOVEMENT VOLUMES:
2013 **23 0 28** < v > **17** ^ ^ **190** **748** > Total = 3,154 < **1481** **15** v v **0** < ^ > **383 264 5**	2013 **30 0 86** < v > **12** ^ ^ **66** **1133** > Total = 2,780 < **1289** **113** v v **0** < ^ > **22 29 0**
EXISTING MODEL YEAR:	EXISTING MODEL YEAR:
2008 **118 292** v ^ **374** < IN = 1704 < **774** **558** > OUT = 1703 > **783** v ^ **254 254**	2008 **347 66** v ^ **626** < IN = 2004 < **935** **567** > OUT = 2005 > **879** v ^ **434 155**
FUTURE MODEL YEAR:	FUTURE MODEL YEAR:
2035 **1100 1685** v ^ **1329** < IN = 4306 < **1850** **773** > OUT = 4306 > **988** v ^ **304 583**	2035 **1619 1245** v ^ **1723** < IN = 5492 < **1738** **1769** > OUT = 5492 > **2194** v ^ **330 366**
EXISTING (COUNTED) ADTs BY LEG:	EXISTING (COUNTED) ADTs BY LEG:
2013 **2,800** N **23,500** W **LEG** E **30,200** S **2,200**	2013 2,800 N 23,500 W + E 30,200 S 2,200
REFINED FUTURE ADT'S BY LEG:	REFINED FUTURE ADT'S BY LEG:
2035 **39,000** N **42,000** W **LEG** E **38,000** S **14,000**	2035 39,000 N 42,000 W + E 38,000 S 14,000

U:\UcJobs_09100-09500_09300\09301\Post Process\[03 I-215 NB Ramps_Cactus.xls]Input (1)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: I-215 Northbound Ramps / Cactus Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR:
2013

			51	471		
			v	^		
	1887	<	IN =	3154	<	1671
	780	>	OUT =	3154	>	781
			v	^		
			15	652		

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			MUL	ADD		
			v	^		
	ADD	<			<	ADD
	ADD	>			>	MUL
			v	^		
			MUL	ADD		

MINIMUM GROWTH %s 2008 TO 2035

			0%	0%		
			v	^		
	0%	<			<	0%
	0%	>			>	0%
			v	^		
			0%	0%		

REFINED GROWTH: 2008 TO 2035

			429	1390		
			v	^		
	960	<			<	1080
	220	>			>	209
			v	^		
			5	330		

PRORATED GROWTH: 2013 TO 2035
22 YEARS

			350	1130		
			v	^		
	780	<			<	880
	180	>			>	170
			v	^		
			0	270		

NEW PROJECTED VOLUMES: 2035

			400	1600			
			v	^			
	2670	<	IN =	4830	<	2550	
	960	>	OUT =	5240	>	950	
			v	^	*		
			20	920			

PM

EXISTING COUNT YEAR:
2013

			116	107		
			v	^		
	1341	<	IN =	2780	<	1355
	1258	>	OUT =	2780	>	1219
			v	^		
			113	51		

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			MUL	ADD		
			v	^		
	ADD	<			<	ADD
	ADD	>			>	ADD
			v	^		
			MIN	MUL		

			0%	0%		
			v	^		
	0%	<			<	0%
	0%	>			>	0%
			v	^		
			0%	0%		

ADJUSTED GROWTH: 2008 TO 2035

			424	1180		
			v	^		
	1100	<			<	800
	1200	>			>	1320
			v	^		
			0	69		

PRORATED GROWTH: 2013 TO 2035
22 YEARS

			350	960		
			v	^		
	900	<			<	650
	980	>			>	1080
			v	^		
			0	60		

NEW PROJECTED VOLUMES: 2035

			470	1070			
			v	^			
	2240	<	IN =	4830	<	2010	
	2240	>	OUT =	5720	>	2300	
			v	^	*		
			110	110			

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.
U:\UcJobs_09100-09500_09300\09301\Post Process\[03 I-215 NB Ramps_Cactus.xls] Growth Summary (2)

Project:	Moreno Valley Logistics Center	Job #:	9301
Scenario:	GP Buildout Post 2035 Without Project	Analyst:	CKS
		Date:	7/6/2015

LOCATION: I-215 Northbound Ramps / Cactus Avenue
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	383	333	-50	-13%	22	16	-6	-27%
	Through	264	676	412	156%	29	116	87	300%
	Right	5	2	-3	-60%	0	0	0	#DIV/0!
	NB Total	652	1,011	359	55%	51	132	81	159%
SOUTH BOUND	Left	28	130	102	364%	86	255	169	197%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	23	300	277	1204%	30	303	273	910%
	SB Total	51	430	379	743%	116	558	442	381%
EAST BOUND	Left	17	154	137	806%	12	409	397	3308%
	Through	748	818	70	9%	1,133	2,045	912	80%
	Right	15	20	5	33%	113	110	-3	-3%
	EB Total	780	992	212	27%	1,258	2,564	1,306	104%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,481	2,037	556	38%	1,289	1,921	632	49%
	Right	190	770	580	305%	66	545	479	726%
	WB Total	1,671	2,807	1,136	68%	1,355	2,466	1,111	82%
TOTAL ENTERING VOLUME		3,154	5,240	2086	66%	2,780	5,720	2940	106%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	430	558			
North Leg	Outbound	1,600	1,070			
North Leg	**TOTAL**	**2,030**	**1,628**	**5%**	**4%**	**39,000**
South Leg	Inbound	1,011	132			
South Leg	Outbound	20	110			
South Leg	**TOTAL**	**1,031**	**242**	**7%**	**2%**	**14,000**
East Leg	Inbound	2,807	2,466			
East Leg	Outbound	950	2,300			
East Leg	**TOTAL**	**3,757**	**4,766**	**10%**	**13%**	**38,000**
West Leg	Inbound	992	2,564			
West Leg	Outbound	2,670	2,240			
West Leg	**TOTAL**	**3,662**	**4,804**	**9%**	**11%**	**42,000**
OVERALL TOTAL		***10,480***	***11,440***	**8%**	***9%***	***133,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[03 I-215 NB Ramps_Cactus.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	Horizon Year Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	Existing RivTAM	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM	<===		

LOCATION: **I-215 Northbound Ramps / Harley Knox Boulevard**

AM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

			0		**0**		**0**	
			<		v		>	
186	^					^		**275**
494	>					<		**243**
0	v					v		**0**
			<		^		>	
			4		**0**		**86**	

FUTURE MODEL YEAR:

2035

					0		**667**	
					v		^	
496	<		IN =		1822	<		**621**
878	>		OUT =		1822	>		**659**
					v		^	
					0		**323**	

EXISTING (COUNTED) ADTs BY LEG:

2015

					6,996			
					N			
10,356	W		**LEG**		E		**13,380**	
					S			
					1,380			

REFINED FUTURE ADT'S BY LEG:

2035

					7,400			
					N			
13,900	W		**LEG**		E		**16,200**	
					S			
					3,400			

PM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

			0		**0**		**0**	
			<		v		>	
215	^					^		**367**
424	>					<		**222**
0	v					v		**0**
			<		^		>	
			7		**1**		**107**	

FUTURE MODEL YEAR:

2035

					0		**636**	
					v		^	
880	<		IN =		2233	<		**931**
945	>		OUT =		2233	>		**717**
					v		^	
					0		**357**	

EXISTING (COUNTED) ADTs BY LEG:

2015

					6,996			
					N			
10,356	W		+		E		13,380	
					S			
					1,380			

REFINED FUTURE ADT'S BY LEG:

2035

					7,400			
					N			
13,900	W		+		E		16,200	
					S			
					3,400			

U:\UcJobs_09100-09500_09300\09301\Post Process\[04 I-215 NB_Harley Knox.xlsx]Input (1)

Project: Moreno Valley Logistics Center
Scenario: Horizon Year Without Project

Job #: ##
Analyst: CKS
Date: 7/6/2015

LOCATION: I-215 Northbound Ramps / Harley Knox Boulevard

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM		PM	
EXISTING COUNT YEAR:		EXISTING COUNT YEAR:	
2015	0 461 v ^ 247 < IN = 1288 < 518 680 > OUT = 1288 > 580 v ^ 0 90	2015	0 583 v ^ 229 < IN = 1343 < 589 639 > OUT = 1343 > 531 v ^ 0 115
GROWTH CALCULATION DECISION RULE MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach	MUL MUL v ^ MUL < < MUL MUL > > MUL v ^ MUL MUL	MIN = Minimum Count Growth Approach ADD = Additive (Growth Increment) Approach MUL = Multiplicative (Ratio) Approach	MUL MUL v ^ MUL < < MUL MUL > > MUL v ^ MUL MUL
MINIMUM GROWTH %s 2015 TO 2035	0% 0% v ^ 0% < < 0% 0% > > 0% v ^ 0% 0%		0% 0% v ^ 0% < < 0% 0% > > 0% v ^ 0% 0%
REFINED GROWTH: 2015 TO 2035	0 209 v ^ 253 < < 102 200 > > 80 v ^ 0 230	ADJUSTED GROWTH: 2015 TO 2035	0 57 v ^ 651 < < 341 311 > > 189 v ^ 0 245
PRORATED GROWTH: 2015 TO 2035 20 YEARS	0 210 v ^ 250 < < 100 200 > > 80 v ^ 0 230	PRORATED GROWTH: 2015 TO 2035 20 YEARS	0 60 v ^ 650 < < 340 310 > > 190 v ^ 0 250
NEW PROJECTED VOLUMES: 2035	0 670 v ^ 500 < IN = 1820 < 620 880 > OUT = 1830 > 660 v ^ * 0 320	NEW PROJECTED VOLUMES: 2035	0 643 v ^ 884 < IN = 2250 < 930 950 > OUT = 2250 > 723 v ^ * 0 370

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs_09100-09500_09300\09301\Post Process\[04 I-215 NB_Harley Knox.xlsx] Growth Summary (2)

Project:	Moreno Valley Logistics Center	Job #:	9301
Scenario:	Horizon Year Without Project	Analyst:	CKS
		Date:	7/6/2015

LOCATION: I-215 Northbound Ramps / Harley Knox Boulevard
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	4	78	74	1850%	7	147	140	2000%
	Through	0	0	0	#DIV/0!	1	3	2	200%
	Right	86	243	157	183%	107	219	112	105%
	NB Total	90	321	231	257%	115	369	254	221%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
EAST BOUND	Left	186	464	278	149%	215	437	222	103%
	Through	494	417	-77	-16%	424	504	80	19%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	680	881	201	30%	639	941	302	47%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	243	422	179	74%	222	737	515	232%
	Right	275	206	-69	-25%	367	203	-164	-45%
	WB Total	518	628	110	21%	589	940	351	60%
TOTAL ENTERING VOLUME		1,288	1,830	542	42%	1,343	2,250	907	68%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	0	0			
North Leg	Outbound	670	643			
North Leg	**TOTAL**	**670**	**643**	**9%**	**9%**	**7,400**
South Leg	Inbound	321	369			
South Leg	Outbound	0	0			
South Leg	**TOTAL**	**321**	**369**	**9%**	**11%**	**3,400**
East Leg	Inbound	628	940			
East Leg	Outbound	660	723			
East Leg	**TOTAL**	**1,288**	**1,663**	**8%**	**10%**	**16,200**
West Leg	Inbound	881	941			
West Leg	Outbound	500	884			
West Leg	**TOTAL**	**1,381**	**1,825**	**10%**	**13%**	**13,900**
OVERALL TOTAL		**3,660**	**4,500**	**9%**	**11%**	**40,900**

U:\UcJobs_09100-09500_09300\09301\Post Process\[04 I-215 NB_Harley Knox.xlsx]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Elsworth Street / Cactus Avenue**

AM PEAK HOUR	**PM PEAK HOUR**
EXISTING TURNING MOVEMENT VOLUMES:	EXISTING TURNING MOVEMENT VOLUMES:
2015 **100 114 73**	2015 **165 20 99**
< v >	< v >
160 ^ ^ **79**	**95** ^ ^ **74**
1191 > Total = 3,779 < **1434**	**1223** > Total = 3,418 < **1053**
230 v v **104**	**23** v v **24**
< ^ >	< ^ >
51 222 21	**366 95 181**
EXISTING MODEL YEAR:	EXISTING MODEL YEAR:
2008 **132 296**	2008 **272 246**
v ^	v ^
774 < IN = 2172 < **548**	**935** < IN = 2537 < **383**
1255 > OUT = 2172 > **596**	**1358** > OUT = 2537 > **904**
v ^	v ^
506 237	**452 524**
FUTURE MODEL YEAR:	FUTURE MODEL YEAR:
2035 **256 493**	2035 **507 620**
v ^	v ^
1813 < IN = 3481 < **1766**	**1731** < IN = 4902 < **1345**
1359 > OUT = 3481 > **953**	**2706** > OUT = 4904 > **2285**
v ^	v ^
222 100	**268 344**
EXISTING (COUNTED) ADTs BY LEG:	EXISTING (COUNTED) ADTs BY LEG:
2015 **6,600**	2015 6,600
N	N
34,800 W **LEG** E **31,100**	34,800 W + E 31,100
S	S
8,600	8,600
REFINED FUTURE ADT'S BY LEG:	REFINED FUTURE ADT'S BY LEG:
2035 **11,000**	2035 11,000
N	N
44,000 W **LEG** E **36,000**	44,000 W + E 36,000
S	S
6,000	6,000

U:\UcJobs_09100-09500_09300\09301\Post Process\[05 Elsworth_Cactus.xls]Input (1)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Elsworth Street / Cactus Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR: 2015

			287	461		
			v	^		
	1585	< IN =	3779	<	1617	
	1581	> OUT =	3779	>	1285	
			v	^		
			448	294		

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			ADD	ADD		
			v	^		
	ADD	<		<	ADD	
	ADD	>		>	ADD	
			v	^		
			MIN	MIN		

MINIMUM GROWTH %s 2008 TO 2035

			0%	0%		
			v	^		
	0%	<		<	0%	
	0%	>		>	0%	
			v	^		
			-30%	-30%		

REFINED GROWTH: 2008 TO 2035

			120	200		
			v	^		
	1040	<		<	1220	
	100	>		>	360	
			v	^		
			-130	-90		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			90	150		
			v	^		
	770	<		<	900	
	70	>		>	270	
			v	^		
			-100	-70		

NEW PROJECTED VOLUMES: 2035

			380	610		
			v	^		
	2360	< IN =	4770	<	2520	
	1650	> OUT =	4880	>	1560	
			v	^ *		
			350	220		

PM

EXISTING COUNT YEAR: 2015

			284	264		
			v	^		
	1584	< IN =	3418	<	1151	
	1341	> OUT =	3418	>	1503	
			v	^		
			67	642		

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			ADD	ADD		
			v	^		
	ADD	<		<	ADD	
	MUL	>		>	ADD	
			v	^		
			MIN	ADD		

			0%	0%		
			v	^		
	0%	<		<	0%	
	0%	>		>	0%	
			v	^		
			-30%	-30%		

ADJUSTED GROWTH: 2008 TO 2035

			240	370		
			v	^		
	800	<		<	960	
	1329	>		>	1380	
			v	^		
			-20	-180		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			180	270		
			v	^		
	590	<		<	710	
	980	>		>	1020	
			v	^		
			-10	-130		

NEW PROJECTED VOLUMES: 2035

			460	530		
			v	^		
	2170	< IN =	5150	<	1860	
	2320	> OUT =	5280	>	2520	
			v	^ *		
			60	510		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs_09100-09500_09300\09301\Post Process\[05 Elsworth_Cactus.xls] Growth Summary (2)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: 9301
Analyst: CKS
Date: 7/6/2015

LOCATION: Elsworth Street / Cactus Avenue
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	51	23	-28	-55%	366	248	-118	-32%
	Through	222	186	-36	-16%	95	111	16	17%
	Right	21	16	-5	-24%	181	163	-18	-10%
	NB Total	294	225	-69	-23%	642	522	-120	-19%
SOUTH BOUND	Left	73	155	82	112%	99	201	102	103%
	Through	114	109	-5	-4%	20	18	-2	-10%
	Right	100	126	26	26%	165	252	87	53%
	SB Total	287	390	103	36%	284	471	187	66%
EAST BOUND	Left	160	202	42	26%	95	217	122	128%
	Through	1,191	1,389	198	17%	1,223	2,156	933	76%
	Right	230	120	-110	-48%	23	18	-5	-22%
	EB Total	1,581	1,711	130	8%	1,341	2,391	1,050	78%
WEST BOUND	Left	104	121	17	16%	24	23	-1	-4%
	Through	1,434	2,210	776	54%	1,053	1,670	617	59%
	Right	79	222	143	181%	74	202	128	173%
	WB Total	1,617	2,553	936	58%	1,151	1,895	744	65%
TOTAL ENTERING VOLUME		3,779	4,879	1100	29%	3,418	5,279	1861	54%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	390	471			
North Leg	Outbound	610	530			
North Leg	**TOTAL**	**1,000**	**1,001**	**9%**	**9%**	**11,000**
South Leg	Inbound	225	522			
South Leg	Outbound	350	59			
South Leg	**TOTAL**	**575**	**581**	**10%**	**10%**	**6,000**
East Leg	Inbound	2,553	1,895			
East Leg	Outbound	1,560	2,520			
East Leg	**TOTAL**	**4,113**	**4,415**	**11%**	**12%**	**36,000**
West Leg	Inbound	1,711	2,391			
West Leg	Outbound	2,359	2,170			
West Leg	**TOTAL**	**4,070**	**4,561**	**9%**	**10%**	**44,000**
OVERALL TOTAL		***9,758***	***10,558***	**10%**	***11%***	***97,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[05 Elsworth_Cactus.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logisitics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Frederick Street / Cactus Avenue**

AM PEAK HOUR	**PM PEAK HOUR**
EXISTING TURNING MOVEMENT VOLUMES:	EXISTING TURNING MOVEMENT VOLUMES:
2015 **63 0 103**	2015 **93 0 321**
< v >	< v >
160 ^ ^ **149**	**81** ^ ^ **161**
1003 > Total = 3,109 < **1631**	**1709** > Total = 3,261 < **896**
0 v v **0**	**0** v v **0**
< ^ >	< ^ >
0 0 0	**0 0 0**
EXISTING MODEL YEAR:	EXISTING MODEL YEAR:
2008 **395 242**	2008 **211 713**
v ^	v ^
548 < IN = 1630 < **639**	**383** < IN = 2073 < **958**
596 > OUT = 1629 > **839**	**904** > OUT = 2073 > **977**
v ^	v ^
0 0	**0 0**
FUTURE MODEL YEAR:	FUTURE MODEL YEAR:
2035 **70 76**	2035 **236 306**
v ^	v ^
1766 < IN = 2784 < **1761**	**1345** < IN = 4044 < **1523**
953 > OUT = 2784 > **942**	**2285** > OUT = 4043 > **2392**
v ^	v ^
0 0	**0 0**
EXISTING (COUNTED) ADTs BY LEG:	EXISTING (COUNTED) ADTs BY LEG:
2015 **5,722** N	2015 5,722 N
29,508 W **LEG** E **32,544**	29,508 W + E 32,544
S **0**	S 0
REFINED FUTURE ADT'S BY LEG:	REFINED FUTURE ADT'S BY LEG:
2035 **3,000** N	2035 3,000 N
36,000 W **LEG** E **37,000**	36,000 W + E 37,000
S **0**	S 0

U:\UcJobs_09100-09500_09300\09301\Post Process\[06 Frederick_Cactus.xls]Input (1)

Project: Moreno Valley Logisitics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Frederick Street / Cactus Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR: 2015

			166	309		
			v	^		
	1694	< IN =	3109	<	1780	
	1163	> OUT =	3109	>	1106	
			v	^		
			0	0		

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			MIN	MIN		
			v	^		
	ADD	<		<	ADD	
	ADD	>		>	ADD	
			v	^		
			MUL	MUL		

MINIMUM GROWTH %s 2008 TO 2035

			-48%	-48%		
			v	^		
	0%	<		<	0%	
	0%	>		>	0%	
			v	^		
			0%	0%		

REFINED GROWTH: 2008 TO 2035

			-80	-150		
			v	^		
	1220	<		<	1120	
	360	>		>	100	
			v	^		
			0	0		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			-60	-110		
			v	^		
	900	<		<	830	
	270	>		>	70	
			v	^		
			0	0		

NEW PROJECTED VOLUMES: 2035

			110	209		
			v	^		
	2707	< IN =	4150	<	2610	
	1430	> OUT =	4150	>	1234	
			v	^ *		
			0	0		

PM

EXISTING COUNT YEAR: 2015

			414	242		
			v	^		
	989	< IN =	3261	<	1057	
	1790	> OUT =	3261	>	2030	
			v	^		
			0	0		

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			ADD	MIN		
			v	^		
	ADD	<		<	ADD	
	ADD	>		>	ADD	
			v	^		
			MUL	MUL		

			-48%	-48%		
			v	^		
	0%	<		<	0%	
	0%	>		>	0%	
			v	^		
			0%	0%		

ADJUSTED GROWTH: 2008 TO 2035

			30	-120		
			v	^		
	960	<		<	570	
	1380	>		>	1420	
			v	^		
			0	0		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			20	-90		
			v	^		
	710	<		<	420	
	1020	>		>	1050	
			v	^		
			0	0		

NEW PROJECTED VOLUMES: 2035

			430	150		
			v	^		
	1700	< IN =	4720	<	1480	
	2810	> OUT =	4930	>	3080	
			v	^ *		
			0	0		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.
U:\UcJobs_09100-09500_09300\09301\Post Process\[06 Frederick_Cactus.xls] Growth Summary (2)

Project: Moreno Valley Logisitics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: 9301
Analyst: CKS
Date: 7/6/2015

LOCATION: Frederick Street / Cactus Avenue
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	103	41	-62	-60%	321	281	-40	-12%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	63	68	5	8%	93	169	76	82%
	SB Total	166	109	-57	-34%	414	450	36	9%
EAST BOUND	Left	160	142	-18	-11%	81	75	-6	-7%
	Through	1,003	1,192	189	19%	1,709	2,799	1,090	64%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	1,163	1,334	171	15%	1,790	2,874	1,084	61%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	1,631	2,639	1,008	62%	896	1,531	635	71%
	Right	149	67	-82	-55%	161	75	-86	-53%
	WB Total	1,780	2,706	926	52%	1,057	1,606	549	52%
TOTAL ENTERING VOLUME		3,109	4,149	1040	33%	3,261	4,930	1669	51%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	109	450			
North Leg	Outbound	209	150			
North Leg	**TOTAL**	**318**	**600**	**11%**	**20%**	**3,000**
South Leg	Inbound	0	0			
South Leg	Outbound	0	0			
South Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
East Leg	Inbound	2,706	1,606			
East Leg	Outbound	1,233	3,080			
East Leg	**TOTAL**	**3,939**	**4,686**	**11%**	**13%**	**37,000**
West Leg	Inbound	1,334	2,874			
West Leg	Outbound	2,707	1,700			
West Leg	**TOTAL**	**4,041**	**4,574**	**11%**	**13%**	**36,000**
OVERALL TOTAL		***8,298***	***9,860***	**11%**	***13%***	***76,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[06 Frederick_Cactus.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Graham Street / Cactus Avenue**

AM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015			**47**	**53**	**85**			
			<	v	>			
	90	^				^	**68**	
	849	>		Total =	3,157	<	**1583**	
	174	v				v	**15**	
			<	^	>			
			133	**52**	**8**			

EXISTING MODEL YEAR:

2008				**562**	**40**			
				v	^			
	648	<		IN =	2489	<	**850**	
	838	>		OUT =	2489	>	**84**	
				v	^			
				1717	**239**			

FUTURE MODEL YEAR:

2035				**507**	**379**			
				v	^			
	1870	<		IN =	3195	<	**1111**	
	878	>		OUT =	3195	>	**295**	
				v	^			
				651	**699**			

EXISTING (COUNTED) ADTs BY LEG:

2015				**6,036**				
				N				
	31,536	W		**LEG**	E		**26,232**	
				S				
				9,132				

REFINED FUTURE ADT'S BY LEG:

2035				**13,000**				
				N				
	38,000	W		**LEG**	E		**18,000**	
				S				
				20,000				

PM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015			**47**	**53**	**58**			
			<	v	>			
	90	^				^	**68**	
	849	>		Total =	3,130	<	**1583**	
	174	v				v	**15**	
			<	^	>			
			133	**52**	**8**			

EXISTING MODEL YEAR:

2008				**171**	**669**			
				v	^			
	961	<		IN =	3113	<	**126**	
	969	>		OUT =	3113	>	**1038**	
				v	^			
				445	**1847**			

FUTURE MODEL YEAR:

2035				**648**	**671**			
				v	^			
	1516	<		IN =	4666	<	**628**	
	2504	>		OUT =	4665	>	**1450**	
				v	^			
				1028	**886**			

EXISTING (COUNTED) ADTs BY LEG:

2015				6,036				
				N				
	31,536	W		+	E		26,232	
				S				
				9,132				

REFINED FUTURE ADT'S BY LEG:

2035				13,000				
				N				
	38,000	W		+	E		18,000	
				S				
				20,000				

U:\UcJobs_09100-09500_09300\09301\Post Process\[08 Graham_Cactus.xls]Input (1)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Graham Street / Cactus Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR: 2015

			185	210		
			v	^		
	1763	<	IN =	3157	<	1666
	1113	>	OUT =	3157	>	942
			v	^		
			242	193		

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			MIN	ADD		
			v	^		
	ADD	<			<	ADD
	ADD	>			>	ADD
			v	^		
			MIN	MUL		

MINIMUM GROWTH %s 2008 TO 2035

			0%	0%		
			v	^		
	0%	<			<	-31%
	0%	>			>	-31%
			v	^		
			0%	0%		

REFINED GROWTH: 2008 TO 2035

			0	340		
			v	^		
	1220	<			<	260
	40	>			>	210
			v	^		
			0	367		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			0	250		
			v	^		
	900	<			<	190
	30	>			>	160
			v	^		
			0	270		

NEW PROJECTED VOLUMES: 2035

			190	460			
			v	^			
	2660	<	IN =	3650	<	1860	
	1140	>	OUT =	4460	>	1100	
			v	^	*		
			240	460			

PM

EXISTING COUNT YEAR: 2015

			158	210		
			v	^		
	1763	<	IN =	3130	<	1666
	1113	>	OUT =	3130	>	915
			v	^		
			242	193		

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			MUL	MUL		
			v	^		
	ADD	<			<	ADD
	ADD	>			>	MUL
			v	^		
			MUL	MIN		

			0%	0%		
			v	^		
	0%	<			<	-31%
	0%	>			>	-31%
			v	^		
			0%	0%		

ADJUSTED GROWTH: 2008 TO 2035

			442	0		
			v	^		
	560	<			<	500
	1540	>			>	365
			v	^		
			318	0		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			330	0		
			v	^		
	410	<			<	370
	1140	>			>	270
			v	^		
			240	0		

NEW PROJECTED VOLUMES: 2035

			490	258			
			v	^			
	2663	<	IN =	4970	<	2040	
	2250	>	OUT =	4970	>	1460	
			v	^	*		
			589	190			

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs_09100-09500_09300\09301\Post Process\[08 Graham_Cactus.xls] Growth Summary (2)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: 9301
Analyst: CKS
Date: 7/6/2015

LOCATION: Graham Street / Cactus Avenue
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	133	387	254	191%	133	182	49	37%
	Through	52	165	113	217%	52	17	-35	-67%
	Right	8	14	6	75%	8	2	-6	-75%
	NB Total	193	566	373	193%	193	201	8	4%
SOUTH BOUND	Left	85	93	8	9%	58	67	9	16%
	Through	53	51	-2	-4%	53	103	50	94%
	Right	47	86	39	83%	47	329	282	600%
	SB Total	185	230	45	24%	158	499	341	216%
EAST BOUND	Left	90	192	102	113%	90	218	128	142%
	Through	849	993	144	17%	849	1,391	542	64%
	Right	174	178	4	2%	174	480	306	176%
	EB Total	1,113	1,363	250	22%	1,113	2,089	976	88%
WEST BOUND	Left	15	11	-4	-27%	15	6	-9	-60%
	Through	1,583	2,188	605	38%	1,583	2,152	569	36%
	Right	68	103	35	51%	68	23	-45	-66%
	WB Total	1,666	2,302	636	38%	1,666	2,181	515	31%
TOTAL ENTERING VOLUME		3,157	4,461	1304	41%	3,130	4,970	1840	59%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	230	499			
North Leg	Outbound	460	258			
North Leg	**TOTAL**	**690**	**757**	**5%**	**6%**	**13,000**
South Leg	Inbound	566	201			
South Leg	Outbound	240	589			
South Leg	**TOTAL**	**806**	**790**	**4%**	**4%**	**20,000**
East Leg	Inbound	2,302	2,181			
East Leg	Outbound	1,100	1,460			
East Leg	**TOTAL**	**3,402**	**3,641**	**19%**	**20%**	**18,000**
West Leg	Inbound	1,363	2,089			
West Leg	Outbound	2,661	2,663			
West Leg	**TOTAL**	**4,024**	**4,752**	**11%**	**13%**	**38,000**
OVERALL TOTAL		***8,922***	***9,940***	**10%**	***11%***	***89,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[08 Graham_Cactus.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Patterson Avenue / Harley Knox Boulevard**

AM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

5 1 0

< v >

4 ^ ^ **1**

452 > Total = 997 < **415**

16 v v **0**

< ^ >

98 0 5

EXISTING MODEL YEAR:

2008

0 0

v ^

250 < IN = 470 < **196**

220 > OUT = 470 > **140**

v ^

80 54

FUTURE MODEL YEAR:

2035

0 0

v ^

1486 < IN = 2354 < **1482**

701 > OUT = 2354 > **722**

v ^

146 171

EXISTING (COUNTED) ADTs BY LEG:

2015

277

N

12,273 W **LEG** E **11,252**

S

1,283

REFINED FUTURE ADT'S BY LEG:

2035

0

N

26,000 W **LEG** E **26,000**

S

4,000

PM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

10 4 7

< v >

5 ^ ^ **4**

403 > Total = 983 < **460**

43 v v **3**

< ^ >

35 4 5

EXISTING MODEL YEAR:

2008

0 0

v ^

266 < IN = 766 < **180**

500 > OUT = 766 > **232**

v ^

268 86

FUTURE MODEL YEAR:

2035

0 0

v ^

1115 < IN = 2912 < **1195**

1458 > OUT = 2912 > **1493**

v ^

304 259

EXISTING (COUNTED) ADTs BY LEG:

2015

277

N

12,273 W + E 11,252

S

1,283

REFINED FUTURE ADT'S BY LEG:

2035

0

N

26,000 W + E 26,000

S

4,000

U:\UcJobs_09100-09500_09300\09301\Post Process\[09 Patterson_Harley Knox.xls]Input (1)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Patterson Avenue / Harley Knox Boulevard

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR: 2015

			6	5		
			v	^		
518	<	IN =	997	<	416	
472	>	OUT =	997	>	457	
			v	^		
			17	103		

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			ADD	ADD		
			v	^		
ADD	<				<	ADD
ADD	>				>	ADD
			v	^		
			MUL	ADD		

MINIMUM GROWTH %s 2008 TO 2035

			#####	#####		
			v	^		
0%	<				<	0%
0%	>				>	0%
			v	^		
			0%	0%		

REFINED GROWTH: 2008 TO 2035

			0	0		
			v	^		
1240	<				<	1290
480	>				>	580
			v	^		
			13	120		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			0	0		
			v	^		
920	<				<	960
360	>				>	430
			v	^		
			10	90		

NEW PROJECTED VOLUMES: 2035

			10	10		
			v	^		
1464	<	IN =	2410	<	1380	
830	>	OUT =	2410	>	905	
			v	^	*	
			31	190		

PM

EXISTING COUNT YEAR: 2015

			21	13		
			v	^		
505	<	IN =	983	<	467	
451	>	OUT =	983	>	415	
			v	^		
			50	44		

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			ADD	ADD		
			v	^		
ADD	<				<	ADD
MUL	>				>	ADD
			v	^		
			MUL	MUL		

			#####	#####		
			v	^		
0%	<				<	0%
0%	>				>	0%
			v	^		
			0%	0%		

ADJUSTED GROWTH: 2008 TO 2035

			0	0		
			v	^		
850	<				<	1020
869	>				>	1260
			v	^		
			10	86		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			0	0		
			v	^		
630	<				<	760
640	>				>	930
			v	^		
			10	60		

NEW PROJECTED VOLUMES: 2035

			20	10		
			v	^		
1140	<	IN =	2440	<	1230	
1090	>	OUT =	2560	>	1350	
			v	^	*	
			60	100		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs_09100-09500_09300\09301\Post Process\[09 Patterson_Harley Knox.xls] Growth Summary (2)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: 9301
Analyst: CKS
Date: 7/6/2015

LOCATION: Patterson Avenue / Harley Knox Boulevard
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	98	157	59	60%	35	41	6	17%
	Through	0	0	0	#DIV/0!	4	3	-1	-25%
	Right	5	26	21	420%	5	63	58	1160%
	NB Total	103	183	80	78%	44	107	63	143%
SOUTH BOUND	Left	0	0	0	#DIV/0!	7	18	11	157%
	Through	1	4	3	300%	4	3	-1	-25%
	Right	5	6	1	20%	10	2	-8	-80%
	SB Total	6	10	4	67%	21	23	2	10%
EAST BOUND	Left	4	4	0	0%	5	1	-4	-80%
	Through	452	879	427	94%	403	1,269	866	215%
	Right	16	27	11	69%	43	36	-7	-16%
	EB Total	472	910	438	93%	451	1,306	855	190%
WEST BOUND	Left	0	0	0	#DIV/0!	3	21	18	600%
	Through	415	1,300	885	213%	460	1,097	637	138%
	Right	1	6	5	500%	4	6	2	50%
	WB Total	416	1,306	890	214%	467	1,124	657	141%
TOTAL ENTERING VOLUME		997	2,409	1412	142%	983	2,560	1577	160%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	10	23			
North Leg	Outbound	10	10			
North Leg	**TOTAL**	**20**	**33**	**#DIV/0!**	**#DIV/0!**	**-**
South Leg	Inbound	183	107			
South Leg	Outbound	31	60			
South Leg	**TOTAL**	**214**	**167**	**5%**	**4%**	**4,000**
East Leg	Inbound	1,306	1,124			
East Leg	Outbound	905	1,350			
East Leg	**TOTAL**	**2,211**	**2,474**	**9%**	**10%**	**26,000**
West Leg	Inbound	910	1,306			
West Leg	Outbound	1,463	1,140			
West Leg	**TOTAL**	**2,373**	**2,446**	**9%**	**9%**	**26,000**
OVERALL TOTAL		***4,818***	***5,120***	**9%**	***9%***	***56,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[09 Patterson_Harley Knox.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Heacock Street / Cactus Avenue**

AM PEAK HOUR	**PM PEAK HOUR**
EXISTING TURNING MOVEMENT VOLUMES:	EXISTING TURNING MOVEMENT VOLUMES:
2015 **45 253 43**	2015 **39 511 108**
< v >	< v >
88 ^ ^ **92**	**82** ^ ^ **67**
512 > Total = 3,387 < **997**	**924** > Total = 3,886 < **555**
310 v v **9**	**750** v v **13**
< ^ >	< ^ >
670 359 9	**363 455 19**
EXISTING MODEL YEAR:	EXISTING MODEL YEAR:
2008 **637 520**	2008 **651 769**
v ^	v ^
850 < IN = 2154 < **542**	**139** < IN = 2742 < **177**
93 > OUT = 2154 > **108**	**1038** > OUT = 2741 > **694**
v ^	v ^
676 882	**1139 876**
FUTURE MODEL YEAR:	FUTURE MODEL YEAR:
2035 **531 648**	2035 **995 655**
v ^	v ^
1120 < IN = 2544 < **495**	**662** < IN = 3695 < **219**
286 > OUT = 2544 > **85**	**1456** > OUT = 3695 > **963**
v ^	v ^
691 1232	**1415 1025**
EXISTING (COUNTED) ADTs BY LEG:	EXISTING (COUNTED) ADTs BY LEG:
2015 **11,196**	2015 11,196
N	N
26,112 W **LEG** E **15,936**	26,112 W + E 15,936
S	S
19,140	19,140
REFINED FUTURE ADT'S BY LEG:	REFINED FUTURE ADT'S BY LEG:
2035 **15,000**	2035 15,000
N	N
19,000 W **LEG** E **8,000**	19,000 W + E 8,000
S	S
23,000	23,000

U:\UcJobs_09100-09500_09300\09301\Post Process\[10 Heacock_Cactus.xls]Input (1)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Heacock Street / Cactus Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR:
2015

			341	539		
			v	^		
	1712	< IN =	3387	<	1098	
	910	> OUT =	3387	>	564	
			v	^		
			572	1038		

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			MIN	ADD		
			v	^		
	ADD	<			<	ADD
	ADD	>			>	ADD
			v	^		
			MUL	ADD		

MINIMUM GROWTH %s 2008 TO 2035

			0%	0%		
			v	^		
	-27%	<			<	-50%
	-27%	>			>	-50%
			v	^		
			0%	0%		

REFINED GROWTH: 2008 TO 2035

			0	130		
			v	^		
	270	<			<	-50
	190	>			>	-20
			v	^		
			8	350		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			0	100		
			v	^		
	200	<			<	-40
	140	>			>	-10
			v	^		
			10	260		

NEW PROJECTED VOLUMES: 2035

			340	652		
			v	^		
	1946	< IN =	3750	<	1060	
	1050	> OUT =	3750	>	560	
			v	^ *		
			591	1300		

PM

EXISTING COUNT YEAR:
2015

			658	604		
			v	^		
	957	< IN =	3886	<	635	
	1756	> OUT =	3886	>	1051	
			v	^		
			1274	837		

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			ADD	MIN		
			v	^		
	ADD	<			<	ADD
	ADD	>			>	ADD
			v	^		
			ADD	MUL		

			0%	0%		
			v	^		
	-27%	<			<	-50%
	-27%	>			>	-50%
			v	^		
			0%	0%		

ADJUSTED GROWTH: 2008 TO 2035

			340	0		
			v	^		
	520	<			<	40
	420	>			>	270
			v	^		
			280	143		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			250	0		
			v	^		
	390	<			<	30
	310	>			>	200
			v	^		
			210	110		

NEW PROJECTED VOLUMES: 2035

			910	600		
			v	^		
	1350	< IN =	4600	<	670	
	2070	> OUT =	4680	>	1250	
			v	^ *		
			1480	950		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.
U:\UcJobs_09100-09500_09300\09301\Post Process\[10 Heacock_Cactus.xls] Growth Summary (2)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: 9301
Analyst: CKS
Date: 7/6/2015

LOCATION: Heacock Street / Cactus Avenue
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	670	888	218	33%	363	569	206	57%
	Through	359	420	61	17%	455	415	-40	-9%
	Right	9	6	-3	-33%	19	12	-7	-37%
	NB Total	1,038	1,314	276	27%	837	996	159	19%
SOUTH BOUND	Left	43	35	-8	-19%	108	144	36	33%
	Through	253	230	-23	-9%	511	641	130	25%
	Right	45	70	25	56%	39	128	89	228%
	SB Total	341	335	-6	-2%	658	913	255	39%
EAST BOUND	Left	88	152	64	73%	82	139	57	70%
	Through	512	520	8	2%	924	1,094	170	18%
	Right	310	356	46	15%	750	833	83	11%
	EB Total	910	1,028	118	13%	1,756	2,066	310	18%
WEST BOUND	Left	9	5	-4	-44%	13	6	-7	-54%
	Through	997	988	-9	-1%	555	653	98	18%
	Right	92	80	-12	-13%	67	46	-21	-31%
	WB Total	1,098	1,073	-25	-2%	635	705	70	11%
TOTAL ENTERING VOLUME		3,387	3,750	363	11%	3,886	4,680	794	20%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	335	913			
North Leg	Outbound	652	600			
North Leg	**TOTAL**	**987**	**1,513**	**7%**	**10%**	**15,000**
South Leg	Inbound	1,314	996			
South Leg	Outbound	591	1,480			
South Leg	**TOTAL**	**1,905**	**2,476**	**8%**	**11%**	**23,000**
East Leg	Inbound	1,073	705			
East Leg	Outbound	561	1,250			
East Leg	**TOTAL**	**1,634**	**1,955**	**20%**	**24%**	**8,000**
West Leg	Inbound	1,028	2,066			
West Leg	Outbound	1,946	1,350			
West Leg	**TOTAL**	**2,974**	**3,416**	**16%**	**18%**	**19,000**
OVERALL TOTAL		***7,500***	***9,360***	**12%**	***14%***	***65,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[10 Heacock_Cactus.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Heacock Street / John F. Kennedy Drive**

AM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

15 376 126

< v >

6 ^ ^ **255**

42 > Total = 1,819 < **107**

62 v v **25**

< ^ >

68 691 46

EXISTING MODEL YEAR:

2008

676 882

v ^

972 < IN = 2487 < **687**

183 > OUT = 2486 > **146**

v ^

486 941

FUTURE MODEL YEAR:

2035

645 1086

v ^

737 < IN = 2883 < **582**

399 > OUT = 2883 > **160**

v ^

900 1257

EXISTING (COUNTED) ADTs BY LEG:

2015 **17,676**

N

8,040 W **LEG** E **10,044**

S

15,096

REFINED FUTURE ADT'S BY LEG:

2035 **21,000**

N

16,000 W **LEG** E **10,000**

S

27,000

PM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015 **25 822 300**

< v >

26 ^ ^ **144**

157 > Total = 2,554 < **99**

219 v v **20**

< ^ >

75 617 50

EXISTING MODEL YEAR:

2008 **1139 876**

v ^

212 < IN = 3076 < **229**

1112 > OUT = 3076 > **864**

v ^

1124 596

FUTURE MODEL YEAR:

2035 **1407 952**

v ^

537 < IN = 3944 < **356**

1042 > OUT = 3944 > **831**

v ^

1624 1139

EXISTING (COUNTED) ADTs BY LEG:

2015 17,676

N

8,040 W + E 10,044

S

15,096

REFINED FUTURE ADT'S BY LEG:

2035 21,000

N

16,000 W + E 10,000

S

27,000

U:\UcJobs_09100-09500_09300\09301\Post Process\[11 Heacock_John F. Kennedy.xls]Input (1)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Heacock Street / John F. Kennedy Drive

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR:
2015

			517	952		
			v	^		
190	<	IN =	1819	<	387	
110	>	OUT =	1819	>	214	
			v	^		
			463	805		

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			MIN	ADD		
			v	^		
MIN	<			<	MIN	
MUL	>			>	ADD	
			v	^		
			MUL	MUL		

MINIMUM GROWTH %s 2008 TO 2035

			0%	0%		
			v	^		
0%	<			<	0%	
0%	>			>	0%	
			v	^		
			0%	0%		

REFINED GROWTH: 2008 TO 2035

			0	200		
			v	^		
0	<			<	0	
130	>			>	10	
			v	^		
			397	265		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			0	150		
			v	^		
0	<			<	0	
100	>			>	10	
			v	^		
			290	200		

NEW PROJECTED VOLUMES: 2035

			520	1100		
			v	^		
190	<	IN =	2130	<	390	
210	>	OUT =	2260	>	220	
			v	^	*	
			750	1010		

PM

EXISTING COUNT YEAR:
2015

			1147	787		
			v	^		
199	<	IN =	2554	<	263	
402	>	OUT =	2554	>	507	
			v	^		
			1061	742		

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			ADD	MUL		
			v	^		
MUL	<			<	ADD	
MIN	>			>	MIN	
			v	^		
			MUL	ADD		

			0%	0%		
			v	^		
0%	<			<	0%	
0%	>			>	0%	
			v	^		
			0%	0%		

ADJUSTED GROWTH: 2008 TO 2035

			270	63		
			v	^		
301	<			<	130	
0	>			>	0	
			v	^		
			469	540		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			200	50		
			v	^		
220	<			<	100	
0	>			>	0	
			v	^		
			350	400		

NEW PROJECTED VOLUMES: 2035

			1350	858		
			v	^		
429	<	IN =	3250	<	360	
400	>	OUT =	3250	>	521	
			v	^	*	
			1441	1140		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.
U:\UcJobs_09100-09500_09300\09301\Post Process\[11 Heacock_John F. Kennedy.xls] Growth Summary (2)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: 9301
Analyst: CKS
Date: 7/6/2015

LOCATION: Heacock Street / John F. Kennedy Drive
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	68	87	19	28%	75	222	147	196%
	Through	691	866	175	25%	617	741	124	20%
	Right	46	93	47	102%	50	142	92	184%
	NB Total	805	1,046	241	30%	742	1,105	363	49%
SOUTH BOUND	Left	126	74	-52	-41%	300	255	-45	-15%
	Through	376	495	119	32%	822	1,108	286	35%
	Right	15	6	-9	-60%	25	22	-3	-12%
	SB Total	517	575	58	11%	1,147	1,385	238	21%
EAST BOUND	Left	6	5	-1	-17%	26	9	-17	-65%
	Through	42	53	11	26%	157	125	-32	-20%
	Right	62	174	112	181%	219	276	57	26%
	EB Total	110	232	122	111%	402	410	8	2%
WEST BOUND	Left	25	82	57	228%	20	57	37	185%
	Through	107	98	-9	-8%	99	185	86	87%
	Right	255	229	-26	-10%	144	109	-35	-24%
	WB Total	387	409	22	6%	263	351	88	33%
TOTAL ENTERING VOLUME		1,819	2,262	443	24%	2,554	3,251	697	27%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	575	1,385			
North Leg	Outbound	1,100	859			
North Leg	**TOTAL**	**1,675**	**2,244**	**8%**	**11%**	**21,000**
South Leg	Inbound	1,046	1,105			
South Leg	Outbound	751	1,441			
South Leg	**TOTAL**	**1,797**	**2,546**	**7%**	**9%**	**27,000**
East Leg	Inbound	409	351			
East Leg	Outbound	220	522			
East Leg	**TOTAL**	**629**	**873**	**6%**	**9%**	**10,000**
West Leg	Inbound	232	410			
West Leg	Outbound	191	429			
West Leg	**TOTAL**	**423**	**839**	**3%**	**5%**	**16,000**
OVERALL TOTAL		***4,524***	***6,502***	**6%**	***9%***	***74,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[11 Heacock_John F. Kennedy.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Heacock Street / Gentian Avenue**

AM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

			0	**388**	**55**	
			<	v	>	
0	^				^	**92**
0	>		Total =	1,078	<	**0**
0	v				v	**3**
			<	^	>	
			0	**538**	**2**	

EXISTING MODEL YEAR:

2008

		441	**664**		
		v	^		
0	<	IN =	1110	<	**132**
0	>	OUT =	1110	>	**36**
		v	^		
		410	**537**		

FUTURE MODEL YEAR:

2035

		860	**1121**		
		v	^		
0	<	IN =	1989	<	**25**
0	>	OUT =	1989	>	**28**
		v	^		
		840	**1104**		

EXISTING (COUNTED) ADTs BY LEG:

2015

	13,572			
		N		
0	W	**LEG**	E	**1,728**
		S		
		12,192		

REFINED FUTURE ADT'S BY LEG:

2035

	25,000			
		N		
0	W	**LEG**	E	**2,000**
		S		
		24,000		

PM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

			0	**880**	**121**	
			<	v	>	
0	^				^	**56**
0	>		Total =	1,612	<	**0**
0	v				v	**1**
			<	^	>	
			0	**547**	**7**	

EXISTING MODEL YEAR:

2008

		845	**509**		
		v	^		
0	<	IN =	1360	<	**55**
0	>	OUT =	1361	>	**221**
		v	^		
		631	**460**		

FUTURE MODEL YEAR:

2035

		1614	**1136**		
		v	^		
0	<	IN =	2759	<	**10**
0	>	OUT =	2759	>	**123**
		v	^		
		1500	**1135**		

EXISTING (COUNTED) ADTs BY LEG:

2015

	13,572			
		N		
0	W	+	E	1,728
		S		
		12,192		

REFINED FUTURE ADT'S BY LEG:

2035

	25,000			
		N		
0	W	+	E	2,000
		S		
		24,000		

U:\UcJobs_09100-09500_09300\09301\Post Process\[12 Heacock_Gentian.xls]Input (1)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Heacock Street / Gentian Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR:
2015

443 630
v ^
0 < IN = 1078 < 95
0 > OUT = 1078 > 57
v ^
391 540

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

ADD MUL
v ^
MUL < < MIN
MUL > > MIN
v ^
MUL ADD

MINIMUM GROWTH %s 2008 TO 2035

0% 0%
v ^
0% < < 0%
0% > > 0%
v ^
0% 0%

REFINED GROWTH: 2008 TO 2035

420 430
v ^
0 < < 0
0 > > 0
v ^
409 570

PRORATED GROWTH: 2015 TO 2035
20 YEARS

310 320
v ^
0 < < 0
0 > > 0
v ^
300 420

NEW PROJECTED VOLUMES: 2035

750 1011
v ^
0 < IN = 1810 < 100
0 > OUT = 1810 > 64
v ^ *
735 960

PM

EXISTING COUNT YEAR:
2015

1001 603
v ^
0 < IN = 1612 < 57
0 > OUT = 1612 > 128
v ^
881 554

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

ADD ADD
v ^
MUL < < MIN
MUL > > MIN
v ^
ADD ADD

0% 0%
v ^
0% < < 0%
0% > > 0%
v ^
0% 0%

ADJUSTED GROWTH: 2008 TO 2035

770 630
v ^
0 < < 0
0 > > 0
v ^
870 680

PRORATED GROWTH: 2015 TO 2035
20 YEARS

570 470
v ^
0 < < 0
0 > > 0
v ^
640 500

NEW PROJECTED VOLUMES: 2035

1570 1070
v ^
0 < IN = 2680 < 60
0 > OUT = 2720 > 130
v ^ *
1520 1050

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.
U:\UcJobs_09100-09500_09300\09301\Post Process\[12 Heacock_Gentian.xls] Growth Summary (2)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: 9301
Analyst: CKS
Date: 7/6/2015

LOCATION: Heacock Street / Gentian Avenue
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	538	921	383	71%	547	1,013	466	85%
	Right	2	4	2	100%	7	12	5	71%
	NB Total	540	925	385	71%	554	1,025	471	85%
SOUTH BOUND	Left	55	60	5	9%	121	118	-3	-2%
	Through	388	729	341	88%	880	1,518	638	73%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	443	789	346	78%	1,001	1,636	635	63%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
WEST BOUND	Left	3	6	3	100%	1	2	1	100%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	92	91	-1	-1%	56	57	1	2%
	WB Total	95	97	2	2%	57	59	2	4%
TOTAL ENTERING VOLUME		1,078	1,811	733	68%	1,612	2,720	1108	69%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	789	1,636			
North Leg	Outbound	1,012	1,070			
North Leg	**TOTAL**	**1,801**	**2,706**	**7%**	**11%**	**25,000**
South Leg	Inbound	925	1,025			
South Leg	Outbound	735	1,520			
South Leg	**TOTAL**	**1,660**	**2,545**	**7%**	**11%**	**24,000**
East Leg	Inbound	97	59			
East Leg	Outbound	64	130			
East Leg	**TOTAL**	**161**	**189**	**8%**	**9%**	**2,000**
West Leg	Inbound	0	0			
West Leg	Outbound	0	0			
West Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
OVERALL TOTAL		***3,622***	***5,440***	***7%***	***11%***	***51,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[12 Heacock_Gentian.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Heacock Street / Iris Avenue**

AM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

0 191 200
< v >
0 ^ ^ **383**
0 > Total = 1,009 < **0**
0 v v **42**
< ^ >
0 158 35

EXISTING MODEL YEAR:

2008

410 537
v ^
729 < IN = 1832 < **608**
127 > OUT = 1831 > **128**
v ^
437 687

FUTURE MODEL YEAR:

2035

801 1005
v ^
196 < IN = 2114 < **265**
47 > OUT = 2113 > **72**
v ^
840 1001

EXISTING (COUNTED) ADTs BY LEG:

2015

17,942
N
0 W **LEG** E **9,652**
S
9,169

REFINED FUTURE ADT'S BY LEG:

2035

22,000
N
4,000 W **LEG** E **5,000**
S
22,000

PM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

0 351 507
< v >
0 ^ ^ **242**
0 > Total = 1,440 < **0**
0 v v **17**
< ^ >
0 305 18

EXISTING MODEL YEAR:

2008

631 460
v ^
194 < IN = 2109 < **146**
820 > OUT = 2109 > **652**
v ^
803 512

FUTURE MODEL YEAR:

2035

1495 1082
v ^
120 < IN = 3037 < **160**
269 > OUT = 3037 > **242**
v ^
1593 1113

EXISTING (COUNTED) ADTs BY LEG:

2015

17,942
N
0 W + E 9,652
S
9,169

REFINED FUTURE ADT'S BY LEG:

2035

22,000
N
4,000 W + E 5,000
S
22,000

U:\UcJobs_09100-09500_09300\09301\Post Process\[13 Heacock_Iris.xls]Input (1)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Heacock Street / Iris Avenue

Heacock Street / Iris Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM		PM	
EXISTING COUNT YEAR:		EXISTING COUNT YEAR:	
2015	391 541	2015	858 547
	v ^		v ^
0 < IN = 1009 <	425	0 < IN = 1440 <	259
0 > OUT = 1009 >	235	0 > OUT = 1440 >	525
	v ^		v ^
	233 193		368 323
GROWTH CALCULATION DECISION RULE			
MIN = Minimum Count Growth Approach		MIN = Minimum Count Growth Approach	
ADD = Additive (Growth Increment) Approach	MUL ADD	ADD = Additive (Growth Increment) Approach	ADD ADD
MUL = Multiplicative (Ratio) Approach	v ^	MUL = Multiplicative (Ratio) Approach	v ^
MUL <	< MIN	MUL <	< ADD
MUL >	> ADD	MUL >	> MIN
	v ^		v ^
	MUL MUL		MUL MUL
MINIMUM GROWTH %s 2008 TO 2035			
	0% 0%		0% 0%
	v ^		v ^
0% <	< -48%	0% <	< -48%
0% >	> -48%	0% >	> -48%
	v ^		v ^
	0% 0%		0% 0%
REFINED GROWTH: 2008 TO 2035		ADJUSTED GROWTH: 2008 TO 2035	
	369 470		860 620
	v ^		v ^
0 <	< -200	0 <	< 10
0 >	> -60	0 >	> -250
	v ^		v ^
	217 87		362 377
PRORATED GROWTH: 2015 TO 2035		PRORATED GROWTH: 2015 TO 2035	
20 YEARS	270 350	20 YEARS	640 460
	v ^		v ^
0 <	< -150	0 <	< 10
0 >	> -40	0 >	> -190
	v ^		v ^
	160 60		270 280
NEW PROJECTED VOLUMES: 2035		NEW PROJECTED VOLUMES: 2035	
	660 890		1500 1203
	v ^		v ^
0 < IN = 1190 <	280	0 < IN = 2370 <	270
0 > OUT = 1480 >	200	0 > OUT = 2370 >	405
	v ^ *		v ^ *
	390 250		762 600

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs_09100-09500_09300\09301\Post Process\[13 Heacock_Iris.xls] Growth Summary (2)

Project:	Moreno Valley Logistics Center	Job #:	9301
Scenario:	GP Buildout Post 2035 Without Project	Analyst:	CKS
		Date:	7/6/2015

LOCATION: Heacock Street / Iris Avenue
FORECAST YEAR: 2035

Heacock Street / Iris Avenue

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	158	420	262	166%	305	830	525	172%
	Right	35	0	-35	-100%	18	0	-18	-100%
	NB Total	193	420	227	118%	323	830	507	157%
SOUTH BOUND	Left	200	200	0	0%	507	405	-102	-20%
	Through	191	389	198	104%	351	762	411	117%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	391	589	198	51%	858	1,167	309	36%
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
WEST BOUND	Left	42	1	-41	-98%	17	1	-16	-94%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	383	470	87	23%	242	373	131	54%
	WB Total	425	471	46	11%	259	374	115	44%
TOTAL ENTERING VOLUME		1,009	1,480	471	47%	1,440	2,371	931	65%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	589	1,167			
North Leg	Outbound	890	1,203			
North Leg	**TOTAL**	**1,479**	**2,370**	**7%**	**11%**	**22,000**
South Leg	Inbound	420	830			
South Leg	Outbound	390	763			
South Leg	**TOTAL**	**810**	**1,593**	**4%**	**7%**	**22,000**
East Leg	Inbound	471	374			
East Leg	Outbound	200	405			
East Leg	**TOTAL**	**671**	**779**	**13%**	**16%**	**5,000**
West Leg	Inbound	0	0			
West Leg	Outbound	0	0			
West Leg	**TOTAL**	**0**	**0**	**0%**	**0%**	**4,000**
OVERALL TOTAL		***2,960***	***4,742***	**6%**	***9%***	***53,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[13 Heacock_Iris.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Webster Avenue / Harley Knox Boulevard**

AM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

0 0 0
< v >
0 ^ ^ **0**
372 > Total = 745 < **371**
1 v v **0**
< ^ >
0 0 1

EXISTING MODEL YEAR:

2008

573 729
v ^
196 < IN = 1362 < **0**
140 > OUT = 1361 > **59**
v ^
377 649

FUTURE MODEL YEAR:

2035

0 0
v ^
1482 < IN = 2204 < **1482**
722 > OUT = 2204 > **722**
v ^
0 0

EXISTING (COUNTED) ADTs BY LEG:

2015

24
N
9,300 W **LEG** E **9,300**
S
72

REFINED FUTURE ADT'S BY LEG:

2035

0
N
26,000 W **LEG** E **26,000**
S
0

PM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

0 0 0
< v >
0 ^ ^ **0**
452 > Total = 805 < **352**
0 v v **0**
< ^ >
0 0 1

EXISTING MODEL YEAR:

2008

816 674
v ^
180 < IN = 1580 < **88**
232 > OUT = 1580 > **2**
v ^
724 444

FUTURE MODEL YEAR:

2035

0 0
v ^
1195 < IN = 2688 < **1195**
1493 > OUT = 2688 > **1493**
v ^
0 0

EXISTING (COUNTED) ADTs BY LEG:

2015

24
N
9,300 W + E 9,300
S
72

REFINED FUTURE ADT'S BY LEG:

2035

0
N
26,000 W + E 26,000
S
0

U:\UcJobs_09100-09500_09300\09301\Post Process\[20 Webster_Harley Knox.xls]Input (1)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Webster Avenue / Harley Knox Boulevard

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM	PM
EXISTING COUNT YEAR:	EXISTING COUNT YEAR:
2015	2015
0 0	0 0
v ^	v ^
371 < IN = 745 < 371	352 < IN = 805 < 352
373 > OUT = 745 > 373	452 > OUT = 805 > 453
v ^	v ^
1 1	0 1
GROWTH CALCULATION DECISION RULE	
MIN = Minimum Count Growth Approach	MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach	ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach	MUL = Multiplicative (Ratio) Approach
MUL MUL	MUL MUL
v ^	v ^
ADD < < ADD	ADD < < ADD
ADD > > ADD	ADD > > ADD
v ^	v ^
MIN MIN	MUL MIN
MINIMUM GROWTH %s 2008 TO 2035	
##### #####	##### #####
v ^	v ^
0% < < 0%	0% < < 0%
0% > > 0%	0% > > 0%
v ^	v ^
##### #####	##### #####
REFINED GROWTH: 2008 TO 2035	ADJUSTED GROWTH: 2008 TO 2035
0 0	0 0
v ^	v ^
1290 < < 1480	1020 < < 1110
580 > > 660	1260 > > 1490
v ^	v ^
0 0	0 0
PRORATED GROWTH: 2015 TO 2035	PRORATED GROWTH: 2015 TO 2035
20 YEARS	20 YEARS
0 0	0 0
v ^	v ^
960 < < 1100	760 < < 820
430 > > 490	930 > > 1100
v ^	v ^
0 0	0 0
NEW PROJECTED VOLUMES: 2035	NEW PROJECTED VOLUMES: 2035
0 0	0 0
v ^	v ^
1379 < IN = 2270 < 1470	1110 < IN = 2550 < 1170
800 > OUT = 2270 > 891	1380 > OUT = 2660 > 1550
v ^ *	v ^ *
0 0	0 0

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs_09100-09500_09300\09301\Post Process\[20 Webster_Harley Knox.xls] Growth Summary (2)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: 9301
Analyst: CKS
Date: 7/6/2015

LOCATION: Webster Avenue / Harley Knox Boulevard
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	1	0	-1	-100%	1	0	-1	-100%
	NB Total	1	0	-1	-100%	1	0	-1	-100%
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	SB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	372	891	519	140%	452	1,550	1,098	243%
	Right	1	0	-1	-100%	0	0	0	#DIV/0!
	EB Total	373	891	518	139%	452	1,550	1,098	243%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	371	1,379	1,008	272%	352	1,110	758	215%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	WB Total	371	1,379	1,008	272%	352	1,110	758	215%
TOTAL ENTERING VOLUME		745	2,270	1525	205%	805	2,660	1855	230%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	0	0			
North Leg	Outbound	0	0			
North Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
South Leg	Inbound	0	0			
South Leg	Outbound	0	0			
South Leg	**TOTAL**	**0**	**0**	**#DIV/0!**	**#DIV/0!**	**-**
East Leg	Inbound	1,379	1,110			
East Leg	Outbound	891	1,550			
East Leg	**TOTAL**	**2,270**	**2,660**	**9%**	**10%**	**26,000**
West Leg	Inbound	891	1,550			
West Leg	Outbound	1,379	1,110			
West Leg	**TOTAL**	**2,270**	**2,660**	**9%**	**10%**	**26,000**
OVERALL TOTAL		***4,540***	***5,320***	**9%**	***10%***	***52,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[20 Webster_Harley Knox.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Indian Street / Krameria Avenue**

AM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

			1	**77**	**190**		
		<		v	>		
	1	^				^	**186**
	6	>		Total =	622	<	**36**
	0	v				v	**2**
		<		^	>		
			14	**98**	**11**		

EXISTING MODEL YEAR:

2008

				143	**468**		
				v	^		
	160	<	IN =	763	<		**108**
	279	>	OUT =	763	>		**47**
				v	^		
				88	**233**		

FUTURE MODEL YEAR:

2035

				401	**183**		
				v	^		
	549	<	IN =	1393	<		**245**
	208	>	OUT =	1393	>		**75**
				v	^		
				586	**539**		

EXISTING (COUNTED) ADTs BY LEG:

2015

				4,392			
				N			
	0	W	**LEG**		E		**2,640**
				S			
				2,040			

REFINED FUTURE ADT'S BY LEG:

2035

				7,000			
				N			
	9,000	W	**LEG**		E		**4,000**
				S			
				13,000			

PM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015

			3	**73**	**173**		
		<		v	>		
	4	^				^	**54**
	17	>		Total =	410	<	**11**
	10	v				v	**4**
		<		^	>		
			6	**51**	**4**		

EXISTING MODEL YEAR:

2008

				624	**241**		
				v	^		
	293	<	IN =	1161	<		**53**
	238	>	OUT =	1161	>		**211**
				v	^		
				416	**246**		

FUTURE MODEL YEAR:

2035

				463	**560**		
				v	^		
	368	<	IN =	2121	<		**124**
	749	>	OUT =	2121	>		**282**
				v	^		
				911	**785**		

EXISTING (COUNTED) ADTs BY LEG:

2015

				4,392			
				N			
	0	W	+		E		2,640
				S			
				2,040			

REFINED FUTURE ADT'S BY LEG:

2035

				7,000			
				N			
	9,000	W	+		E		4,000
				S			
				13,000			

U:\UcJobs_09100-09500_09300\09301\Post Process\[26 Indian_Krameria.xls]Input (1)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Indian Street / Krameria Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR: 2015

			268	285		
			v	^		
	51	< IN =	622	<	224	
	7	> OUT =	622	>	207	
			v	^		
			79	123		

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			ADD	MIN		
			v	^		
	MUL	<			<	ADD
	MUL	>			>	ADD
			v	^		
			MUL	MUL		

MINIMUM GROWTH %s 2008 TO 2035

			0%	0%		
			v	^		
	0%	<			<	0%
	0%	>			>	0%
			v	^		
			0%	0%		

REFINED GROWTH: 2008 TO 2035

			260	0		
			v	^		
	129	<			<	140
	3	>			>	30
			v	^		
			451	157		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			190	0		
			v	^		
	100	<			<	100
	0	>			>	20
			v	^		
			330	120		

NEW PROJECTED VOLUMES: 2035

			460	290		
			v	^		
	150	< IN =	1030	<	320	
	10	> OUT =	1080	>	230	
			v	^ *		
			410	240		

PM

EXISTING COUNT YEAR: 2015

			249	109		
			v	^		
	20	< IN =	410	<	69	
	31	> OUT =	410	>	194	
			v	^		
			87	61		

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			MIN	MUL		
			v	^		
	MUL	<			<	ADD
	MUL	>			>	MUL
			v	^		
			MUL	MUL		

			0%	0%		
			v	^		
	0%	<			<	0%
	0%	>			>	0%
			v	^		
			0%	0%		

ADJUSTED GROWTH: 2008 TO 2035

			0	141		
			v	^		
	10	<			<	70
	69	>			>	66
			v	^		
			103	129		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			0	100		
			v	^		
	10	<			<	50
	50	>			>	50
			v	^		
			80	100		

NEW PROJECTED VOLUMES: 2035

			250	210		
			v	^		
	30	< IN =	610	<	120	
	80	> OUT =	650	>	240	
			v	^ *		
			170	160		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs_09100-09500_09300\09301\Post Process\[26 Indian_Krameria.xls] Growth Summary (2)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: 9301
Analyst: CKS
Date: 7/6/2015

LOCATION: Indian Street / Krameria Avenue
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	14	52	38	271%	6	14	8	133%
	Through	98	121	23	23%	51	124	73	143%
	Right	11	68	57	518%	4	29	25	625%
	NB Total	123	241	118	96%	61	167	106	174%
SOUTH BOUND	Left	190	151	-39	-21%	173	167	-6	-3%
	Through	77	357	280	364%	73	104	31	42%
	Right	1	0	-1	-100%	3	1	-2	-67%
	SB Total	268	508	240	90%	249	272	23	9%
EAST BOUND	Left	1	0	-1	-100%	4	4	0	0%
	Through	6	10	4	67%	17	44	27	159%
	Right	0	0	0	#DIV/0!	10	39	29	290%
	EB Total	7	10	3	43%	31	87	56	181%
WEST BOUND	Left	2	53	51	2550%	4	27	23	575%
	Through	36	98	62	172%	11	16	5	45%
	Right	186	168	-18	-10%	54	83	29	54%
	WB Total	224	319	95	42%	69	126	57	83%
TOTAL ENTERING VOLUME		622	1,078	456	73%	410	652	242	59%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	508	272			
North Leg	Outbound	289	211			
North Leg	**TOTAL**	**797**	**483**	**11%**	**7%**	**7,000**
South Leg	Inbound	241	167			
South Leg	Outbound	410	170			
South Leg	**TOTAL**	**651**	**337**	**5%**	**3%**	**13,000**
East Leg	Inbound	319	126			
East Leg	Outbound	229	240			
East Leg	**TOTAL**	**548**	**366**	**14%**	**9%**	**4,000**
West Leg	Inbound	10	87			
West Leg	Outbound	150	31			
West Leg	**TOTAL**	**160**	**118**	**2%**	**1%**	**9,000**
OVERALL TOTAL		***2,156***	***1,304***	***7%***	***4%***	***33,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[26 Indian_Krameria.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Indian Street / San Michele Avenue**

AM PEAK HOUR	**PM PEAK HOUR**
EXISTING TURNING MOVEMENT VOLUMES:	EXISTING TURNING MOVEMENT VOLUMES:
2015 **2** **2** **3**	2015 **20** **121** **101**
< v >	< v >
3 ^ ^ **5**	**9** ^ ^ **45**
45 > Total = 654 < **161**	**135** > Total = 1,432 < **228**
35 v v **46**	**219** v v **143**
< ^ >	< ^ >
262 **7** **83**	**257** **45** **109**
EXISTING MODEL YEAR:	EXISTING MODEL YEAR:
2008 **88** **233**	2008 **416** **246**
v ^	v ^
0 < IN = 321 < **0**	**0** < IN = 669 < **0**
0 > OUT = 321 > **0**	**0** > OUT = 669 > **10**
v ^	v ^
88 **233**	**413** **253**
FUTURE MODEL YEAR:	FUTURE MODEL YEAR:
2035 **579** **700**	2035 **1091** **891**
v ^	v ^
180 < IN = 1590 < **554**	**208** < IN = 2459 < **383**
121 > OUT = 1591 > **196**	**274** > OUT = 2460 > **709**
v ^	v ^
515 **336**	**652** **711**
EXISTING (COUNTED) ADTs BY LEG:	EXISTING (COUNTED) ADTs BY LEG:
2015 **24** N	2015 24 N
852 W **LEG** E **1,824**	852 W + E 1,824
S **1,932**	S 1,932
REFINED FUTURE ADT'S BY LEG:	REFINED FUTURE ADT'S BY LEG:
2035 **15,000** N	2035 15,000 N
6,000 W **LEG** E **9,000**	6,000 W + E 9,000
S **11,000**	S 11,000

U:\UcJobs_09100-09500_09300\09301\Post Process\[28 Indian_San Michele.xls]Input (1)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Indian Street / San Michele Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR: 2015

			7	15		
			v	^		
	425	<	IN =	654	<	212
	83	>	OUT =	654	>	131
			v	^		
			83	352		

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			MUL	MUL		
			v	^		
	ADD	<			<	ADD
	ADD	>			>	ADD
			v	^		
			MUL	ADD		

MINIMUM GROWTH %s 2008 TO 2035

			0%	0%		
			v	^		
	0%	<			<	0%
	0%	>			>	0%
			v	^		
			0%	0%		

REFINED GROWTH: 2008 TO 2035

			43	25		
			v	^		
	180	<			<	550
	120	>			>	200
			v	^		
			407	100		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			30	20		
			v	^		
	130	<			<	410
	90	>			>	150
			v	^		
			300	70		

NEW PROJECTED VOLUMES: 2035

			40	40		
			v	^		
	560	<	IN =	1250	<	620
	170	>	OUT =	1260	>	280
			v	^	*	
			380	420		

PM

EXISTING COUNT YEAR: 2015

			242	99		
			v	^		
	505	<	IN =	1432	<	416
	363	>	OUT =	1432	>	345
			v	^		
			483	411		

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			MUL	MUL		
			v	^		
	ADD	<			<	ADD
	ADD	>			>	ADD
			v	^		
			ADD	ADD		

			0%	0%		
			v	^		
	0%	<			<	0%
	0%	>			>	0%
			v	^		
			0%	0%		

ADJUSTED GROWTH: 2008 TO 2035

			388	261		
			v	^		
	210	<			<	380
	270	>			>	700
			v	^		
			240	460		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			290	190		
			v	^		
	160	<			<	280
	200	>			>	520
			v	^		
			180	340		

NEW PROJECTED VOLUMES: 2035

			530	296		
			v	^		
	683	<	IN =	2540	<	700
	560	>	OUT =	2540	>	887
			v	^	*	
			673	750		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs_09100-09500_09300\09301\Post Process\[28 Indian_San Michele.xls] Growth Summary (2)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: 9301
Analyst: CKS
Date: 7/6/2015

LOCATION: Indian Street / San Michele Avenue
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	262	233	-29	-11%	257	328	71	28%
	Through	7	13	6	86%	45	130	85	189%
	Right	83	177	94	113%	109	292	183	168%
	NB Total	352	423	71	20%	411	750	339	82%
SOUTH BOUND	Left	3	19	16	533%	101	306	205	203%
	Through	2	16	14	700%	121	195	74	61%
	Right	2	5	3	150%	20	29	9	45%
	SB Total	7	40	33	471%	242	530	288	119%
EAST BOUND	Left	3	5	2	67%	9	21	12	133%
	Through	45	84	39	87%	135	289	154	114%
	Right	35	83	48	137%	219	250	31	14%
	EB Total	83	172	89	107%	363	560	197	54%
WEST BOUND	Left	46	281	235	511%	143	228	85	59%
	Through	161	322	161	100%	228	326	98	43%
	Right	5	22	17	340%	45	145	100	222%
	WB Total	212	625	413	195%	416	699	283	68%
TOTAL ENTERING VOLUME		654	1,260	606	93%	1,432	2,539	1107	77%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	40	530			
North Leg	Outbound	40	296			
North Leg	**TOTAL**	**80**	**826**	**1%**	**6%**	**15,000**
South Leg	Inbound	423	750			
South Leg	Outbound	380	673			
South Leg	**TOTAL**	**803**	**1,423**	**7%**	**13%**	**11,000**
East Leg	Inbound	625	699			
East Leg	Outbound	280	887			
East Leg	**TOTAL**	**905**	**1,586**	**10%**	**18%**	**9,000**
West Leg	Inbound	172	560			
West Leg	Outbound	560	683			
West Leg	**TOTAL**	**732**	**1,243**	**12%**	**21%**	**6,000**
OVERALL TOTAL		***2,520***	***5,078***	**6%**	***12%***	***41,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[28 Indian_San Michele.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logistics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Indian Street / Nandina Avenue**

AM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015			**4**	**57**	**4**			
			<	v	>			
	7	^				^		**13**
	10	>		Total =	643	<		**14**
	119	v				v		**36**
			<	^	>			
			33	**324**	**22**			

EXISTING MODEL YEAR:

2008				**88**	**233**			
				v	^			
	0	<	IN =	345	<			**19**
	0	>	OUT =	345	>			**10**
				v	^			
				102	**238**			

FUTURE MODEL YEAR:

2035				**515**	**336**			
				v	^			
	496	<	IN =	1777	<			**175**
	354	>	OUT =	1776	>			**99**
				v	^			
				845	**733**			

EXISTING (COUNTED) ADTs BY LEG:

2015				**1,860**				
				N				
	2,508	W	**LEG**	S	E			**1,296**
				4,512				

REFINED FUTURE ADT'S BY LEG:

2035				**11,000**				
				N				
	11,000	W	**LEG**	S	E			**5,000**
				21,000				

PM PEAK HOUR

EXISTING TURNING MOVEMENT VOLUMES:

2015			**41**	**357**	**48**			
			<	v	>			
	7	^				^		**14**
	36	>		Total =	1,182	<		**17**
	177	v				v		**37**
			<	^	>			
			51	**357**	**40**			

EXISTING MODEL YEAR:

2008				**413**	**253**			
				v	^			
	0	<	IN =	721	<			**25**
	0	>	OUT =	720	>			**33**
				v	^			
				434	**283**			

FUTURE MODEL YEAR:

2035				**652**	**711**			
				v	^			
	484	<	IN =	2906	<			**181**
	918	>	OUT =	2906	>			**335**
				v	^			
				1376	**1155**			

EXISTING (COUNTED) ADTs BY LEG:

2015				1,860				
				N				
	2,508	W	+	S	E			1,296
				4,512				

REFINED FUTURE ADT'S BY LEG:

2035				11,000				
				N				
	11,000	W	+	S	E			5,000
				21,000				

U:\UcJobs_09100-09500_09300\09301\Post Process\[29 Indian_Nandina.xls]Input (1)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Indian Street / Nandina Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR:
2015

			65	344		
			v	^		
	51	<	IN =	643	<	63
	136	>	OUT =	643	>	36
			v	^		
			212	379		

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			MUL	ADD		
			v	^		
	ADD	<			<	ADD
	ADD	>			>	ADD
			v	^		
			ADD	ADD		

MINIMUM GROWTH %s 2008 TO 2035

			0%	0%		
			v	^		
	0%	<			<	0%
	0%	>			>	0%
			v	^		
			0%	0%		

REFINED GROWTH: 2008 TO 2035

			315	100		
			v	^		
	500	<			<	160
	350	>			>	90
			v	^		
			740	500		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			230	70		
			v	^		
	370	<			<	120
	260	>			>	70
			v	^		
			550	370		

NEW PROJECTED VOLUMES: 2035

				300	410		
				v	^		
	420	<	IN =	1630	<	180	
	400	>	OUT =	1700	>	110	
				v	^	*	
				760	750		

PM

EXISTING COUNT YEAR:
2015

			446	378		
			v	^		
	109	<	IN =	1182	<	68
	220	>	OUT =	1182	>	124
			v	^		
			571	448		

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			ADD	ADD		
			v	^		
	ADD	<			<	ADD
	ADD	>			>	ADD
			v	^		
			ADD	ADD		

			0%	0%		
			v	^		
	0%	<			<	0%
	0%	>			>	0%
			v	^		
			0%	0%		

ADJUSTED GROWTH: 2008 TO 2035

			240	460		
			v	^		
	480	<			<	160
	920	>			>	300
			v	^		
			940	870		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			180	340		
			v	^		
	360	<			<	120
	680	>			>	220
			v	^		
			700	640		

NEW PROJECTED VOLUMES: 2035

				630	723		
				v	^		
	472	<	IN =	2810	<	190	
	900	>	OUT =	2810	>	341	
				v	^	*	
				1275	1090		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.
U:\UcJobs_09100-09500_09300\09301\Post Process\[29 Indian_Nandina.xls] Growth Summary (2)

Project: Moreno Valley Logistics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: 9301
Analyst: CKS
Date: 7/6/2015

LOCATION: Indian Street / Nandina Avenue
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	33	302	269	815%	51	286	235	461%
	Through	324	394	70	22%	357	681	324	91%
	Right	22	72	50	227%	40	119	79	198%
	NB Total	379	768	389	103%	448	1,086	638	142%
SOUTH BOUND	Left	4	14	10	250%	48	66	18	38%
	Through	57	266	209	367%	357	460	103	29%
	Right	4	38	34	850%	41	105	64	156%
	SB Total	65	318	253	389%	446	631	185	41%
EAST BOUND	Left	7	6	-1	-14%	7	19	12	171%
	Through	10	24	14	140%	36	156	120	333%
	Right	119	395	276	232%	177	727	550	311%
	EB Total	136	425	289	213%	220	902	682	310%
WEST BOUND	Left	36	99	63	175%	37	87	50	135%
	Through	14	79	65	464%	17	80	63	371%
	Right	13	10	-3	-23%	14	22	8	57%
	WB Total	63	188	125	198%	68	189	121	178%
TOTAL ENTERING VOLUME		643	1,699	1056	164%	1,182	2,808	1626	138%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	318	631			
North Leg	Outbound	410	722			
North Leg	**TOTAL**	**728**	**1,353**	**7%**	**12%**	**11,000**
South Leg	Inbound	768	1,086			
South Leg	Outbound	760	1,274			
South Leg	**TOTAL**	**1,528**	**2,360**	**7%**	**11%**	**21,000**
East Leg	Inbound	188	189			
East Leg	Outbound	110	341			
East Leg	**TOTAL**	**298**	**530**	**6%**	**11%**	**5,000**
West Leg	Inbound	425	902			
West Leg	Outbound	419	471			
West Leg	**TOTAL**	**844**	**1,373**	**8%**	**12%**	**11,000**
OVERALL TOTAL		***3,398***	***5,616***	***7%***	***12%***	***48,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[29 Indian_Nandina.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logisitics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Indian Street / Harley Knox Boulevard**

AM PEAK HOUR	**PM PEAK HOUR**
EXISTING TURNING MOVEMENT VOLUMES:	EXISTING TURNING MOVEMENT VOLUMES:
2015 **114 55 7**	2015 **289 303 27**
< v >	< v >
216 ^ ^ **11**	**178** ^ ^ **5**
190 > Total = 1,193 < **226**	**194** > Total = 1,468 < **129**
50 v v **5**	**60** v v **13**
< ^ >	< ^ >
85 215 19	**43 220 7**
EXISTING MODEL YEAR:	EXISTING MODEL YEAR:
2008 **154 278**	2008 **531 338**
v ^	v ^
0 < IN = 443 < **3**	**88** < IN = 871 < **2**
59 > OUT = 443 > **11**	**2** > OUT = 871 > **10**
v ^	v ^
154 227	**435 336**
FUTURE MODEL YEAR:	FUTURE MODEL YEAR:
2035 **875 995**	2035 **1679 1209**
v ^	v ^
1482 < IN = 3922 < **1350**	**1195** < IN = 5699 < **1310**
722 > OUT = 3921 > **681**	**1493** > OUT = 5698 > **1492**
v ^	v ^
763 975	**1802 1217**
EXISTING (COUNTED) ADTs BY LEG:	EXISTING (COUNTED) ADTs BY LEG:
2015 **6,492** N	2015 6,492 N
9,552 W **LEG** E **5,388**	9,552 W + E 5,388
S **4,344**	S 4,344
REFINED FUTURE ADT'S BY LEG:	REFINED FUTURE ADT'S BY LEG:
2035 **25,000** N	2035 25,000 N
26,000 W **LEG** E **23,000**	26,000 W + E 23,000
S **22,000**	S 22,000

U:\UcJobs_09100-09500_09300\09301\Post Process\[30 Indian_Harley Knox.xls]Input (1)

Project: Moreno Valley Logisitics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Indian Street / Harley Knox Boulevard

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR: 2015

			176	442		
			v	^		
	425	<	IN =	1193	<	242
	456	>	OUT =	1193	>	216
			v	^		
			110	319		

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			ADD	ADD		
			v	^		
	ADD	<			<	ADD
	ADD	>			>	ADD
			v	^		
			MUL	ADD		

MINIMUM GROWTH %s 2008 TO 2035

			0%	0%		
			v	^		
	0%	<			<	0%
	0%	>			>	0%
			v	^		
			0%	0%		

REFINED GROWTH: 2008 TO 2035

			720	720		
			v	^		
	1480	<			<	1350
	660	>			>	670
			v	^		
			430	750		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			530	530		
			v	^		
	1100	<			<	1000
	490	>			>	500
			v	^		
			320	560		

NEW PROJECTED VOLUMES: 2035

			710	1005		
			v	^		
	1584	<	IN =	3780	<	1240
	950	>	OUT =	3780	>	746
			v	^	*	
			445	880		

PM

EXISTING COUNT YEAR: 2015

			619	403		
			v	^		
	461	<	IN =	1468	<	147
	432	>	OUT =	1468	>	228
			v	^		
			376	270		

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			ADD	ADD		
			v	^		
	ADD	<			<	ADD
	ADD	>			>	ADD
			v	^		
			MUL	MUL		

			0%	0%		
			v	^		
	0%	<			<	0%
	0%	>			>	0%
			v	^		
			0%	0%		

ADJUSTED GROWTH: 2008 TO 2035

			1150	870		
			v	^		
	1110	<			<	1310
	1490	>			>	1480
			v	^		
			1184	710		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			850	640		
			v	^		
	820	<			<	970
	1100	>			>	1100
			v	^		
			880	530		

NEW PROJECTED VOLUMES: 2035

			1470	1042		
			v	^		
	1283	<	IN =	4920	<	1120
	1530	>	OUT =	4920	>	1333
			v	^	*	
			1263	800		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs_09100-09500_09300\09301\Post Process\[30 Indian_Harley Knox.xls] Growth Summary (2)

Project:	Moreno Valley Logisitics Center	Job #:	9301
Scenario:	GP Buildout Post 2035 Without Project	Analyst:	CKS
		Date:	7/6/2015

LOCATION: Indian Street / Harley Knox Boulevard
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	85	156	71	84%	43	75	32	74%
	Through	215	615	400	186%	220	667	447	203%
	Right	19	114	95	500%	7	66	59	843%
	NB Total	319	885	566	177%	270	808	538	199%
SOUTH BOUND	Left	7	67	60	857%	27	185	158	585%
	Through	55	310	255	464%	303	911	608	201%
	Right	114	330	216	189%	289	363	74	26%
	SB Total	176	707	531	302%	619	1,459	840	136%
EAST BOUND	Left	216	306	90	42%	178	318	140	79%
	Through	190	565	375	197%	194	1,081	887	457%
	Right	50	88	38	76%	60	147	87	145%
	EB Total	456	959	503	110%	432	1,546	1,114	258%
WEST BOUND	Left	5	47	42	840%	13	204	191	1469%
	Through	226	1,099	873	386%	129	845	716	555%
	Right	11	84	73	664%	5	57	52	1040%
	WB Total	242	1,230	988	408%	147	1,106	959	652%
TOTAL ENTERING VOLUME		1,193	3,781	2588	217%	1,468	4,919	3451	235%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	707	1,459			
North Leg	Outbound	1,005	1,042			
North Leg	**TOTAL**	**1,712**	**2,501**	**7%**	**10%**	**25,000**
South Leg	Inbound	885	808			
South Leg	Outbound	445	1,262			
South Leg	**TOTAL**	**1,330**	**2,070**	**6%**	**9%**	**22,000**
East Leg	Inbound	1,230	1,106			
East Leg	Outbound	746	1,332			
East Leg	**TOTAL**	**1,976**	**2,438**	**9%**	**11%**	**23,000**
West Leg	Inbound	959	1,546			
West Leg	Outbound	1,585	1,283			
West Leg	**TOTAL**	**2,544**	**2,829**	**10%**	**11%**	**26,000**
OVERALL TOTAL		***7,562***	***9,838***	**8%**	***10%***	***96,000***

U:\UcJobs_09100-09500_09300\09301\Post Process\[30 Indian_Harley Knox.xls]Output (3)

INPUT DATA

Project:	==========>	Moreno Valley Logisitics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Perris Boulevard / Cactus Avenue**

AM PEAK HOUR	**PM PEAK HOUR**
EXISTING TURNING MOVEMENT VOLUMES:	EXISTING TURNING MOVEMENT VOLUMES:
2015 **39 466 99**	2015 **38 913 125**
< v >	< v >
63 ^ ^ **75**	**49** ^ ^ **73**
402 > Total = 3,108 < **702**	**546** > Total = 3,342 < **405**
124 v v **59**	**201** v v **48**
< ^ >	< ^ >
188 809 82	**154 743 47**
EXISTING MODEL YEAR:	EXISTING MODEL YEAR:
2008 **676 742**	2008 **762 737**
v ^	v ^
459 < IN = 1906 < **361**	**280** < IN = 2126 < **178**
175 > OUT = 1907 > **107**	**509** > OUT = 2126 > **473**
v ^	v ^
599 694	**636 677**
FUTURE MODEL YEAR:	FUTURE MODEL YEAR:
2035 **1406 1666**	2035 **2033 1659**
v ^	v ^
467 < IN = 3861 < **466**	**418** < IN = 4930 < **329**
173 > OUT = 3860 > **175**	**689** > OUT = 4929 > **629**
v ^	v ^
1552 1816	**2223 1879**
EXISTING (COUNTED) ADTs BY LEG:	EXISTING (COUNTED) ADTs BY LEG:
2015 **16,968**	2015 16,968
N	N
14,064 W **LEG** E **13,776**	14,064 W + E 13,776
S	S
17,568	17,568
REFINED FUTURE ADT'S BY LEG:	REFINED FUTURE ADT'S BY LEG:
2035 **43,000**	2035 43,000
N	N
10,000 W **LEG** E **10,000**	10,000 W + E 10,000
S	S
48,000	48,000

U:\UcJobs_09100-09500_09300\09301\Post Process\[31 Perris_Cactus.xls]Input (1)

Project: Moreno Valley Logisitics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Perris Boulevard / Cactus Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR: 2015

			604	947		
			v	^		
	929	< IN =	3108	<	836	
	589	> OUT =	3108	>	583	
			v	^		
			649	1079		

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			MUL	ADD		
			v	^		
	ADD	<			<	ADD
	ADD	>			>	ADD
			v	^		
			ADD	ADD		

MINIMUM GROWTH %s 2008 TO 2035

			0%	0%		
			v	^		
	-29%	<			<	-27%
	-29%	>			>	-27%
			v	^		
			0%	0%		

REFINED GROWTH: 2008 TO 2035

			656	920		
			v	^		
	10	<			<	110
	0	>			>	70
			v	^		
			950	1120		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			490	680		
			v	^		
	10	<			<	80
	0	>			>	50
			v	^		
			700	830		

NEW PROJECTED VOLUMES: 2035

			1090	1630		
			v	^		
	940	< IN =	4510	<	920	
	590	> OUT =	4550	>	630	
			v	^ *		
			1350	1910		

PM

EXISTING COUNT YEAR: 2015

			1076	865		
			v	^		
	597	< IN =	3342	<	526	
	796	> OUT =	3342	>	718	
			v	^		
			1162	944		

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			ADD	ADD		
			v	^		
	ADD	<			<	ADD
	ADD	>			>	ADD
			v	^		
			ADD	ADD		

			0%	0%		
			v	^		
	-29%	<			<	-27%
	-29%	>			>	-27%
			v	^		
			0%	0%		

ADJUSTED GROWTH: 2008 TO 2035

			1270	920		
			v	^		
	140	<			<	150
	180	>			>	160
			v	^		
			1590	1200		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			940	680		
			v	^		
	100	<			<	110
	130	>			>	120
			v	^		
			1180	890		

NEW PROJECTED VOLUMES: 2035

			2020	1550		
			v	^		
	700	< IN =	5420	<	640	
	930	> OUT =	5430	>	840	
			v	^ *		
			2340	1830		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs_09100-09500_09300\09301\Post Process\[31 Perris_Cactus.xls] Growth Summary (2)

Project: Moreno Valley Logisitics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: 9301
Analyst: CKS
Date: 7/6/2015

LOCATION: Perris Boulevard / Cactus Avenue
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	188	250	62	33%	154	249	95	62%
	Through	809	1,484	675	83%	743	1,421	678	91%
	Right	82	170	88	107%	47	116	69	147%
	NB Total	1,079	1,904	825	76%	944	1,786	842	89%
SOUTH BOUND	Left	99	110	11	11%	125	158	33	26%
	Through	466	982	516	111%	913	1,878	965	106%
	Right	39	28	-11	-28%	38	32	-6	-16%
	SB Total	604	1,120	516	85%	1,076	2,068	992	92%
EAST BOUND	Left	63	48	-15	-24%	49	40	-9	-18%
	Through	402	349	-53	-13%	546	566	20	4%
	Right	124	204	80	65%	201	339	138	69%
	EB Total	589	601	12	2%	796	945	149	19%
WEST BOUND	Left	59	164	105	178%	48	123	75	156%
	Through	702	662	-40	-6%	405	420	15	4%
	Right	75	98	23	31%	73	89	16	22%
	WB Total	836	924	88	11%	526	632	106	20%
TOTAL ENTERING VOLUME		3,108	4,549	1441	46%	3,342	5,431	2089	63%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,120	2,068			
North Leg	Outbound	1,630	1,550			
North Leg	**TOTAL**	**2,750**	**3,618**	**6%**	**8%**	**43,000**
South Leg	Inbound	1,904	1,786			
South Leg	Outbound	1,350	2,340			
South Leg	**TOTAL**	**3,254**	**4,126**	**7%**	**9%**	**48,000**
East Leg	Inbound	924	632			
East Leg	Outbound	629	840			
East Leg	**TOTAL**	**1,553**	**1,472**	**16%**	**15%**	**10,000**
West Leg	Inbound	601	945			
West Leg	Outbound	940	701			
West Leg	**TOTAL**	**1,541**	**1,646**	**15%**	**16%**	**10,000**
OVERALL TOTAL		***9,098***	***10,862***	**8%**	***10%***	***111,000***

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INPUT DATA

Project:	==========>	Moreno Valley Logisitics Center	<===	Job #:	9301
Scenario:	==========>	GP Buildout Post 2035 Without Project	<===	Analyst:	CKS
Existing Conditions Model Run ID:	==>	RivTAM for MV-Existing Base Model	<===	Date:	7/6/2015
Future Conditions Model Run ID:	==>	RivTAM-Moreno Valley GP	<===		

LOCATION: **Perris Boulevard / Krameria Avenue**

AM PEAK HOUR	**PM PEAK HOUR**
EXISTING TURNING MOVEMENT VOLUMES:	EXISTING TURNING MOVEMENT VOLUMES:
2015 **7 558 89**	2015 **18 757 126**
< v >	< v >
16 ^ ^ **190**	**24** ^ ^ **87**
156 > Total = 2,509 < **107**	**97** > Total = 2,396 < **55**
62 v v **184**	**38** v v **154**
< ^ >	< ^ >
64 793 283	**34 834 172**
EXISTING MODEL YEAR:	EXISTING MODEL YEAR:
2008 **602 718**	2008 **803 644**
v ^	v ^
108 < IN = 1622 < **354**	**53** < IN = 1916 < **262**
47 > OUT = 1623 > **246**	**211** > OUT = 1917 > **539**
v ^	v ^
551 619	**681 640**
FUTURE MODEL YEAR:	FUTURE MODEL YEAR:
2035 **1923 1680**	2035 **2381 2214**
v ^	v ^
141 < IN = 3949 < **281**	**188** < IN = 5289 < **317**
51 > OUT = 3950 > **167**	**255** > OUT = 5289 > **517**
v ^	v ^
1962 1694	**2370 2336**
EXISTING (COUNTED) ADTs BY LEG:	EXISTING (COUNTED) ADTs BY LEG:
2015 **14,664**	2015 14,664
N	N
3,300 W **LEG** E **7,560**	3,300 W + E 7,560
S	S
15,540	15,540
REFINED FUTURE ADT'S BY LEG:	REFINED FUTURE ADT'S BY LEG:
2035 **50,000**	2035 50,000
N	N
3,000 W **LEG** E **7,000**	3,000 W + E 7,000
S	S
50,000	50,000

U:\UcJobs_09100-09500_09300\09301\Post Process\[32 Perris_Krameria.xls]Input (1)

Project: Moreno Valley Logisitics Center
Scenario: GP Buildout Post 2035 Without Project

Job #: #
Analyst: CKS
Date: 7/6/2015

LOCATION: Perris Boulevard / Krameria Avenue

EXISTING COUNTED INBOUND AND OUTBOUND VOLUME CALCULATION

AM

EXISTING COUNT YEAR: 2015

			654	999		
			v	^		
	178	< IN =	2509	<	481	
	234	> OUT =	2509	>	528	
			v	^		
			804	1140		

GROWTH CALCULATION DECISION RULE
MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			ADD	ADD		
			v	^		
	ADD	<		<	MIN	
	ADD	>		>	MIN	
			v	^		
			ADD	ADD		

MINIMUM GROWTH %s 2008 TO 2035

			0%	0%		
			v	^		
	-9%	<		<	-7%	
	-9%	>		>	-7%	
			v	^		
			0%	0%		

REFINED GROWTH: 2008 TO 2035

			1320	960		
			v	^		
	30	<		<	-30	
	0	>		>	-40	
			v	^		
			1410	1080		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			980	710		
			v	^		
	20	<		<	-20	
	0	>		>	-30	
			v	^		
			1040	800		

NEW PROJECTED VOLUMES: 2035

			1630	1714		
			v	^		
	200	< IN =	4260	<	460	
	230	> OUT =	4260	>	501	
			v	^ *		
			1844	1940		

PM

EXISTING COUNT YEAR: 2015

			901	945		
			v	^		
	107	< IN =	2396	<	296	
	159	> OUT =	2396	>	395	
			v	^		
			949	1040		

MIN = Minimum Count Growth Approach
ADD = Additive (Growth Increment) Approach
MUL = Multiplicative (Ratio) Approach

			ADD	ADD		
			v	^		
	ADD	<		<	ADD	
	MUL	>		>	MUL	
			v	^		
			ADD	ADD		

			0%	0%		
			v	^		
	-9%	<		<	-7%	
	-9%	>		>	-7%	
			v	^		
			0%	0%		

ADJUSTED GROWTH: 2008 TO 2035

			1580	1570		
			v	^		
	140	<		<	60	
	31	>		>	-15	
			v	^		
			1690	1700		

PRORATED GROWTH: 2015 TO 2035
20 YEARS

			1170	1160		
			v	^		
	100	<		<	40	
	20	>		>	-10	
			v	^		
			1250	1260		

NEW PROJECTED VOLUMES: 2035

			2070	2110		
			v	^		
	210	< IN =	4890	<	340	
	180	> OUT =	4910	>	390	
			v	^ *		
			2200	2300		

* NOTE: Outbound future volume may be factored (increased) to match inbound if inbound is greater than outbound.

U:\UcJobs_09100-09500_09300\09301\Post Process\[32 Perris_Krameria.xls] Growth Summary (2)

Project:	Moreno Valley Logisitics Center	Job #:	9301
Scenario:	GP Buildout Post 2035 Without Project	Analyst:	CKS
		Date:	7/6/2015

LOCATION: Perris Boulevard / Krameria Avenue
FORECAST YEAR: 2035

INDIVIDUAL TURN VOLUME GROWTH REVIEW

		AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
APPROACH	TURNING MOVEMENT	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	64	106	42	66%	34	100	66	194%
	Through	793	1,526	733	92%	834	1,990	1,156	139%
	Right	283	293	10	4%	172	199	27	16%
	NB Total	1,140	1,925	785	69%	1,040	2,289	1,249	120%
SOUTH BOUND	Left	89	101	12	13%	126	121	-5	-4%
	Through	558	1,531	973	174%	757	1,933	1,176	155%
	Right	7	13	6	86%	18	44	26	144%
	SB Total	654	1,645	991	152%	901	2,098	1,197	133%
EAST BOUND	Left	16	20	4	25%	24	36	12	50%
	Through	156	107	-49	-31%	97	71	-26	-27%
	Right	62	103	41	66%	38	74	36	95%
	EB Total	234	230	-4	-2%	159	181	22	14%
WEST BOUND	Left	184	211	27	15%	154	192	38	25%
	Through	107	81	-26	-24%	55	66	11	20%
	Right	190	168	-22	-12%	87	84	-3	-3%
	WB Total	481	460	-21	-4%	296	342	46	16%
TOTAL ENTERING VOLUME		2,509	4,260	1751	70%	2,396	4,910	2514	105%

FORECAST PEAK HOUR TO ADT COMPARISON

		VOLUMES		PERCENT OF ADT		
		AM	PM	AM	PM	ADT
North Leg	Inbound	1,645	2,098			
North Leg	Outbound	1,714	2,110			
North Leg	**TOTAL**	**3,359**	**4,208**	**7%**	**8%**	**50,000**
South Leg	Inbound	1,925	2,289			
South Leg	Outbound	1,845	2,199			
South Leg	**TOTAL**	**3,770**	**4,488**	**8%**	**9%**	**50,000**
East Leg	Inbound	460	342			
East Leg	Outbound	501	391			
East Leg	**TOTAL**	**961**	**733**	**14%**	**10%**	**7,000**
West Leg	Inbound	230	181			
West Leg	Outbound	200	210			
West Leg	**TOTAL**	**430**	**391**	**14%**	**13%**	**3,000**
OVERALL TOTAL		***8,520***	***9,820***	**8%**	***9%***	***110,000***

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APPENDIX 5.1:

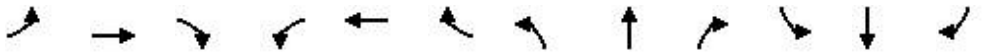
E+P CONDITIONS WITHOUT INDIAN STREET BRIDGE INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	333	36	351	1280	0	0	0	736	0	0	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5	4.0	5.5				5.6			4.0
Lane Util. Factor		*1.00	1.00	1.00	*1.00				1.00			1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	1.00	1.00	1.00				1.00			1.00
Flt Protected		1.00	1.00	1.00	1.00				1.00			1.00
Satd. Flow (prot)		3800	1900	1900	3800				1900			1900
Flt Permitted		1.00	1.00	1.00	1.00				1.00			1.00
Satd. Flow (perm)		3800	1900	1900	3800				1900			1900
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	351	38	369	1347	0	0	0	775	0	0	225
RTOR Reduction (vph)	0	0	25	0	0	0	0	0	526	0	0	96
Lane Group Flow (vph)	0	351	13	369	1347	0	0	0	249	0	0	129
Confl. Bikes (#/hr)									2			2
Turn Type		NA	Perm	Prot	NA				Prot			Prot
Protected Phases		2		1	6				3			7
Permitted Phases			2									
Actuated Green, G (s)		21.0	21.0	14.1	39.1				9.8			11.4
Effective Green, g (s)		21.0	21.0	14.1	39.1				9.8			11.4
Actuated g/C Ratio		0.35	0.35	0.23	0.65				0.16			0.19
Clearance Time (s)		5.5	5.5	4.0	5.5				5.6			4.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0				2.0			2.0
Lane Grp Cap (vph)		1330	665	446	2476				310			361
v/s Ratio Prot		0.09		c0.19	c0.35				c0.13			0.07
v/s Ratio Perm			0.01									
v/c Ratio		0.26	0.02	0.83	0.54				0.80			0.36
Uniform Delay, d1		14.0	12.8	21.8	5.6				24.2			21.1
Progression Factor		1.00	1.00	1.00	1.00				1.00			1.00
Incremental Delay, d2		0.5	0.1	11.4	0.9				13.1			0.2
Delay (s)		14.4	12.8	33.2	6.5				37.3			21.3
Level of Service		B	B	C	A				D			C
Approach Delay (s)		14.3			12.2			37.3			21.3	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	64.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	381	8	137	163	0	0	0	0	473	2	155
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	405	4	146	173	0				503	2	101
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	950	404	569	2303	0				560	2	502
Arrive On Green	0.00	0.25	0.25	0.63	1.00	0.00				0.31	0.31	0.31
Sat Flow, veh/h	0	3800	1615	1810	3800	0				1803	7	1615
Grp Volume(v), veh/h	0	405	4	146	173	0				505	0	101
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1615
Q Serve(g_s), s	0.0	10.7	0.2	4.3	0.0	0.0				32.0	0.0	5.5
Cycle Q Clear(g_c), s	0.0	10.7	0.2	4.3	0.0	0.0				32.0	0.0	5.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	950	404	569	2303	0				562	0	502
V/C Ratio(X)	0.00	0.43	0.01	0.26	0.08	0.00				0.90	0.00	0.20
Avail Cap(c_a), veh/h	0	950	404	569	2303	0				830	0	740
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.99	0.99	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	37.8	33.8	16.1	0.0	0.0				39.5	0.0	30.4
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.1	0.1	0.0				9.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.8	0.1	2.1	0.0	0.0				17.4	0.0	2.5
LnGrp Delay(d),s/veh	0.0	39.2	33.9	16.2	0.1	0.0				48.6	0.0	30.6
LnGrp LOS		D	C	B	A					D		C
Approach Vol, veh/h		409			319						606	
Approach Delay, s/veh		39.1			7.4						45.6	
Approach LOS		D			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	42.7	35.0		42.3		77.7		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	20.5	* 30		55.0		55.0		
Max Q Clear Time (g_c+I1), s	6.3	12.7		34.0		2.0		
Green Ext Time (p_c), s	0.7	1.4		3.3		0.8		

Intersection Summary	
HCM 2010 Ctrl Delay	34.5
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	24	1008	37	0	1566	196	388	278	5	34	0	43
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		0.99	1.00		0.99
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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	24	1029	32	0	1598	156	396	284	5	35	0	39
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	1	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	156	2053	64	0	1911	185	484	533	9	285	0	456
Arrive On Green	0.56	0.56	0.56	0.00	0.56	0.56	0.29	0.29	0.29	0.29	0.00	0.29
Sat Flow, veh/h	278	3666	114	0	3412	329	1390	1861	33	1107	0	1593
Grp Volume(v), veh/h	24	533	528	0	882	872	396	0	289	35	0	39
Grp Sat Flow(s),veh/h/ln	278	1900	1880	0	1900	1842	1390	0	1894	1107	0	1593
Q Serve(g_s), s	5.1	11.2	11.2	0.0	24.8	25.7	17.4	0.0	8.4	1.8	0.0	1.2
Cycle Q Clear(g_c), s	30.9	11.2	11.2	0.0	24.8	25.7	18.6	0.0	8.4	10.1	0.0	1.2
Prop In Lane	1.00		0.06	0.00		0.18	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	156	1064	1053	0	1064	1031	484	0	542	285	0	456
V/C Ratio(X)	0.15	0.50	0.50	0.00	0.83	0.85	0.82	0.00	0.53	0.12	0.00	0.09
Avail Cap(c_a), veh/h	156	1064	1053	0	1064	1031	484	0	542	285	0	456
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.8	8.7	8.7	0.0	11.7	12.0	24.3	0.0	19.5	23.8	0.0	17.0
Incr Delay (d2), s/veh	2.1	1.7	1.7	0.0	7.5	8.5	14.3	0.0	3.7	0.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	6.3	6.2	0.0	14.9	15.3	9.0	0.0	4.9	0.6	0.0	0.6
LnGrp Delay(d),s/veh	26.9	10.4	10.5	0.0	19.2	20.5	38.6	0.0	23.3	24.7	0.0	17.3
LnGrp LOS	C	B	B		B	C	D		C	C		B
Approach Vol, veh/h		1085			1754			685			74	
Approach Delay, s/veh		10.8			19.8			32.1			20.8	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.4		23.6		41.4		23.6
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		36.4		18.6		36.4		18.6
Max Q Clear Time (g_c+I1), s		32.9		12.1		27.7		20.6
Green Ext Time (p_c), s		3.1		1.1		6.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	19.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	203	652	0	0	296	348	4	0	177	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	221	709	0	0	322	343	4	0	106			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	247	2755	0	0	2126	904	347	0	310			
Arrive On Green	0.27	1.00	0.00	0.00	0.56	0.56	0.19	0.00	0.19			
Sat Flow, veh/h	1810	3800	0	0	3800	1615	1809	0	1615			
Grp Volume(v), veh/h	221	709	0	0	322	343	4	0	106			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1810	0	1615			
Q Serve(g_s), s	14.1	0.0	0.0	0.0	4.9	14.3	0.2	0.0	6.8			
Cycle Q Clear(g_c), s	14.1	0.0	0.0	0.0	4.9	14.3	0.2	0.0	6.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	247	2755	0	0	2126	904	347	0	310			
V/C Ratio(X)	0.90	0.26	0.00	0.00	0.15	0.38	0.01	0.00	0.34			
Avail Cap(c_a), veh/h	550	2755	0	0	2126	904	347	0	310			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.97	0.97	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.8	0.0	0.0	0.0	12.7	14.8	39.3	0.0	42.0			
Incr Delay (d2), s/veh	4.5	0.2	0.0	0.0	0.2	1.2	0.1	0.0	3.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.3	0.1	0.0	0.0	2.6	6.6	0.1	0.0	3.3			
LnGrp Delay(d),s/veh	47.3	0.2	0.0	0.0	12.9	16.0	39.4	0.0	45.0			
LnGrp LOS	D	A			B	B	D		D			
Approach Vol, veh/h		930			665			110				
Approach Delay, s/veh		11.4			14.5			44.8				
Approach LOS		B			B			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		92.0			19.9	72.1		28.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		87.0			36.5	47.0		23.0
Max Q Clear Time (g_c+I1), s		2.0			16.1	16.3		8.8
Green Ext Time (p_c), s		5.3			0.3	5.1		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	14.8
HCM 2010 LOS	B

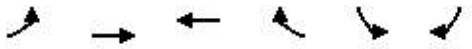
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	165	1462	231	104	1520	81	51	222	21	77	116	104
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	174	1539	0	109	1600	77	54	234	1	81	122	56
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	158	2448	694	119	2324	659	445	465	2	152	159	275
Arrive On Green	0.09	0.43	0.00	0.07	0.41	0.41	0.25	0.25	0.25	0.08	0.08	0.08
Sat Flow, veh/h	1810	5700	1615	1810	5700	1615	1810	1890	8	1810	1900	1591
Grp Volume(v), veh/h	174	1539	0	109	1600	77	54	0	235	81	122	56
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1898	1810	1900	1591
Q Serve(g_s), s	10.5	25.3	0.0	7.2	27.7	3.6	2.8	0.0	12.8	5.2	7.5	3.6
Cycle Q Clear(g_c), s	10.5	25.3	0.0	7.2	27.7	3.6	2.8	0.0	12.8	5.2	7.5	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	158	2448	694	119	2324	659	445	0	467	152	159	275
V/C Ratio(X)	1.10	0.63	0.00	0.91	0.69	0.12	0.12	0.00	0.50	0.53	0.77	0.20
Avail Cap(c_a), veh/h	158	2448	694	119	2324	659	445	0	467	445	467	533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	26.8	0.0	55.7	29.3	22.1	35.2	0.0	38.9	52.7	53.8	42.7
Incr Delay (d2), s/veh	100.5	1.2	0.0	55.8	0.7	0.0	0.6	0.0	3.8	1.1	2.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	13.5	0.0	5.4	14.7	1.6	1.5	0.0	7.2	2.6	4.1	1.6
LnGrp Delay(d),s/veh	155.2	28.0	0.0	111.5	30.0	22.1	35.7	0.0	42.8	53.8	56.7	42.8
LnGrp LOS	F	C		F	C	C	D		D	D	E	D
Approach Vol, veh/h		1713			1786			289			259	
Approach Delay, s/veh		40.9			34.6			41.5			52.8	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	57.0		15.6	15.0	54.4		35.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	7.9	32.1		29.5	10.5	29.5		29.5
Max Q Clear Time (g_c+I1), s	9.2	27.3		9.5	12.5	29.7		14.8
Green Ext Time (p_c), s	0.0	4.3		0.5	0.0	0.0		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	38.9
HCM 2010 LOS	D

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	174	1255	1708	156	106	68
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	191	1379	1877	161	116	19
Adj No. of Lanes	1	2	3	1	2	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	215	1995	1995	553	1221	737
Arrive On Green	0.12	0.52	0.35	0.35	0.34	0.34
Sat Flow, veh/h	1810	3800	5700	1579	3619	1615
Grp Volume(v), veh/h	191	1379	1877	161	116	19
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1579	1810	1615
Q Serve(g_s), s	8.3	21.6	25.5	5.9	1.8	0.5
Cycle Q Clear(g_c), s	8.3	21.6	25.5	5.9	1.8	0.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	215	1995	1995	553	1221	737
V/C Ratio(X)	0.89	0.69	0.94	0.29	0.09	0.03
Avail Cap(c_a), veh/h	215	1995	1995	553	1221	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.33	0.33	1.00	1.00
Uniform Delay (d), s/veh	34.7	14.2	25.2	18.8	18.1	12.0
Incr Delay (d2), s/veh	32.4	2.0	4.1	0.4	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	11.9	14.1	2.6	0.9	0.7
LnGrp Delay(d),s/veh	67.1	16.2	29.3	19.3	18.3	12.0
LnGrp LOS	E	B	C	B	B	B
Approach Vol, veh/h		1570	2038		135	
Approach Delay, s/veh		22.4	28.5		17.4	
Approach LOS		C	C		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.5		32.5	14.0	33.5		
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		
Max Green Setting (Gmax), s		42.0		27.0	9.5	28.0		
Max Q Clear Time (g_c+I1), s		23.6		3.8	10.3	27.5		
Green Ext Time (p_c), s		14.4		0.2	0.0	0.4		

Intersection Summary	
HCM 2010 Ctrl Delay	25.5
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	56	773	604	35	8	40
Conflicting Peds, #/hr	0	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	62	859	671	39	9	44

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	671	0	-	0	1225	336
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	554	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	929	-	-	-	*356	666
Stage 1	-	-	-	-	*475	-
Stage 2	-	-	-	-	*732	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	929	-	-	-	*310	666
Mov Cap-2 Maneuver	-	-	-	-	*310	-
Stage 1	-	-	-	-	*475	-
Stage 2	-	-	-	-	*638	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	929	-	-	-	559
HCM Lane V/C Ratio	0.067	-	-	-	0.095
HCM Control Delay (s)	9.2	0.5	-	-	12.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	99	1103	177	15	1663	69	138	53	10	60	53	54
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		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	106	1186	0	16	1788	72	148	57	8	65	57	23
Adj No. of Lanes	1	2	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	788	2984	1268	27	1921	77	170	1041	143	84	1207	1209
Arrive On Green	0.44	0.79	0.00	0.01	0.35	0.35	0.05	0.32	0.32	0.05	0.32	0.32
Sat Flow, veh/h	1810	3800	1615	1810	5442	219	3619	3271	449	1810	3800	1593
Grp Volume(v), veh/h	106	1186	0	16	1248	612	148	33	32	65	57	23
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1861	1810	1900	1820	1810	1900	1593
Q Serve(g_s), s	3.0	8.3	0.0	0.7	26.9	27.0	3.5	1.0	1.1	3.0	0.9	0.1
Cycle Q Clear(g_c), s	3.0	8.3	0.0	0.7	26.9	27.0	3.5	1.0	1.1	3.0	0.9	0.1
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	788	2984	1268	27	1341	657	170	605	579	84	1207	1209
V/C Ratio(X)	0.13	0.40	0.00	0.60	0.93	0.93	0.87	0.05	0.06	0.78	0.05	0.02
Avail Cap(c_a), veh/h	788	2984	1268	85	1341	657	170	605	579	85	1207	1209
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)	0.72	0.72	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.4	2.9	0.0	41.6	26.5	26.5	40.2	20.1	20.1	40.1	20.1	8.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.7	1.5	3.1	33.8	0.2	0.2	31.8	0.1	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	1.5	4.4	0.0	0.4	14.3	14.3	2.5	0.6	0.6	2.3	0.5	0.2
LnGrp Delay(d),s/veh	14.4	3.1	0.0	42.3	28.0	29.6	74.1	20.3	20.3	71.9	20.2	8.0
LnGrp LOS	B	A		D	C	C	E	C	C	E	C	A
Approach Vol, veh/h		1292			1876			213			145	
Approach Delay, s/veh		4.1			28.7			57.6			41.4	
Approach LOS		A			C			E			D	

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	5.8	73.2	8.5	32.5	43.5	35.5	8.4	32.6
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	30.0	4.0	27.0	4.0	* 30	4.0	27.0
Max Q Clear Time (g_c+I1), s	2.7	10.3	5.5	2.9	5.0	29.0	5.0	3.1
Green Ext Time (p_c), s	0.0	5.2	0.0	0.4	0.0	0.8	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	21.9
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	738	20	3	551	2	110	0	23	0	2	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	6	777	21	3	580	2	116	0	24	0	2	6
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	11	853	725	6	844	3	557	5	105	0	796	676
Arrive On Green	0.01	0.45	0.45	0.00	0.45	0.45	0.42	0.00	0.42	0.00	0.42	0.42
Sat Flow, veh/h	1810	1900	1615	1810	1892	7	1198	13	251	0	1900	1615
Grp Volume(v), veh/h	6	777	21	3	0	582	140	0	0	0	2	6
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1899	1462	0	0	0	1900	1615
Q Serve(g_s), s	0.4	45.8	0.9	0.2	0.0	29.4	6.9	0.0	0.0	0.0	0.1	0.3
Cycle Q Clear(g_c), s	0.4	45.8	0.9	0.2	0.0	29.4	7.3	0.0	0.0	0.0	0.1	0.3
Prop In Lane	1.00		1.00	1.00		0.00	0.83		0.17	0.00		1.00
Lane Grp Cap(c), veh/h	11	853	725	6	0	847	667	0	0	0	796	676
V/C Ratio(X)	0.55	0.91	0.03	0.52	0.00	0.69	0.21	0.00	0.00	0.00	0.00	0.01
Avail Cap(c_a), veh/h	68	1180	1003	68	0	1179	667	0	0	0	796	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	30.8	18.5	59.7	0.0	26.6	22.4	0.0	0.0	0.0	20.3	20.3
Incr Delay (d2), s/veh	15.0	6.9	0.0	24.7	0.0	0.4	0.7	0.0	0.0	0.0	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	0.2	25.6	0.4	0.1	0.0	15.4	3.1	0.0	0.0	0.0	0.0	0.1
LnGrp Delay(d),s/veh	74.4	37.7	18.5	84.4	0.0	26.9	23.1	0.0	0.0	0.0	20.3	20.4
LnGrp LOS	E	D	B	F		C	C				C	C
Approach Vol, veh/h		804			585			140			8	
Approach Delay, s/veh		37.5			27.2			23.1			20.4	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		55.8	4.9	59.4		55.8	5.2	59.0
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		25.5	4.5	74.5		25.5	4.5	74.5
Max Q Clear Time (g_c+I1), s		9.3	2.2	47.8		2.3	2.4	31.4
Green Ext Time (p_c), s		0.4	0.0	6.1		0.5	0.0	6.5

Intersection Summary	
HCM 2010 Ctrl Delay	32.2
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	89	524	538	51	1011	96	739	381	20	46	305	47
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	97	570	508	55	1099	95	803	414	20	50	332	35
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	103	2465	1046	71	2177	188	695	1496	72	64	846	88
Arrive On Green	0.06	0.65	0.65	0.04	0.63	0.63	0.19	0.42	0.42	0.04	0.25	0.25
Sat Flow, veh/h	1810	3800	1613	1810	3449	298	3619	3593	173	1810	3383	354
Grp Volume(v), veh/h	97	570	508	55	605	589	803	218	216	50	185	182
Grp Sat Flow(s),veh/h/ln	1810	1900	1613	1810	1900	1847	1810	1900	1866	1810	1900	1837
Q Serve(g_s), s	5.3	6.2	17.9	3.0	17.2	17.3	19.2	7.6	7.6	2.7	8.1	8.2
Cycle Q Clear(g_c), s	5.3	6.2	17.9	3.0	17.2	17.3	19.2	7.6	7.6	2.7	8.1	8.2
Prop In Lane	1.00		1.00	1.00		0.16	1.00		0.09	1.00		0.19
Lane Grp Cap(c), veh/h	103	2465	1046	71	1199	1166	695	791	777	64	475	459
V/C Ratio(X)	0.94	0.23	0.49	0.77	0.50	0.51	1.16	0.28	0.28	0.78	0.39	0.40
Avail Cap(c_a), veh/h	103	2465	1046	72	1199	1166	695	791	777	121	475	459
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)	0.62	0.62	0.62	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	7.3	11.1	47.6	10.0	10.0	40.4	19.2	19.3	47.8	31.2	31.2
Incr Delay (d2), s/veh	51.9	0.1	1.0	35.9	1.5	1.6	84.7	0.8	0.8	7.2	2.4	2.5
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	4.2	3.3	8.2	2.2	9.4	9.2	17.7	4.1	4.1	1.5	4.6	4.5
LnGrp Delay(d),s/veh	98.9	7.4	12.1	83.5	11.5	11.6	125.1	20.0	20.1	55.0	33.6	33.8
LnGrp LOS	F	A	B	F	B	B	F	C	C	E	C	C
Approach Vol, veh/h		1175			1249			1237			417	
Approach Delay, s/veh		17.0			14.7			88.3			36.2	
Approach LOS		B			B			F			D	

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	8.4	71.4	24.7	30.5	10.2	69.6	8.1	47.1
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	31.8	19.2	* 25	5.7	30.1	6.7	37.5
Max Q Clear Time (g_c+I1), s	15.0	19.9	21.2	10.2	7.3	19.3	4.7	9.6
Green Ext Time (p_c), s	0.0	6.4	0.0	1.0	0.0	6.1	0.0	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	39.9
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	43	62	36	108	257	68	778	49	130	694	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.94	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	47	22	39	117	118	74	846	38	141	754	10
Adj No. of Lanes	1	1	1	1	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	15	201	171	51	217	182	96	1140	458	577	2195	921
Arrive On Green	0.01	0.11	0.11	0.03	0.11	0.11	0.05	0.30	0.30	0.32	0.58	0.58
Sat Flow, veh/h	1810	1900	1615	1810	1900	1594	1810	3800	1526	1810	3800	1594
Grp Volume(v), veh/h	8	47	22	39	117	118	74	846	38	141	754	10
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1594	1810	1900	1526	1810	1900	1594
Q Serve(g_s), s	0.4	1.9	1.0	1.8	4.9	6.0	3.4	17.0	1.2	4.9	8.9	0.2
Cycle Q Clear(g_c), s	0.4	1.9	1.0	1.8	4.9	6.0	3.4	17.0	1.2	4.9	8.9	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	15	201	171	51	217	182	96	1140	458	577	2195	921
V/C Ratio(X)	0.55	0.23	0.13	0.76	0.54	0.65	0.77	0.74	0.08	0.24	0.34	0.01
Avail Cap(c_a), veh/h	85	541	460	123	581	488	183	1140	458	577	2195	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	42.0	34.8	34.4	41.0	35.5	36.0	39.7	26.8	13.4	21.4	9.5	3.5
Incr Delay (d2), s/veh	11.2	0.2	0.1	8.3	0.8	1.4	4.9	4.4	0.4	0.1	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	0.2	1.0	0.5	1.0	2.6	2.7	1.8	9.6	0.6	2.4	4.7	0.1
LnGrp Delay(d),s/veh	53.2	35.1	34.6	49.3	36.3	37.4	44.6	31.2	13.7	21.5	9.8	3.5
LnGrp LOS	D	D	C	D	D	D	D	C	B	C	A	A
Approach Vol, veh/h		77			274			958			905	
Approach Delay, s/veh		36.8			38.6			31.5			11.6	
Approach LOS		D			D			C			B	

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	32.6	31.0	6.9	14.5	9.0	54.6	6.2	15.2
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	9.5	* 26	5.8	24.2	8.6	26.4	4.0	* 26
Max Q Clear Time (g_c+I1), s	6.9	19.0	3.8	3.9	5.4	10.9	2.4	8.0
Green Ext Time (p_c), s	0.1	2.0	0.0	0.1	0.0	2.8	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	24.4
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	3	92	626	2	55	713
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	0	-	65	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	97	659	2	58	751

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1525	659	0	0	659	0
Stage 1	659	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	131	467	-	-	939	-
Stage 1	518	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	123	467	-	-	939	-
Mov Cap-2 Maneuver	123	-	-	-	-	-
Stage 1	518	-	-	-	-	-
Stage 2	389	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.3	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	123	467	939	-
HCM Lane V/C Ratio	-	-	0.026	0.207	0.062	-
HCM Control Delay (s)	-	-	35	14.7	9.1	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.8	0.2	-

Intersection	
Intersection Delay, s/veh	36.1
Intersection LOS	E

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Vol, veh/h	0	45	383	0	246	36	0	200	513
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	48	407	0	262	38	0	213	546
Number of Lanes	0	1	1	0	1	0	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	24.6	18.6	50
HCM LOS	C	C	E

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	87%	0%	0%	0%	100%
Vol Right, %	13%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	282	45	383	200	513
LT Vol	0	45	0	200	0
Through Vol	246	0	0	0	513
RT Vol	36	0	383	0	0
Lane Flow Rate	300	48	407	213	546
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.568	0.104	0.742	0.419	0.998
Departure Headway (Hd)	6.817	7.786	6.56	7.092	6.582
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	525	458	546	504	546
Service Time	4.915	5.58	4.352	4.887	4.376
HCM Lane V/C Ratio	0.571	0.105	0.745	0.423	1
HCM Control Delay	18.6	11.5	26.1	15	63.7
HCM Lane LOS	C	B	D	B	F
HCM 95th-tile Q	3.5	0.3	6.3	2	14.1



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	21	87	236	65	186	371
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	26	107	291	80	230	458
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	159	142	796	677	491	1434
Arrive On Green	0.09	0.09	0.42	0.42	0.27	0.75
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	26	107	291	80	230	458
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.9	4.5	7.4	2.1	7.4	5.5
Cycle Q Clear(g_c), s	0.9	4.5	7.4	2.1	7.4	5.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	159	142	796	677	491	1434
V/C Ratio(X)	0.16	0.75	0.37	0.12	0.47	0.32
Avail Cap(c_a), veh/h	439	392	796	677	491	1434
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	29.5	31.2	13.9	12.4	21.3	2.8
Incr Delay (d2), s/veh	0.2	3.0	1.3	0.4	3.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.1	4.1	1.0	4.1	3.0
LnGrp Delay(d),s/veh	29.7	34.2	15.2	12.8	24.5	3.4
LnGrp LOS	C	C	B	B	C	A
Approach Vol, veh/h	133		371			688
Approach Delay, s/veh	33.3		14.7			10.4
Approach LOS	C		B			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.5	34.8				58.3		11.7
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	19.0	18.5				42.0		17.0
Max Q Clear Time (g_c+I1), s	9.4	9.4				7.5		6.5
Green Ext Time (p_c), s	0.2	1.9				2.6		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	14.3
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	9	8	292	35	44	347
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	9	317	38	48	377

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	809	178	0	0	355	0
Stage 1	336	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	337	841	-	-	1215	-
Stage 1	702	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	324	841	-	-	1215	-
Mov Cap-2 Maneuver	510	-	-	-	-	-
Stage 1	702	-	-	-	-	-
Stage 2	606	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	626	1215	-
HCM Lane V/C Ratio	-	-	0.03	0.039	-
HCM Control Delay (s)	-	-	10.9	8.1	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	8	10	317	35	43	312
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	11	345	38	47	339

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	797	191	0	0	383	0
Stage 1	364	-	-	-	-	-
Stage 2	433	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	343	825	-	-	1187	-
Stage 1	679	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	329	825	-	-	1187	-
Mov Cap-2 Maneuver	517	-	-	-	-	-
Stage 1	679	-	-	-	-	-
Stage 2	632	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	652	1187	-
HCM Lane V/C Ratio	-	-	0.03	0.039	-
HCM Control Delay (s)	-	-	10.7	8.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	11	10	307	53	45	258
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	0	-	0	140	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	14	432	75	63	363

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	922	216	0	0	432	0
Stage 1	432	-	-	-	-	-
Stage 2	490	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	287	795	-	-	1138	-
Stage 1	628	-	-	-	-	-
Stage 2	620	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	271	795	-	-	1138	-
Mov Cap-2 Maneuver	469	-	-	-	-	-
Stage 1	628	-	-	-	-	-
Stage 2	586	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	469	795	1138	-
HCM Lane V/C Ratio	-	-	0.033	0.018	0.056	-
HCM Control Delay (s)	-	-	12.9	9.6	8.3	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	4	4	7	5	315	1	39	5	115	88	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	5	2	9	7	353	1	52	7	153	117	8
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	6	95	81	343	449	382	2	618	525	408	1063	903
Arrive On Green	0.00	0.05	0.05	0.19	0.24	0.24	0.00	0.32	0.32	0.23	0.56	0.56
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Grp Volume(v), veh/h	3	5	2	9	7	353	1	52	7	153	117	8
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	0.2	0.3	0.1	0.4	0.3	21.4	0.1	1.9	0.3	7.2	2.9	0.2
Cycle Q Clear(g_c), s	0.2	0.3	0.1	0.4	0.3	21.4	0.1	1.9	0.3	7.2	2.9	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	6	95	81	343	449	382	2	618	525	408	1063	903
V/C Ratio(X)	0.52	0.05	0.02	0.03	0.02	0.92	0.50	0.08	0.01	0.38	0.11	0.01
Avail Cap(c_a), veh/h	100	551	468	343	523	444	81	618	525	408	1063	903
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	0.48	0.48	0.48	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	45.2	36.1	33.0	29.3	37.3	49.9	23.4	22.9	32.8	10.3	5.7
Incr Delay (d2), s/veh	24.3	0.1	0.0	0.0	0.0	12.7	58.7	0.3	0.0	0.2	0.2	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	0.1	0.1	0.0	0.2	0.1	10.9	0.1	1.0	0.1	3.6	1.6	0.1
LnGrp Delay(d),s/veh	74.1	45.3	36.1	33.0	29.3	50.0	108.6	23.7	22.9	33.0	10.6	5.7
LnGrp LOS	E	D	D	C	C	D	F	C	C	C	B	A
Approach Vol, veh/h		10			369			60			278	
Approach Delay, s/veh		52.1			49.2			25.0			22.8	
Approach LOS		D			D			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	38.0	38.0	23.5	10.5	4.6	61.4	4.8	29.1
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	14.5	* 33	4.0	29.0	4.5	42.5	5.5	27.5
Max Q Clear Time (g_c+I1), s	19.2	3.9	2.4	2.3	2.1	4.9	2.2	23.4
Green Ext Time (p_c), s	0.2	0.1	0.0	0.0	0.0	0.5	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	37.0
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	7.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	40	0	2	91	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	43	0	2	97	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	196	1	0	0	2	0
Stage 1	1	-	-	-	-	-
Stage 2	195	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	797	1090	-	-	1634	-
Stage 1	1028	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	750	1090	-	-	1634	-
Mov Cap-2 Maneuver	752	-	-	-	-	-
Stage 1	1028	-	-	-	-	-
Stage 2	793	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	1090	1634	-
HCM Lane V/C Ratio	-	-	-	0.039	0.059	-
HCM Control Delay (s)	-	-	0	8.4	7.3	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0.2	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	534	1	0	407	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	668	1	0	509	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	669	0	1177	668
Stage 1	-	-	-	-	668	-
Stage 2	-	-	-	-	509	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	892	-	213	567
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	662	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	892	-	213	567
Mov Cap-2 Maneuver	-	-	-	-	213	-
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	662	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	567	-	-	892	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	11.4	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	23	222	0	0	0	95	3	6	3	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	0	200	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	28	271	0	0	0	116	4	7	4	0	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	250	250	8	400	258	4	16	0	0	4	0	0
Stage 1	15	15	-	235	235	-	-	-	-	-	-	-
Stage 2	235	235	-	165	23	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	708	656	1080	564	650	1085	1615	-	-	1631	-	-
Stage 1	1010	887	-	773	714	-	-	-	-	-	-	-
Stage 2	773	714	-	842	880	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	668	607	1080	385	602	1085	1615	-	-	1631	-	-
Mov Cap-2 Maneuver	676	624	-	460	624	-	-	-	-	-	-	-
Stage 1	937	885	-	717	663	-	-	-	-	-	-	-
Stage 2	717	663	-	609	878	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	0	6.8	1.4
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1615	-	-	1001	-	1631	-	-
HCM Lane V/C Ratio	0.072	-	-	0.305	-	0.002	-	-
HCM Control Delay (s)	7.4	-	-	10.2	0	7.2	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.3	-	0	-	-

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	7	1	0	0	16	6	83	0	0	14	3
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	8	1	0	0	17	7	90	0	0	15	3
Number of Lanes	0	0	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	8.5	7.9	8.1
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	88%	100%	0%	100%	0%
Vol Thru, %	82%	12%	0%	7%	0%	65%
Vol Right, %	18%	0%	0%	93%	0%	35%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	8	16	89	129	92
LT Vol	0	7	16	0	129	0
Through Vol	14	1	0	6	0	60
RT Vol	3	0	0	83	0	32
Lane Flow Rate	18	9	17	97	140	100
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.025	0.013	0.027	0.121	0.203	0.124
Departure Headway (Hd)	4.958	5.447	5.661	4.504	5.325	4.58
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	724	660	636	801	679	788
Service Time	2.972	3.453	3.361	2.204	3.025	2.28
HCM Lane V/C Ratio	0.025	0.014	0.027	0.121	0.206	0.127
HCM Control Delay	8.1	8.5	8.5	7.8	9.4	7.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0	0.1	0.4	0.8	0.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	129	60	32
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	140	65	35
Number of Lanes	0	1	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.8
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	80	54	10	93	13	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	87	59	11	101	14	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	146	0	239	116
Stage 1	-	-	-	-	116	-
Stage 2	-	-	-	-	123	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1448	-	754	942
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	907	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1448	-	748	942
Mov Cap-2 Maneuver	-	-	-	-	810	-
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	900	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	825	-	-	1448	-
HCM Lane V/C Ratio	0.02	-	-	0.008	-
HCM Control Delay (s)	9.5	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	63	19	16	99	4	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	68	21	17	108	4	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	89	0	221	79
Stage 1	-	-	-	-	79	-
Stage 2	-	-	-	-	142	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1519	-	772	987
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1519	-	763	987
Mov Cap-2 Maneuver	-	-	-	-	814	-
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	880	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	880	-	-	1519	-
HCM Lane V/C Ratio	0.009	-	-	0.011	-
HCM Control Delay (s)	9.1	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	19	47	16	104	11	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	21	51	17	113	12	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	72	0	194	46
Stage 1	-	-	-	-	46	-
Stage 2	-	-	-	-	148	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1541	-	799	1029
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1541	-	790	1029
Mov Cap-2 Maneuver	-	-	-	-	820	-
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	874	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	857	-	-	1541	-
HCM Lane V/C Ratio	0.018	-	-	0.011	-
HCM Control Delay (s)	9.3	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	4	16	0	0	2	85	188	0	14	102	12
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	5	19	0	0	2	100	221	0	16	120	14
Number of Lanes	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	3
HCM Control Delay	9.8	10.6	10.5
HCM LOS	A	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	102	12	4	16	2	85	188	192	95	17
LT Vol	14	0	0	4	0	2	0	0	192	0	0
Through Vol	0	102	0	0	16	0	85	0	0	95	0
RT Vol	0	0	12	0	0	0	0	188	0	0	17
Lane Flow Rate	16	120	14	5	19	2	100	221	226	112	20
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.031	0.212	0.022	0.009	0.035	0.004	0.17	0.332	0.403	0.184	0.029
Departure Headway (Hd)	6.87	6.366	5.662	7.199	6.699	6.602	6.103	5.403	6.419	5.916	5.212
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	521	564	631	497	534	543	588	666	562	607	687
Service Time	4.612	4.108	3.403	4.945	4.445	4.335	3.836	3.136	4.149	3.646	2.942
HCM Lane V/C Ratio	0.031	0.213	0.022	0.01	0.036	0.004	0.17	0.332	0.402	0.185	0.029
HCM Control Delay	9.8	10.8	8.5	10	9.7	9.4	10.1	10.8	13.4	10	8.1
HCM Lane LOS	A	B	A	A	A	A	B	B	B	A	A
HCM 95th-tile Q	0.1	0.8	0.1	0	0.1	0	0.6	1.5	1.9	0.7	0.1

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	3	0	0	0	0	16
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	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	0	0	0	0	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	9	9	17	0	-	0
Stage 1	9	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1017	1079	1613	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1017	1079	1613	-	-	-
Mov Cap-2 Maneuver	967	-	-	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1613	-	967	-	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	59	75	54	165	5	456	11	91	3	5	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.94	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	81	91	74	226	4	625	15	93	4	7	0
Adj No. of Lanes	1	1	1	1	2	1	2	1	1	1	2	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	15	187	673	80	512	205	1152	1198	1019	8	1161	0
Arrive On Green	0.01	0.10	0.10	0.04	0.13	0.13	0.32	0.63	0.63	0.00	0.31	0.00
Sat Flow, veh/h	1810	1900	1615	1810	3800	1521	3619	1900	1615	1810	3800	0
Grp Volume(v), veh/h	8	81	91	74	226	4	625	15	93	4	7	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1521	1810	1900	1615	1810	1900	0
Q Serve(g_s), s	0.4	3.6	0.5	3.7	4.9	0.2	12.8	0.3	2.0	0.2	0.1	0.0
Cycle Q Clear(g_c), s	0.4	3.6	0.5	3.7	4.9	0.2	12.8	0.3	2.0	0.2	0.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	15	187	673	80	512	205	1152	1198	1019	8	1161	0
V/C Ratio(X)	0.55	0.43	0.14	0.92	0.44	0.02	0.54	0.01	0.09	0.52	0.01	0.00
Avail Cap(c_a), veh/h	80	549	981	80	1098	439	1152	1198	1019	80	1161	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)	0.84	0.84	0.84	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.5	38.2	6.8	42.8	35.8	33.8	25.3	6.2	6.5	44.7	21.7	0.0
Incr Delay (d2), s/veh	9.7	0.5	0.0	72.7	0.2	0.0	0.3	0.0	0.2	19.0	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	0.2	1.9	0.9	3.5	2.6	0.1	6.5	0.1	0.9	0.1	0.1	0.0
LnGrp Delay(d),s/veh	54.2	38.7	6.9	115.6	36.0	33.8	25.6	6.2	6.7	63.7	21.8	0.0
LnGrp LOS	D	D	A	F	D	C	C	A	A	E	C	
Approach Vol, veh/h		180			304			733			11	
Approach Delay, s/veh		23.3			55.4			22.8			37.0	
Approach LOS		C			E			C			D	

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	4.9	62.3	8.5	14.4	34.1	33.0	5.2	17.6
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	36.0	4.0	26.0	12.5	* 28	4.0	26.0
Max Q Clear Time (g_c+I1), s	2.2	4.0	5.7	5.6	14.8	2.1	2.4	6.9
Green Ext Time (p_c), s	0.0	1.3	0.0	1.2	0.0	0.0	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	31.0
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	9	14	137	42	22	17	47	525	28	6	107	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	17	108	51	27	19	57	640	32	7	130	1
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	19	166	142	66	216	183	74	2398	120	13	2392	18
Arrive On Green	0.01	0.09	0.09	0.04	0.11	0.11	0.04	0.67	0.67	0.01	0.64	0.64
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3585	179	1810	3766	29
Grp Volume(v), veh/h	11	17	108	51	27	19	57	339	333	7	66	65
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1864	1810	1900	1895
Q Serve(g_s), s	0.6	0.8	6.5	2.8	1.3	1.1	3.1	7.2	7.2	0.4	1.3	1.3
Cycle Q Clear(g_c), s	0.6	0.8	6.5	2.8	1.3	1.1	3.1	7.2	7.2	0.4	1.3	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		0.02
Lane Grp Cap(c), veh/h	19	166	142	66	216	183	74	1271	1247	13	1207	1203
V/C Ratio(X)	0.58	0.10	0.76	0.77	0.13	0.10	0.77	0.27	0.27	0.55	0.05	0.05
Avail Cap(c_a), veh/h	100	542	460	172	618	525	208	1271	1247	100	1207	1203
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	49.3	42.0	44.6	47.8	39.9	39.8	47.5	6.7	6.7	49.5	6.9	6.9
Incr Delay (d2), s/veh	9.8	0.1	3.2	7.0	0.1	0.1	6.2	0.5	0.5	12.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	3.0	1.5	0.7	0.5	1.7	3.9	3.9	0.2	0.7	0.7
LnGrp Delay(d),s/veh	59.1	42.1	47.8	54.8	40.0	39.9	53.7	7.2	7.2	61.5	7.0	7.0
LnGrp LOS	E	D	D	D	D	D	D	A	A	E	A	A
Approach Vol, veh/h		136			97			729			138	
Approach Delay, s/veh		48.0			47.7			10.8			9.7	
Approach LOS		D			D			B			A	

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	5.2	72.4	8.1	14.3	8.6	69.0	5.6	16.9
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	5.5	36.5	9.5	28.5	11.5	30.5	5.5	32.5
Max Q Clear Time (g_c+I1), s	2.4	9.2	4.8	8.5	5.1	3.3	2.6	3.3
Green Ext Time (p_c), s	0.0	2.6	0.0	0.3	0.0	2.6	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	18.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	415	206	71	5	245	15	103	255	25	9	65	184
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	441	219	59	5	261	14	110	271	23	10	69	129
Adj No. of Lanes	1	1	1	1	2	0	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1364	2059	1750	9	1161	62	145	1369	582	35	608	517
Arrive On Green	0.75	1.00	1.00	0.01	0.32	0.32	0.04	0.36	0.36	0.01	0.32	0.32
Sat Flow, veh/h	1810	1900	1615	1810	3573	191	3619	3800	1615	3619	1900	1615
Grp Volume(v), veh/h	441	219	59	5	138	137	110	271	23	10	69	129
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1863	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	7.9	0.0	0.0	0.3	5.3	5.3	3.0	4.9	0.9	0.3	2.6	5.9
Cycle Q Clear(g_c), s	7.9	0.0	0.0	0.3	5.3	5.3	3.0	4.9	0.9	0.3	2.6	5.9
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1364	2059	1750	9	618	606	145	1369	582	35	608	517
V/C Ratio(X)	0.32	0.11	0.03	0.53	0.22	0.23	0.76	0.20	0.04	0.28	0.11	0.25
Avail Cap(c_a), veh/h	1364	2059	1750	72	618	606	145	1369	582	145	608	517
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	4.0	0.0	0.0	49.6	24.6	24.6	47.5	22.0	20.8	49.2	24.0	25.1
Incr Delay (d2), s/veh	0.1	0.1	0.0	16.3	0.8	0.9	18.7	0.3	0.1	1.6	0.4	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	3.9	0.1	0.0	0.2	2.9	2.9	1.9	2.6	0.4	0.1	1.4	2.8
LnGrp Delay(d),s/veh	4.1	0.1	0.0	65.9	25.4	25.5	66.2	22.4	20.9	50.8	24.4	26.3
LnGrp LOS	A	A	A	E	C	C	E	C	C	D	C	C
Approach Vol, veh/h		719			280			404			208	
Approach Delay, s/veh		2.5			26.2			34.2			26.8	
Approach LOS		A			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	5.0	114.5	9.5	37.5	81.5	38.0	5.5	41.5
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	40.0	4.0	* 32	11.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	2.3	2.0	5.0	7.9	9.9	7.3	2.3	6.9
Green Ext Time (p_c), s	0.0	1.4	0.0	0.6	0.2	0.8	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	17.7
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	69	410	132	60	726	76	193	831	85	100	485	67
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		0.99	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	77	456	130	67	807	75	214	923	82	111	539	64
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	1	2	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	99	979	277	994	2909	270	238	1499	133	141	855	358
Arrive On Green	0.05	0.34	0.34	0.55	0.85	0.85	0.13	0.29	0.29	0.08	0.22	0.22
Sat Flow, veh/h	1810	2847	805	1810	3421	318	1810	5159	457	1810	3800	1590
Grp Volume(v), veh/h	77	303	283	67	448	434	214	679	326	111	539	64
Grp Sat Flow(s),veh/h/ln	1810	1900	1752	1810	1900	1839	1810	1900	1816	1810	1900	1590
Q Serve(g_s), s	3.4	10.0	10.1	1.4	3.7	3.7	9.3	12.3	12.4	4.8	10.2	3.8
Cycle Q Clear(g_c), s	3.4	10.0	10.1	1.4	3.7	3.7	9.3	12.3	12.4	4.8	10.2	3.8
Prop In Lane	1.00		0.46	1.00		0.17	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	99	653	602	994	1616	1564	238	1104	528	141	855	358
V/C Ratio(X)	0.78	0.46	0.47	0.07	0.28	0.28	0.90	0.61	0.62	0.79	0.63	0.18
Avail Cap(c_a), veh/h	102	653	602	994	1616	1564	238	1104	528	170	855	358
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	37.3	20.5	20.5	8.4	1.2	1.2	34.2	24.5	24.5	36.2	28.0	52.2
Incr Delay (d2), s/veh	27.2	2.4	2.6	0.0	0.4	0.4	32.6	2.6	5.3	14.7	3.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	5.6	5.3	0.7	2.1	2.0	6.8	6.8	7.0	3.0	5.8	1.8
LnGrp Delay(d),s/veh	64.5	22.9	23.2	8.5	1.6	1.6	66.8	27.1	29.9	50.9	31.5	53.3
LnGrp LOS	E	C	C	A	A	A	E	C	C	D	C	D
Approach Vol, veh/h		663			949			1219			714	
Approach Delay, s/veh		27.8			2.1			34.8			36.5	
Approach LOS		C			A			C			D	

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	10.3	33.0	16.0	23.5	8.9	74.4	10.7	28.8
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.8	* 28	10.5	* 18	4.5	27.0	7.5	21.0
Max Q Clear Time (g_c+I1), s	11.4	12.1	11.3	12.2	5.4	5.7	6.8	14.4
Green Ext Time (p_c), s	0.1	1.8	0.0	1.3	0.0	3.4	0.0	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	25.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	19	158	71	186	107	190	98	816	286	89	570	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	174	62	204	118	109	108	897	289	98	626	23
Adj No. of Lanes	0	1	1	0	2	1	1	3	0	1	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	26	212	202	255	268	223	148	2024	649	122	2605	95
Arrive On Green	0.13	0.13	0.13	0.14	0.14	0.14	0.08	0.49	0.49	0.07	0.48	0.48
Sat Flow, veh/h	204	1686	1611	1810	1900	1580	1810	4121	1322	1810	5462	200
Grp Volume(v), veh/h	195	0	62	204	118	109	108	827	359	98	435	214
Grp Sat Flow(s),veh/h/ln	1890	0	1611	1810	1900	1580	1810	1900	1643	1810	1900	1862
Q Serve(g_s), s	12.1	0.0	4.2	13.1	6.8	7.6	7.0	17.0	17.1	6.4	8.1	8.2
Cycle Q Clear(g_c), s	12.1	0.0	4.2	13.1	6.8	7.6	7.0	17.0	17.1	6.4	8.1	8.2
Prop In Lane	0.11		1.00	1.00		1.00	1.00		0.80	1.00		0.11
Lane Grp Cap(c), veh/h	237	0	202	255	268	223	148	1866	807	122	1812	888
V/C Ratio(X)	0.82	0.00	0.31	0.80	0.44	0.49	0.73	0.44	0.45	0.80	0.24	0.24
Avail Cap(c_a), veh/h	472	0	403	452	475	395	148	1866	807	143	1812	888
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	0.0	47.7	49.9	47.2	47.6	53.8	19.9	19.9	55.2	18.5	18.6
Incr Delay (d2), s/veh	2.7	0.0	0.3	2.2	0.4	0.6	27.0	0.8	1.8	20.4	0.3	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	6.5	0.0	1.9	6.7	3.6	3.4	4.6	9.0	8.1	3.9	4.3	4.3
LnGrp Delay(d),s/veh	53.9	0.0	48.0	52.1	47.6	48.2	80.8	20.6	21.7	75.6	18.9	19.2
LnGrp LOS	D		D	D	D	D	F	C	C	E	B	B
Approach Vol, veh/h		257			431			1294			747	
Approach Delay, s/veh		52.5			49.9			25.9			26.4	
Approach LOS		D			D			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	12.6	64.4		20.6	14.3	62.7		22.4
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	9.5	29.5		30.0	9.8	29.2		30.0
Max Q Clear Time (g_c+I1), s	8.4	19.1		14.1	9.0	10.2		15.1
Green Ext Time (p_c), s	0.0	5.6		0.7	0.0	7.7		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	32.3
HCM 2010 LOS	C

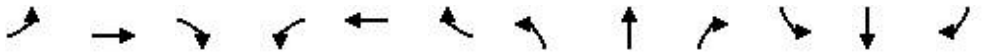
Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	645	125	507	358	0	0	0	746	0	0	185
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	0	1900	1900	1900	1900	0	0	0	1900	0	0	1900
Adj Flow Rate, veh/h	0	679	124	534	377	0	0	0	0	0	0	73
Adj No. of Lanes	0	2	1	1	2	0	0	0	1	0	0	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2229	947	461	3452	0	0	0	0	0	0	0
Arrive On Green	0.00	0.59	0.59	0.25	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3800	1615	1810	3800	0		0			0	
Grp Volume(v), veh/h	0	679	124	534	377	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0						
Q Serve(g_s), s	0.0	5.4	2.1	15.3	0.6	0.0						
Cycle Q Clear(g_c), s	0.0	5.4	2.1	15.3	0.6	0.0						
Prop In Lane	0.00		1.00	1.00		0.00						
Lane Grp Cap(c), veh/h	0	2229	947	461	3452	0						
V/C Ratio(X)	0.00	0.30	0.13	1.16	0.11	0.00						
Avail Cap(c_a), veh/h	0	2229	947	461	3452	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	6.2	5.6	22.3	0.3	0.0						
Incr Delay (d2), s/veh	0.0	0.4	0.3	92.7	0.1	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	2.8	3.0	19.4	0.3	0.0						
LnGrp Delay(d),s/veh	0.0	6.6	5.8	115.0	0.3	0.0						
LnGrp LOS		A	A	F	A							
Approach Vol, veh/h		803			911							
Approach Delay, s/veh		6.5			67.6							
Approach LOS		A			E							

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		
Phs Duration (G+Y+Rc), s	19.3	40.7				60.0		
Change Period (Y+Rc), s	4.0	5.5				5.5		
Max Green Setting (Gmax), s	15.3	19.2				38.5		
Max Q Clear Time (g_c+I1), s	17.3	7.4				2.6		
Green Ext Time (p_c), s	0.0	3.7				4.8		

Intersection Summary	
HCM 2010 Ctrl Delay	39.0
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	393	9	214	133	0	0	0	0	366	2	278
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	418	10	228	141	0				389	2	219
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1863	792	253	2537	0				448	2	402
Arrive On Green	0.00	0.49	0.49	0.23	1.00	0.00				0.25	0.25	0.25
Sat Flow, veh/h	0	3800	1615	1810	3800	0				1801	9	1615
Grp Volume(v), veh/h	0	418	10	228	141	0				391	0	219
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1615
Q Serve(g_s), s	0.0	7.6	0.4	14.7	0.0	0.0				24.8	0.0	14.1
Cycle Q Clear(g_c), s	0.0	7.6	0.4	14.7	0.0	0.0				24.8	0.0	14.1
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1863	792	253	2537	0				451	0	402
V/C Ratio(X)	0.00	0.22	0.01	0.90	0.06	0.00				0.87	0.00	0.54
Avail Cap(c_a), veh/h	0	1863	792	309	2537	0				830	0	740
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.99	0.99	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.5	15.7	45.2	0.0	0.0				43.2	0.0	39.2
Incr Delay (d2), s/veh	0.0	0.3	0.0	22.1	0.0	0.0				5.2	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
%ile BackOfQ(50%),veh/ln	0.0	4.0	0.2	8.8	0.0	0.0				13.0	0.0	6.5
LnGrp Delay(d),s/veh	0.0	17.8	15.7	67.3	0.0	0.0				48.4	0.0	40.3
LnGrp LOS		B	B	E	A					D		D
Approach Vol, veh/h		428			369						610	
Approach Delay, s/veh		17.7			41.6						45.5	
Approach LOS		B			D						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.3	63.8		34.9		85.1		
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0		
Max Green Setting (Gmax), s	20.5	30.0		55.0		55.0		
Max Q Clear Time (g_c+I1), s	16.7	9.6		26.8		2.0		
Green Ext Time (p_c), s	0.1	2.1		3.0		2.2		

Intersection Summary	
HCM 2010 Ctrl Delay	36.0
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	1233	144	0	1551	66	29	30	0	87	0	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		0.98	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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	1271	144	0	1599	59	30	31	0	90	0	22
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	1	1	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	176	1874	211	0	2040	75	501	544	0	495	0	462
Arrive On Green	0.56	0.56	0.56	0.00	0.56	0.56	0.29	0.29	0.00	0.29	0.00	0.29
Sat Flow, veh/h	305	3347	377	0	3642	134	1412	1900	0	1400	0	1615
Grp Volume(v), veh/h	14	719	696	0	832	826	30	31	0	90	0	22
Grp Sat Flow(s),veh/h/ln	305	1900	1824	0	1900	1876	1412	1900	0	1400	0	1615
Q Serve(g_s), s	2.5	17.4	17.6	0.0	22.3	22.5	1.0	0.8	0.0	3.2	0.0	0.6
Cycle Q Clear(g_c), s	25.0	17.4	17.6	0.0	22.3	22.5	1.7	0.8	0.0	4.0	0.0	0.6
Prop In Lane	1.00		0.21	0.00		0.07	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	176	1064	1021	0	1064	1051	501	544	0	495	0	462
V/C Ratio(X)	0.08	0.68	0.68	0.00	0.78	0.79	0.06	0.06	0.00	0.18	0.00	0.05
Avail Cap(c_a), veh/h	176	1064	1021	0	1064	1051	501	544	0	495	0	462
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	10.1	10.2	0.0	11.2	11.2	17.4	16.8	0.0	18.3	0.0	16.8
Incr Delay (d2), s/veh	0.9	3.4	3.7	0.0	5.7	5.9	0.2	0.2	0.0	0.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	10.0	9.7	0.0	13.2	13.2	0.4	0.4	0.0	1.4	0.0	0.3
LnGrp Delay(d),s/veh	21.9	13.6	13.8	0.0	16.9	17.2	17.6	17.0	0.0	19.1	0.0	17.0
LnGrp LOS	C	B	B		B	B	B	B		B		B
Approach Vol, veh/h		1429			1658			61			112	
Approach Delay, s/veh		13.8			17.0			17.3			18.7	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.4		23.6		41.4		23.6
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		36.4		18.6		36.4		18.6
Max Q Clear Time (g_c+I1), s		27.0		6.0		24.5		3.7
Green Ext Time (p_c), s		7.7		0.2		9.4		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	248	511	0	0	338	493	8	1	135	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	279	574	0	0	380	529	9	1	43			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	303	2755	0	0	2007	853	314	35	310			
Arrive On Green	0.34	1.00	0.00	0.00	0.53	0.53	0.19	0.19	0.19			
Sat Flow, veh/h	1810	3800	0	0	3800	1614	1636	182	1615			
Grp Volume(v), veh/h	279	574	0	0	380	529	10	0	43			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1614	1818	0	1615			
Q Serve(g_s), s	17.8	0.0	0.0	0.0	6.3	27.6	0.5	0.0	2.7			
Cycle Q Clear(g_c), s	17.8	0.0	0.0	0.0	6.3	27.6	0.5	0.0	2.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.90		1.00			
Lane Grp Cap(c), veh/h	303	2755	0	0	2007	853	348	0	310			
V/C Ratio(X)	0.92	0.21	0.00	0.00	0.19	0.62	0.03	0.00	0.14			
Avail Cap(c_a), veh/h	550	2755	0	0	2007	853	348	0	310			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.98	0.98	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	39.1	0.0	0.0	0.0	14.8	19.9	39.4	0.0	40.3			
Incr Delay (d2), s/veh	5.4	0.2	0.0	0.0	0.2	3.4	0.2	0.0	0.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	9.3	0.1	0.0	0.0	3.3	13.0	0.3	0.0	1.3			
LnGrp Delay(d),s/veh	44.5	0.2	0.0	0.0	15.0	23.2	39.6	0.0	41.2			
LnGrp LOS	D	A			B	C	D		D			
Approach Vol, veh/h		853			909			53				
Approach Delay, s/veh		14.7			19.8			40.9				
Approach LOS		B			B			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		92.0			23.6	68.4		28.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		87.0			36.5	47.0		23.0
Max Q Clear Time (g_c+I1), s		2.0			19.8	29.6		4.7
Green Ext Time (p_c), s		5.3			0.3	4.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	18.0
HCM 2010 LOS	B

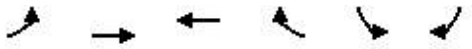
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	97	1314	23	25	1301	74	366	95	181	100	20	168
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	100	1355	0	26	1341	45	304	200	133	118	0	66
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	124	2878	816	33	2589	718	445	262	174	203	0	202
Arrive On Green	0.07	0.50	0.00	0.02	0.45	0.45	0.25	0.25	0.25	0.06	0.00	0.06
Sat Flow, veh/h	1810	5700	1615	1810	5700	1581	1810	1065	709	3619	0	1615
Grp Volume(v), veh/h	100	1355	0	26	1341	45	304	0	333	118	0	66
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1581	1810	0	1774	1810	0	1615
Q Serve(g_s), s	6.5	18.5	0.0	1.7	20.1	1.9	18.3	0.0	20.9	3.8	0.0	4.5
Cycle Q Clear(g_c), s	6.5	18.5	0.0	1.7	20.1	1.9	18.3	0.0	20.9	3.8	0.0	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	124	2878	816	33	2589	718	445	0	436	203	0	202
V/C Ratio(X)	0.80	0.47	0.00	0.80	0.52	0.06	0.68	0.00	0.76	0.58	0.00	0.33
Avail Cap(c_a), veh/h	143	2878	816	119	2589	718	445	0	436	890	0	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.1	19.3	0.0	58.7	23.4	18.4	41.0	0.0	42.0	55.2	0.0	47.9
Incr Delay (d2), s/veh	21.3	0.6	0.0	15.1	0.1	0.0	8.3	0.0	12.0	1.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	9.8	0.0	1.0	10.6	0.8	10.1	0.0	11.7	1.9	0.0	2.0
LnGrp Delay(d),s/veh	76.4	19.8	0.0	73.8	23.4	18.4	49.3	0.0	54.0	56.2	0.0	48.3
LnGrp LOS	E	B		E	C	B	D		D	E		D
Approach Vol, veh/h		1455			1412			637			184	
Approach Delay, s/veh		23.7			24.2			51.7			53.4	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.7	66.1		12.2	12.7	60.0		35.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	7.9	32.1		29.5	9.5	30.5		29.5
Max Q Clear Time (g_c+I1), s	3.7	20.5		6.5	8.5	22.1		22.9
Green Ext Time (p_c), s	0.0	8.5		0.3	0.0	5.2		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	30.2
HCM 2010 LOS	C

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	92	1792	1146	167	325	102
Number	5	2	6	16	7	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	95	1847	1181	164	335	46
Adj No. of Lanes	1	2	3	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	122	1995	2286	648	1221	654
Arrive On Green	0.07	0.52	0.40	0.40	0.34	0.34
Sat Flow, veh/h	1810	3800	5700	1615	3619	1615
Grp Volume(v), veh/h	95	1847	1181	164	335	46
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1615	1810	1615
Q Serve(g_s), s	4.1	35.9	12.5	5.4	5.4	1.4
Cycle Q Clear(g_c), s	4.1	35.9	12.5	5.4	5.4	1.4
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	122	1995	2286	648	1221	654
V/C Ratio(X)	0.78	0.93	0.52	0.25	0.27	0.07
Avail Cap(c_a), veh/h	215	1995	2286	648	1221	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.77	0.77	1.00	1.00
Uniform Delay (d), s/veh	36.7	17.6	18.1	16.0	19.3	14.6
Incr Delay (d2), s/veh	3.9	8.9	0.6	0.7	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	20.9	6.7	2.5	2.8	1.7
LnGrp Delay(d),s/veh	40.6	26.5	18.7	16.7	19.9	14.8
LnGrp LOS	D	C	B	B	B	B
Approach Vol, veh/h		1942	1345		381	
Approach Delay, s/veh		27.1	18.5		19.3	
Approach LOS		C	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.5		32.5	9.9	37.6		
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		
Max Green Setting (Gmax), s		42.0		27.0	9.5	28.0		
Max Q Clear Time (g_c+I1), s		37.9		7.4	6.1	14.5		
Green Ext Time (p_c), s		3.7		0.6	0.0	10.8		

Intersection Summary	
HCM 2010 Ctrl Delay	23.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	28	619	767	17	14	64
Conflicting Peds, #/hr	0	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	30	673	834	18	15	70

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	834	0	-	0	1231	417
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	397	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	808	-	-	-	*279	590
Stage 1	-	-	-	-	*392	-
Stage 2	-	-	-	-	*804	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	808	-	-	-	*262	590
Mov Cap-2 Maneuver	-	-	-	-	*262	-
Stage 1	-	-	-	-	*392	-
Stage 2	-	-	-	-	*757	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	808	-	-	-	482
HCM Lane V/C Ratio	0.038	-	-	-	0.176
HCM Control Delay (s)	9.6	0.3	-	-	14.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	72	1779	277	6	1046	43	158	53	11	119	138	105
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		0.99	1.00		1.00	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	78	1934	0	7	1137	43	172	58	7	129	150	36
Adj No. of Lanes	1	2	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1173	3822	1624	13	1925	73	170	1059	126	85	1252	1572
Arrive On Green	0.65	1.00	0.00	0.01	0.35	0.35	0.05	0.32	0.32	0.05	0.33	0.33
Sat Flow, veh/h	1810	3800	1615	1810	5454	206	3619	3335	395	1810	3800	1595
Grp Volume(v), veh/h	78	1934	0	7	792	388	172	33	32	129	150	36
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1860	1810	1900	1830	1810	1900	1595
Q Serve(g_s), s	1.3	0.0	0.0	0.3	14.5	14.5	4.0	1.0	1.0	4.0	2.3	0.2
Cycle Q Clear(g_c), s	1.3	0.0	0.0	0.3	14.5	14.5	4.0	1.0	1.0	4.0	2.3	0.2
Prop In Lane	1.00		1.00	1.00		0.11	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	1173	3822	1624	13	1341	657	170	604	581	85	1252	1572
V/C Ratio(X)	0.07	0.51	0.00	0.54	0.59	0.59	1.01	0.05	0.06	1.51	0.12	0.02
Avail Cap(c_a), veh/h	1173	3822	1624	85	1341	657	170	604	581	85	1252	1572
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)	0.46	0.46	0.00	0.29	0.29	0.29	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.5	0.0	0.0	42.1	22.5	22.5	40.5	20.1	20.1	40.5	19.9	8.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	3.7	0.6	1.1	71.6	0.2	0.2	282.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.1	0.0	0.2	7.7	7.6	3.7	0.6	0.6	8.7	1.3	0.4
LnGrp Delay(d),s/veh	5.5	0.2	0.0	45.8	23.0	23.6	112.1	20.3	20.3	323.2	20.1	8.0
LnGrp LOS	A	A		D	C	C	F	C	C	F	C	A
Approach Vol, veh/h		2012			1187			237			315	
Approach Delay, s/veh		0.4			23.4			86.9			142.8	
Approach LOS		A			C			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	5.1	91.8	8.5	33.5	61.4	35.5	9.5	32.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.0	30.0	4.0	27.0	4.0	* 30	4.0	* 27
Max Q Clear Time (g_c+I1), s	2.3	2.0	6.0	4.3	3.3	16.5	6.0	3.0
Green Ext Time (p_c), s	0.0	11.7	0.0	0.7	0.0	3.9	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	25.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	468	47	20	626	5	40	4	10	8	4	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	7	532	53	23	711	6	45	5	11	9	5	14
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	13	661	562	38	680	6	513	63	105	469	242	634
Arrive On Green	0.01	0.35	0.35	0.02	0.36	0.36	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1810	1900	1615	1810	1881	16	1061	160	269	962	617	1615
Grp Volume(v), veh/h	7	532	53	23	0	717	61	0	0	14	0	14
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1897	1489	0	0	1580	0	1615
Q Serve(g_s), s	0.3	16.5	1.4	0.8	0.0	23.5	0.8	0.0	0.0	0.0	0.0	0.3
Cycle Q Clear(g_c), s	0.3	16.5	1.4	0.8	0.0	23.5	1.5	0.0	0.0	0.3	0.0	0.3
Prop In Lane	1.00		1.00	1.00		0.01	0.74		0.18	0.64		1.00
Lane Grp Cap(c), veh/h	13	661	562	38	0	686	681	0	0	711	0	634
V/C Ratio(X)	0.53	0.80	0.09	0.61	0.00	1.05	0.09	0.00	0.00	0.02	0.00	0.02
Avail Cap(c_a), veh/h	111	687	584	111	0	686	681	0	0	711	0	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.2	19.2	14.3	31.6	0.0	20.8	12.4	0.0	0.0	12.1	0.0	12.1
Incr Delay (d2), s/veh	11.7	6.1	0.0	5.7	0.0	46.8	0.3	0.0	0.0	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	9.7	0.6	0.5	0.0	21.1	0.7	0.0	0.0	0.2	0.0	0.2
LnGrp Delay(d),s/veh	43.8	25.3	14.3	37.3	0.0	67.5	12.7	0.0	0.0	12.1	0.0	12.2
LnGrp LOS	D	C	B	D		F	B			B		B
Approach Vol, veh/h		592			740			61			28	
Approach Delay, s/veh		24.6			66.6			12.7			12.1	
Approach LOS		C			E			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		31.0	5.9	28.1		31.0	5.0	29.0
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	23.5		22.0	4.0	23.5
Max Q Clear Time (g_c+I1), s		3.5	2.8	18.5		2.3	2.3	25.5
Green Ext Time (p_c), s		0.2	0.0	2.4		0.2	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	45.7
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	82	933	833	22	560	67	601	496	62	109	535	43
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	87	993	871	23	596	65	639	528	62	116	569	39
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	2734	1162	35	2283	248	462	1120	131	146	977	67
Arrive On Green	0.06	0.72	0.72	0.02	0.68	0.68	0.21	0.56	0.56	0.08	0.28	0.28
Sat Flow, veh/h	1810	3800	1615	1810	3368	367	3619	3333	390	1810	3517	241
Grp Volume(v), veh/h	87	993	871	23	336	325	639	300	290	116	307	301
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1835	1810	1900	1824	1810	1900	1858
Q Serve(g_s), s	4.3	8.9	43.0	1.1	6.2	6.2	11.5	8.5	8.5	5.7	12.5	12.6
Cycle Q Clear(g_c), s	4.3	8.9	43.0	1.1	6.2	6.2	11.5	8.5	8.5	5.7	12.5	12.6
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.21	1.00		0.13
Lane Grp Cap(c), veh/h	111	2734	1162	35	1288	1244	462	638	613	146	528	516
V/C Ratio(X)	0.79	0.36	0.75	0.65	0.26	0.26	1.38	0.47	0.47	0.79	0.58	0.58
Avail Cap(c_a), veh/h	111	2734	1162	80	1288	1244	462	638	613	175	528	516
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.81	0.81	0.81	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	4.8	16.3	43.8	5.7	5.7	35.4	15.0	15.0	40.6	28.0	28.0
Incr Delay (d2), s/veh	3.2	0.0	0.4	7.4	0.5	0.5	182.6	2.0	2.1	15.6	4.6	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.6	18.9	0.6	3.4	3.3	17.4	4.7	4.5	3.5	7.2	7.1
LnGrp Delay(d),s/veh	44.9	4.8	16.7	51.2	6.2	6.2	218.0	17.0	17.1	56.2	32.6	32.8
LnGrp LOS	D	A	B	D	A	A	F	B	B	E	C	C
Approach Vol, veh/h		1951			684			1229			724	
Approach Delay, s/veh		11.9			7.7			121.5			36.5	
Approach LOS		B			A			F			D	

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	6.2	71.3	17.0	30.5	10.0	67.5	11.8	35.7
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	1.6	29.5	11.5	* 25	5.5	28.0	8.7	27.8
Max Q Clear Time (g_c+I1), s	13.1	45.0	13.5	14.6	6.3	8.2	7.7	10.5
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	9.1	0.0	3.1

Intersection Summary	
HCM 2010 Ctrl Delay	44.5
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	159	221	22	100	144	75	939	60	302	934	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.96	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	169	121	23	106	56	80	999	46	321	994	15
Adj No. of Lanes	1	1	1	1	2	0	1	2	1	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	89	220	187	35	206	101	103	1068	437	634	2225	945
Arrive On Green	0.05	0.12	0.12	0.02	0.09	0.09	0.06	0.28	0.28	0.47	0.78	0.78
Sat Flow, veh/h	1810	1900	1615	1810	2390	1177	1810	3800	1555	1810	3800	1615
Grp Volume(v), veh/h	28	169	121	23	83	79	80	999	46	321	994	15
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1668	1810	1900	1555	1810	1900	1615
Q Serve(g_s), s	1.3	7.8	5.2	1.1	3.7	4.1	3.9	23.1	2.0	11.2	8.0	0.1
Cycle Q Clear(g_c), s	1.3	7.8	5.2	1.1	3.7	4.1	3.9	23.1	2.0	11.2	8.0	0.1
Prop In Lane	1.00		1.00	1.00		0.71	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	89	220	187	35	164	144	103	1068	437	634	2225	945
V/C Ratio(X)	0.32	0.77	0.65	0.66	0.51	0.55	0.77	0.94	0.11	0.51	0.45	0.02
Avail Cap(c_a), veh/h	89	528	449	101	549	482	183	1068	437	634	2225	945
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.57	0.57	0.57
Uniform Delay (d), s/veh	41.3	38.6	24.9	43.8	39.3	39.5	41.9	31.6	24.0	18.6	5.0	1.6
Incr Delay (d2), s/veh	0.7	2.1	1.4	7.5	0.9	1.2	4.6	15.8	0.5	0.2	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	0.7	4.2	2.4	0.6	2.0	1.9	2.1	14.4	0.9	5.6	4.1	0.1
LnGrp Delay(d),s/veh	42.1	40.7	26.3	51.3	40.2	40.7	46.4	47.3	24.4	18.7	5.4	1.6
LnGrp LOS	D	D	C	D	D	D	D	D	C	B	A	A
Approach Vol, veh/h		318			185			1125			1330	
Approach Delay, s/veh		35.4			41.8			46.3			8.6	
Approach LOS		D			D			D			A	

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	37.0	30.8	6.2	15.9	9.6	58.2	8.9	13.3
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	14.7	* 25	5.0	25.0	9.1	30.9	4.0	26.0
Max Q Clear Time (g_c+I1), s	13.2	25.1	3.1	9.8	5.9	10.0	3.3	6.1
Green Ext Time (p_c), s	0.2	0.1	0.0	0.7	0.0	4.5	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	27.9
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	1	60	876	7	124	996
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	0	-	65	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	65	942	8	133	1071

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2280	942	0	0	942	0
Stage 1	942	-	-	-	-	-
Stage 2	1338	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	44	322	-	-	736	-
Stage 1	382	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	36	322	-	-	736	-
Mov Cap-2 Maneuver	36	-	-	-	-	-
Stage 1	382	-	-	-	-	-
Stage 2	202	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.5	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	36	322	736	-
HCM Lane V/C Ratio	-	-	0.03	0.2	0.181	-
HCM Control Delay (s)	-	-	108.1	19	11	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0.7	0.7	-

Intersection	
Intersection Delay, s/veh	56.1
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Vol, veh/h	0	18	243	0	633	18	0	512	464
Peak Hour Factor	0.92	0.86	0.86	0.92	0.86	0.86	0.92	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	21	283	0	736	21	0	595	540
Number of Lanes	0	1	1	0	1	0	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	17.7	63.1	61.7
HCM LOS	C	F	F

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	97%	0%	0%	0%	100%
Vol Right, %	3%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	651	18	243	512	464
LT Vol	0	18	0	512	0
Through Vol	633	0	0	0	464
RT Vol	18	0	243	0	0
Lane Flow Rate	757	21	283	595	540
Geometry Grp	4	7	7	7	7
Degree of Util (X)	1	0.048	0.554	1	0.974
Departure Headway (Hd)	6.369	8.259	7.059	7.001	6.501
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	575	435	511	524	561
Service Time	4.407	5.988	4.789	4.701	4.201
HCM Lane V/C Ratio	1.317	0.048	0.554	1.135	0.963
HCM Control Delay	63.1	11.4	18.2	65.8	57.1
HCM Lane LOS	F	B	C	F	F
HCM 95th-tile Q	14.5	0.2	3.3	13.9	13.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	67	210	473	27	81	419
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	83	259	584	33	100	517
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	339	303	607	516	491	1245
Arrive On Green	0.19	0.19	0.32	0.32	0.27	0.66
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	83	259	584	33	100	517
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	2.7	10.9	21.1	1.0	3.0	9.0
Cycle Q Clear(g_c), s	2.7	10.9	21.1	1.0	3.0	9.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	339	303	607	516	491	1245
V/C Ratio(X)	0.24	0.86	0.96	0.06	0.20	0.42
Avail Cap(c_a), veh/h	439	392	607	516	491	1245
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	24.2	27.5	23.4	16.5	19.7	5.7
Incr Delay (d2), s/veh	0.1	11.3	28.1	0.2	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	5.8	15.8	0.5	1.6	4.9
LnGrp Delay(d),s/veh	24.4	38.8	51.5	16.8	20.6	6.7
LnGrp LOS	C	D	D	B	C	A
Approach Vol, veh/h	342		617			617
Approach Delay, s/veh	35.3		49.7			9.0
Approach LOS	D		D			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.5	27.9				51.4		18.6
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	19.0	18.5				42.0		17.0
Max Q Clear Time (g_c+I1), s	5.0	23.1				11.0		12.9
Green Ext Time (p_c), s	0.1	0.0				4.1		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	30.6
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	38	47	453	9	10	475
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	41	51	492	10	11	516

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1035	251	0	0	502	0
Stage 1	497	-	-	-	-	-
Stage 2	538	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	245	755	-	-	1073	-
Stage 1	582	-	-	-	-	-
Stage 2	589	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	242	755	-	-	1073	-
Mov Cap-2 Maneuver	445	-	-	-	-	-
Stage 1	582	-	-	-	-	-
Stage 2	583	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	576	1073	-
HCM Lane V/C Ratio	-	-	0.16	0.01	-
HCM Control Delay (s)	-	-	12.4	8.4	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	39	45	416	10	10	504
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	42	49	452	11	11	548

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1028	232	0	0	463	0
Stage 1	458	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	247	776	-	-	1109	-
Stage 1	609	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	245	776	-	-	1109	-
Mov Cap-2 Maneuver	447	-	-	-	-	-
Stage 1	609	-	-	-	-	-
Stage 2	564	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	578	1109	-
HCM Lane V/C Ratio	-	-	0.158	0.01	-
HCM Control Delay (s)	-	-	12.4	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	55	46	387	13	10	558
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	0	-	0	140	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	77	65	545	18	14	786

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1359	273	0	0	545	0
Stage 1	545	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	153	731	-	-	1034	-
Stage 1	551	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	151	731	-	-	1034	-
Mov Cap-2 Maneuver	351	-	-	-	-	-
Stage 1	551	-	-	-	-	-
Stage 2	433	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	351	731	1034	-
HCM Lane V/C Ratio	-	-	0.221	0.089	0.014	-
HCM Control Delay (s)	-	-	18.1	10.4	8.5	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.3	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	11	6	5	11	0	247	0	71	3	344	212	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	9	7	16	0	353	0	101	0	491	303	3
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	25	442	375	25	442	376	2	648	551	445	1187	1009
Arrive On Green	0.01	0.23	0.23	0.01	0.00	0.23	0.00	0.34	0.00	0.25	0.62	0.62
Sat Flow, veh/h	1810	1900	1612	1810	1900	1615	1810	1900	1615	1810	1900	1615
Grp Volume(v), veh/h	16	9	7	16	0	353	0	101	0	491	303	3
Grp Sat Flow(s),veh/h/ln	1810	1900	1612	1810	1900	1615	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	1.1	0.4	0.4	1.1	0.0	25.8	0.0	4.4	0.0	29.5	8.5	0.1
Cycle Q Clear(g_c), s	1.1	0.4	0.4	1.1	0.0	25.8	0.0	4.4	0.0	29.5	8.5	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	442	375	25	442	376	2	648	551	445	1187	1009
V/C Ratio(X)	0.64	0.02	0.02	0.64	0.00	0.94	0.00	0.16	0.00	1.10	0.26	0.00
Avail Cap(c_a), veh/h	113	467	396	113	467	397	60	648	551	445	1187	1009
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	0.82	0.00	0.82	0.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	35.5	35.5	58.9	0.0	45.2	0.0	27.5	0.0	45.3	10.1	8.5
Incr Delay (d2), s/veh	9.8	0.0	0.0	8.1	0.0	25.2	0.0	0.5	0.0	73.9	0.5	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	0.6	0.2	0.2	0.6	0.0	14.1	0.0	2.4	0.0	23.8	4.6	0.0
LnGrp Delay(d),s/veh	68.7	35.5	35.5	66.9	0.0	70.4	0.0	28.0	0.0	119.1	10.6	8.5
LnGrp LOS	E	D	D	E		E		C		F	B	A
Approach Vol, veh/h		32			369			101			797	
Approach Delay, s/veh		52.1			70.3			28.0			77.5	
Approach LOS		D			E			C			E	

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	34.0	46.4	6.2	33.4	0.0	80.4	6.2	33.4
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	29.5	33.5	7.5	29.5	4.0	59.0	7.5	29.5
Max Q Clear Time (g_c+I1), s	31.5	6.4	3.1	2.4	0.0	10.5	3.1	27.8
Green Ext Time (p_c), s	0.0	1.2	0.0	0.6	0.0	1.3	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	70.9
HCM 2010 LOS	E

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	70	2	8	200	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	93	3	11	267	13

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	555	8	0	0	13	0
Stage 1	8	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	496	1080	-	-	1619	-
Stage 1	1020	-	-	-	-	-
Stage 2	584	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	414	1080	-	-	1619	-
Mov Cap-2 Maneuver	462	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	488	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	1080	1619	-
HCM Lane V/C Ratio	-	-	-	0.086	0.165	-
HCM Control Delay (s)	-	-	0	8.6	7.7	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.3	0.6	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	492	0	0	527	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	541	0	0	579	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	541	0	1120	541
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	579	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1045	-	*231	693
Stage 1	-	-	-	-	*656	-
Stage 2	-	-	-	-	*624	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	1045	-	*231	693
Mov Cap-2 Maneuver	-	-	-	-	*231	-
Stage 1	-	-	-	-	*656	-
Stage 2	-	-	-	-	*624	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	693	-	-	1045	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	10.2	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Notes

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

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	11	21	85	0	0	0	254	4	0	3	2	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	0	200	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	13	26	104	0	0	0	310	5	0	4	2	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	643	643	12	708	652	5	21	0	0	5	0	0
Stage 1	19	19	-	624	624	-	-	-	-	-	-	-
Stage 2	624	624	-	84	28	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	389	394	1074	352	390	1084	1608	-	-	1630	-	-
Stage 1	1005	884	-	477	481	-	-	-	-	-	-	-
Stage 2	477	481	-	929	876	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	331	317	1074	256	314	1084	1608	-	-	1630	-	-
Mov Cap-2 Maneuver	361	364	-	347	364	-	-	-	-	-	-	-
Stage 1	811	882	-	385	388	-	-	-	-	-	-	-
Stage 2	385	388	-	813	874	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	0	7.7	1.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1608	-	-	699	-	1630	-	-
HCM Lane V/C Ratio	0.193	-	-	0.204	-	0.002	-	-
HCM Control Delay (s)	7.8	-	-	11.5	0	7.2	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	0.8	-	0	-	-

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	33	7	0	0	4	1	158	0	0	67	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	36	8	0	0	4	1	172	0	0	73	18
Number of Lanes	0	0	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	8.8	8.2	8.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	82%	100%	0%	100%	0%
Vol Thru, %	80%	18%	0%	1%	0%	70%
Vol Right, %	20%	0%	0%	99%	0%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	84	40	4	159	64	23
LT Vol	0	33	4	0	64	0
Through Vol	67	7	0	1	0	16
RT Vol	17	0	0	158	0	7
Lane Flow Rate	91	43	4	173	70	25
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.127	0.065	0.007	0.208	0.108	0.034
Departure Headway (Hd)	5.019	5.355	5.539	4.339	5.603	4.886
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	715	670	648	830	641	733
Service Time	3.048	3.38	3.257	2.056	3.331	2.614
HCM Lane V/C Ratio	0.127	0.064	0.006	0.208	0.109	0.034
HCM Control Delay	8.8	8.8	8.3	8.2	9	7.8
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0	0.8	0.4	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	64	16	7
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	70	17	8
Number of Lanes	0	1	1	0

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

Lane

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	72	15	2	102	61	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	78	16	2	111	66	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	95	0	201	86
Stage 1	-	-	-	-	86	-
Stage 2	-	-	-	-	115	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1512	-	792	978
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	915	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1512	-	791	978
Mov Cap-2 Maneuver	-	-	-	-	836	-
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	914	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	853	-	-	1512	-
HCM Lane V/C Ratio	0.09	-	-	0.001	-
HCM Control Delay (s)	9.6	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	78	4	4	84	20	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	85	4	4	91	22	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	89	0	187	87
Stage 1	-	-	-	-	87	-
Stage 2	-	-	-	-	100	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1519	-	807	977
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1519	-	805	977
Mov Cap-2 Maneuver	-	-	-	-	845	-
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	927	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	901	-	-	1519	-
HCM Lane V/C Ratio	0.045	-	-	0.003	-
HCM Control Delay (s)	9.2	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	81	13	4	35	53	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	88	14	4	38	58	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	102	0	142	95
Stage 1	-	-	-	-	95	-
Stage 2	-	-	-	-	47	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1503	-	856	967
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	981	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1503	-	854	967
Mov Cap-2 Maneuver	-	-	-	-	871	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	978	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	893	-	-	1503	-
HCM Lane V/C Ratio	0.085	-	-	0.003	-
HCM Control Delay (s)	9.4	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	25	67	10	0	4	22	55	0	6	68	4
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	29	79	12	0	5	26	65	0	7	80	5
Number of Lanes	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	3
HCM Control Delay	9.4	8.6	9.3
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	87%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	13%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	68	4	25	77	4	22	55	175	77	7
LT Vol	6	0	0	25	0	4	0	0	175	0	0
Through Vol	0	68	0	0	67	0	22	0	0	77	0
RT Vol	0	0	4	0	10	0	0	55	0	0	7
Lane Flow Rate	7	80	5	29	91	5	26	65	206	91	8
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.012	0.128	0.007	0.051	0.143	0.008	0.042	0.093	0.333	0.134	0.011
Departure Headway (Hd)	6.259	5.757	5.054	6.275	5.684	6.355	5.855	5.155	5.818	5.316	4.614
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	567	617	699	566	625	558	606	687	614	669	768
Service Time	4.054	3.551	2.848	4.062	3.471	4.148	3.648	2.947	3.595	3.093	2.39
HCM Lane V/C Ratio	0.012	0.13	0.007	0.051	0.146	0.009	0.043	0.095	0.336	0.136	0.01
HCM Control Delay	9.1	9.4	7.9	9.4	9.4	9.2	8.9	8.5	11.5	8.9	7.4
HCM Lane LOS	A	A	A	A	A	A	A	A	B	A	A
HCM 95th-tile Q	0	0.4	0	0.2	0.5	0	0.1	0.3	1.5	0.5	0

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	17	0	0	0	0	4
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	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	18	0	0	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1026	1088	1631	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1026	1088	1631	-	-	-
Mov Cap-2 Maneuver	974	-	-	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1631	-	974	-	-
HCM Lane V/C Ratio	-	-	0.019	-	-
HCM Control Delay (s)	0	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	11	143	424	147	235	45	314	54	115	103	131	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.99	1.00		1.00	1.00		0.49
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	17	217	572	223	356	45	476	82	89	156	198	24
Adj No. of Lanes	1	1	1	1	2	1	2	1	1	1	2	0
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	26	330	697	252	1133	478	965	797	676	184	739	81
Arrive On Green	0.00	0.06	0.06	0.14	0.30	0.30	0.27	0.42	0.42	0.10	0.25	0.25
Sat Flow, veh/h	1810	1900	1535	1810	3800	1604	3619	1900	1613	1810	3007	331
Grp Volume(v), veh/h	17	217	572	223	356	45	476	82	89	156	118	104
Grp Sat Flow(s),veh/h/ln	1810	1900	1535	1810	1900	1604	1810	1900	1613	1810	1900	1438
Q Serve(g_s), s	1.1	13.4	10.3	14.5	8.7	2.4	13.3	3.1	4.1	10.2	6.0	7.1
Cycle Q Clear(g_c), s	1.1	13.4	10.3	14.5	8.7	2.4	13.3	3.1	4.1	10.2	6.0	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	26	330	697	252	1133	478	965	797	676	184	467	354
V/C Ratio(X)	0.65	0.66	0.82	0.89	0.31	0.09	0.49	0.10	0.13	0.85	0.25	0.29
Avail Cap(c_a), veh/h	83	420	770	354	1409	595	965	797	676	264	467	354
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.53	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.4	53.1	12.9	50.7	32.6	30.4	37.2	21.2	21.4	53.0	36.4	36.8
Incr Delay (d2), s/veh	5.3	0.6	3.2	14.0	0.1	0.0	0.1	0.2	0.4	11.6	1.3	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.1	10.9	8.2	4.6	1.1	6.7	1.7	1.9	5.7	3.3	3.0
LnGrp Delay(d),s/veh	64.7	53.7	16.1	64.7	32.7	30.4	37.3	21.4	21.8	64.7	37.7	38.9
LnGrp LOS	E	D	B	E	C	C	D	C	C	E	D	D
Approach Vol, veh/h		806			624			647			378	
Approach Delay, s/veh		27.2			44.0			33.2			49.1	
Approach LOS		C			D			C			D	

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	16.7	55.8	21.2	26.3	37.5	35.0	6.2	41.3
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	17.5	32.5	23.5	26.5	20.5	* 30	5.5	44.5
Max Q Clear Time (g_c+I1), s	12.2	6.1	16.5	15.4	15.3	9.1	3.1	10.7
Green Ext Time (p_c), s	0.1	1.2	0.2	2.8	0.5	0.7	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	36.4
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	38	210	42	19	14	56	421	49	50	559	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	10	54	179	60	27	1	80	601	66	71	799	60
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	183	263	223	77	127	108	103	1689	185	91	1730	130
Arrive On Green	0.10	0.14	0.14	0.04	0.07	0.07	0.06	0.50	0.50	0.05	0.50	0.50
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3365	369	1810	3492	262
Grp Volume(v), veh/h	10	54	179	60	27	1	80	339	328	71	435	424
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1834	1810	1900	1854
Q Serve(g_s), s	0.4	1.9	8.1	2.5	1.0	0.0	3.3	8.1	8.1	2.9	11.2	11.2
Cycle Q Clear(g_c), s	0.4	1.9	8.1	2.5	1.0	0.0	3.3	8.1	8.1	2.9	11.2	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.20	1.00		0.14
Lane Grp Cap(c), veh/h	183	263	223	77	127	108	103	954	921	91	942	919
V/C Ratio(X)	0.05	0.21	0.80	0.78	0.21	0.01	0.78	0.36	0.36	0.78	0.46	0.46
Avail Cap(c_a), veh/h	183	608	517	97	608	517	109	954	921	109	942	919
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.62	0.62	0.62
Uniform Delay (d), s/veh	30.5	28.7	31.3	35.6	33.1	21.1	34.9	11.3	11.3	35.2	12.4	12.4
Incr Delay (d2), s/veh	0.0	0.1	2.5	21.0	0.3	0.0	24.9	1.0	1.1	13.6	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.0	3.7	1.7	0.5	0.0	2.4	4.5	4.4	1.8	6.1	5.9
LnGrp Delay(d),s/veh	30.5	28.8	33.9	56.5	33.5	21.1	59.8	12.4	12.4	48.7	13.4	13.4
LnGrp LOS	C	C	C	E	C	C	E	B	B	D	B	B
Approach Vol, veh/h		243			88			747			930	
Approach Delay, s/veh		32.6			49.0			17.5			16.1	
Approach LOS		C			D			B			B	

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	8.3	43.2	7.7	15.9	8.8	42.7	13.1	10.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.5	22.5	4.0	24.0	4.5	22.5	4.0	* 24
Max Q Clear Time (g_c+I1), s	4.9	10.1	4.5	10.1	5.3	13.2	2.4	3.0
Green Ext Time (p_c), s	0.0	4.5	0.0	0.4	0.0	3.8	0.1	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	20.0
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	252	207	74	18	145	6	57	269	7	30	337	503
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	327	269	96	23	188	8	74	349	9	39	438	648
Adj No. of Lanes	1	1	1	1	2	0	2	2	1	2	2	0
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1016	1700	1445	35	1238	52	130	1354	575	98	640	544
Arrive On Green	0.56	0.89	0.89	0.02	0.34	0.34	0.04	0.36	0.36	0.03	0.34	0.34
Sat Flow, veh/h	1810	1900	1615	1810	3618	153	3619	3800	1615	3619	1900	1615
Grp Volume(v), veh/h	327	269	96	23	98	98	74	349	9	39	438	648
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1871	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	9.2	1.6	2.8	1.2	3.4	3.4	1.9	6.2	0.3	1.0	18.9	32.0
Cycle Q Clear(g_c), s	9.2	1.6	2.8	1.2	3.4	3.4	1.9	6.2	0.3	1.0	18.9	32.0
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1016	1700	1445	35	650	640	130	1354	575	98	640	544
V/C Ratio(X)	0.32	0.16	0.07	0.66	0.15	0.15	0.57	0.26	0.02	0.40	0.68	1.19
Avail Cap(c_a), veh/h	1016	1700	1445	99	650	640	152	1354	575	152	640	544
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	11.2	0.6	10.7	46.3	21.7	21.7	45.1	21.7	19.8	45.5	27.1	31.5
Incr Delay (d2), s/veh	0.1	0.2	0.1	7.8	0.5	0.5	1.4	0.5	0.0	1.0	5.9	103.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.9	1.3	0.7	1.9	1.9	1.0	3.3	0.2	0.5	10.9	29.8
LnGrp Delay(d),s/veh	11.2	0.8	10.8	54.1	22.2	22.2	46.5	22.1	19.8	46.4	33.0	134.7
LnGrp LOS	B	A	B	D	C	C	D	C	B	D	C	F
Approach Vol, veh/h		692			219			432			1125	
Approach Delay, s/veh		7.1			25.5			26.3			92.1	
Approach LOS		A			C			C			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	6.3	91.9	8.9	37.5	60.2	38.0	7.1	39.3
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	5.3	33.8	4.0	* 32	6.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	11.2	4.8	3.9	34.0	11.2	5.4	3.0	8.2
Green Ext Time (p_c), s	0.0	1.4	0.0	0.0	0.0	0.6	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	50.8
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	77	568	203	48	410	73	157	754	47	125	929	44
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	79	580	186	49	418	65	160	769	37	128	948	34
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	924	296	814	2399	370	174	1557	75	161	1021	434
Arrive On Green	0.05	0.33	0.33	0.45	0.75	0.75	0.10	0.29	0.29	0.09	0.27	0.27
Sat Flow, veh/h	1810	2759	882	1810	3209	495	1810	5395	259	1810	3800	1615
Grp Volume(v), veh/h	79	399	367	49	246	237	160	541	265	128	948	34
Grp Sat Flow(s),veh/h/ln	1810	1900	1741	1810	1900	1805	1810	1900	1854	1810	1900	1615
Q Serve(g_s), s	3.5	14.1	14.2	1.2	3.0	3.1	7.0	9.4	9.5	5.5	19.4	1.7
Cycle Q Clear(g_c), s	3.5	14.1	14.2	1.2	3.0	3.1	7.0	9.4	9.5	5.5	19.4	1.7
Prop In Lane	1.00		0.51	1.00		0.27	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	90	637	583	814	1420	1349	174	1096	535	161	1021	434
V/C Ratio(X)	0.87	0.63	0.63	0.06	0.17	0.18	0.92	0.49	0.50	0.79	0.93	0.08
Avail Cap(c_a), veh/h	90	637	583	814	1420	1349	174	1096	535	188	1021	434
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	37.7	22.4	22.4	12.4	2.9	2.9	35.8	23.6	23.6	35.7	28.5	39.3
Incr Delay (d2), s/veh	54.0	4.6	5.1	0.0	0.3	0.3	44.7	1.6	3.3	15.4	15.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	8.2	7.7	0.6	1.7	1.6	5.7	5.2	5.3	3.5	12.3	0.8
LnGrp Delay(d),s/veh	91.7	27.0	27.5	12.4	3.2	3.2	80.5	25.2	26.9	51.1	43.9	39.7
LnGrp LOS	F	C	C	B	A	A	F	C	C	D	D	D
Approach Vol, veh/h		845			532			966			1110	
Approach Delay, s/veh		33.3			4.1			34.8			44.6	
Approach LOS		C			A			C			D	

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	12.5	32.3	13.2	27.0	8.5	66.3	11.6	28.6
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	7.0	* 27	7.7	* 22	4.0	26.8	8.3	20.9
Max Q Clear Time (g_c+I1), s	11.2	16.2	9.0	21.4	5.5	5.1	7.5	11.5
Green Ext Time (p_c), s	0.2	2.2	0.0	0.0	0.0	1.7	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	32.9
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	41	97	72	156	55	87	41	845	174	128	775	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	45	107	63	171	60	-4	45	929	166	141	852	22
Adj No. of Lanes	0	1	1	0	2	1	1	3	0	1	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	57	136	167	218	229	195	148	2453	436	143	2872	74
Arrive On Green	0.10	0.10	0.10	0.12	0.12	0.00	0.08	0.52	0.52	0.08	0.52	0.52
Sat Flow, veh/h	554	1318	1610	1810	1900	1615	1810	4701	836	1810	5530	143
Grp Volume(v), veh/h	152	0	63	171	60	-4	45	750	345	141	585	289
Grp Sat Flow(s),veh/h/ln	1872	0	1610	1810	1900	1615	1810	1900	1738	1810	1900	1873
Q Serve(g_s), s	9.5	0.0	4.4	11.0	3.4	0.0	2.8	14.1	14.2	9.3	10.5	10.5
Cycle Q Clear(g_c), s	9.5	0.0	4.4	11.0	3.4	0.0	2.8	14.1	14.2	9.3	10.5	10.5
Prop In Lane	0.30		1.00	1.00		1.00	1.00		0.48	1.00		0.08
Lane Grp Cap(c), veh/h	194	0	167	218	229	195	148	1983	907	143	1973	972
V/C Ratio(X)	0.79	0.00	0.38	0.78	0.26	-0.02	0.30	0.38	0.38	0.98	0.30	0.30
Avail Cap(c_a), veh/h	468	0	403	452	475	404	148	1983	907	143	1973	972
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	52.5	0.0	50.2	51.2	47.9	0.0	51.9	17.1	17.1	55.2	16.4	16.4
Incr Delay (d2), s/veh	2.7	0.0	0.5	2.3	0.2	0.0	5.2	0.6	1.2	70.1	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	2.0	5.7	1.8	0.0	1.6	7.5	7.1	7.4	5.6	5.7
LnGrp Delay(d),s/veh	55.1	0.0	50.7	53.6	48.1	0.0	57.1	17.7	18.3	125.2	16.8	17.2
LnGrp LOS	E		D	D	D		E	B	B	F	B	B
Approach Vol, veh/h		215			227			1140			1015	
Approach Delay, s/veh		53.8			53.1			19.4			32.0	
Approach LOS		D			D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	68.1		17.9	14.3	67.8		20.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	9.5	29.5		30.0	9.8	29.2		30.0
Max Q Clear Time (g_c+I1), s	11.3	16.2		11.5	4.8	12.5		13.0
Green Ext Time (p_c), s	0.0	6.8		0.6	0.0	7.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	30.1
HCM 2010 LOS	C

Notes

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

APPENDIX 5.2:

E+P CONDITIONS WITH INDIAN STREET BRIDGE INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	333	36	351	1280	0	0	0	675	0	0	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5	4.0	5.5				5.6			4.0
Lane Util. Factor		*1.00	1.00	1.00	*1.00				1.00			1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	1.00	1.00	1.00				1.00			1.00
Flt Protected		1.00	1.00	1.00	1.00				1.00			1.00
Satd. Flow (prot)		3800	1900	1900	3800				1900			1900
Flt Permitted		1.00	1.00	1.00	1.00				1.00			1.00
Satd. Flow (perm)		3800	1900	1900	3800				1900			1900
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	351	38	369	1347	0	0	0	711	0	0	225
RTOR Reduction (vph)	0	0	24	0	0	0	0	0	541	0	0	98
Lane Group Flow (vph)	0	351	14	369	1347	0	0	0	170	0	0	127
Confl. Bikes (#/hr)									2			2
Turn Type		NA	Perm	Prot	NA				Prot			Prot
Protected Phases		2		1	6				3			7
Permitted Phases			2									
Actuated Green, G (s)		22.3	22.3	14.2	40.5				8.4			10.0
Effective Green, g (s)		22.3	22.3	14.2	40.5				8.4			10.0
Actuated g/C Ratio		0.37	0.37	0.24	0.68				0.14			0.17
Clearance Time (s)		5.5	5.5	4.0	5.5				5.6			4.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0				2.0			2.0
Lane Grp Cap (vph)		1412	706	449	2565				266			316
v/s Ratio Prot		0.09		c0.19	c0.35				c0.09			0.07
v/s Ratio Perm			0.01									
v/c Ratio		0.25	0.02	0.82	0.53				0.64			0.40
Uniform Delay, d1		13.0	11.9	21.7	4.9				24.4			22.3
Progression Factor		1.00	1.00	1.00	1.00				1.00			1.00
Incremental Delay, d2		0.4	0.1	11.0	0.8				3.7			0.3
Delay (s)		13.5	12.0	32.7	5.7				28.1			22.6
Level of Service		B	B	C	A				C			C
Approach Delay (s)		13.3			11.5			28.1			22.6	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

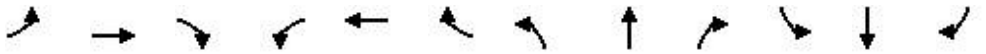
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	382	9	138	163	0	0	0	0	535	2	156
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	406	5	147	173	0				569	2	102
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	950	404	503	2165	0				626	2	560
Arrive On Green	0.00	0.25	0.25	0.56	1.00	0.00				0.35	0.35	0.35
Sat Flow, veh/h	0	3800	1615	1810	3800	0				1803	6	1615
Grp Volume(v), veh/h	0	406	5	147	173	0				571	0	102
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1615
Q Serve(g_s), s	0.0	10.8	0.3	5.2	0.0	0.0				36.1	0.0	5.3
Cycle Q Clear(g_c), s	0.0	10.8	0.3	5.2	0.0	0.0				36.1	0.0	5.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	950	404	503	2165	0				628	0	560
V/C Ratio(X)	0.00	0.43	0.01	0.29	0.08	0.00				0.91	0.00	0.18
Avail Cap(c_a), veh/h	0	950	404	503	2165	0				830	0	740
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.99	0.99	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	37.8	33.9	20.4	0.0	0.0				37.4	0.0	27.3
Incr Delay (d2), s/veh	0.0	1.4	0.1	0.1	0.1	0.0				11.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.8	0.1	2.5	0.0	0.0				20.1	0.0	2.4
LnGrp Delay(d),s/veh	0.0	39.2	33.9	20.5	0.1	0.0				48.8	0.0	27.5
LnGrp LOS		D	C	C	A					D		C
Approach Vol, veh/h		411			320						673	
Approach Delay, s/veh		39.1			9.5						45.6	
Approach LOS		D			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	38.4	35.0		46.6		73.4		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	20.5	* 30		55.0		55.0		
Max Q Clear Time (g_c+I1), s	7.2	12.8		38.1		2.0		
Green Ext Time (p_c), s	0.6	1.4		3.5		0.8		

Intersection Summary	
HCM 2010 Ctrl Delay	35.5
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	24	947	37	0	1552	196	388	278	5	34	0	43
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		0.99	1.00		0.99
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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	24	966	32	0	1584	156	396	284	5	35	0	39
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	1	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	159	2048	68	0	1909	186	484	533	9	285	0	456
Arrive On Green	0.56	0.56	0.56	0.00	0.56	0.56	0.29	0.29	0.29	0.29	0.00	0.29
Sat Flow, veh/h	282	3657	121	0	3409	332	1390	1861	33	1107	0	1593
Grp Volume(v), veh/h	24	502	496	0	875	865	396	0	289	35	0	39
Grp Sat Flow(s),veh/h/ln	282	1900	1879	0	1900	1841	1390	0	1894	1107	0	1593
Q Serve(g_s), s	5.0	10.3	10.3	0.0	24.4	25.3	17.4	0.0	8.4	1.8	0.0	1.2
Cycle Q Clear(g_c), s	30.3	10.3	10.3	0.0	24.4	25.3	18.6	0.0	8.4	10.1	0.0	1.2
Prop In Lane	1.00		0.06	0.00		0.18	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	159	1064	1052	0	1064	1031	484	0	542	285	0	456
V/C Ratio(X)	0.15	0.47	0.47	0.00	0.82	0.84	0.82	0.00	0.53	0.12	0.00	0.09
Avail Cap(c_a), veh/h	159	1064	1052	0	1064	1031	484	0	542	285	0	456
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.5	8.6	8.6	0.0	11.7	11.9	24.3	0.0	19.5	23.8	0.0	17.0
Incr Delay (d2), s/veh	2.0	1.5	1.5	0.0	7.2	8.2	14.3	0.0	3.7	0.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.7	5.7	0.0	14.8	15.1	9.0	0.0	4.9	0.6	0.0	0.6
LnGrp Delay(d),s/veh	26.5	10.1	10.1	0.0	18.9	20.0	38.6	0.0	23.3	24.7	0.0	17.3
LnGrp LOS	C	B	B		B	C	D		C	C		B
Approach Vol, veh/h		1022			1740			685			74	
Approach Delay, s/veh		10.4			19.4			32.1			20.8	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.4		23.6		41.4		23.6
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		36.4		18.6		36.4		18.6
Max Q Clear Time (g_c+I1), s		32.3		12.1		27.3		20.6
Green Ext Time (p_c), s		3.5		1.1		7.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	19.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	203	713	0	0	297	362	4	0	177	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	221	775	0	0	323	358	4	0	106			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	247	2755	0	0	2126	904	347	0	310			
Arrive On Green	0.27	1.00	0.00	0.00	0.56	0.56	0.19	0.00	0.19			
Sat Flow, veh/h	1810	3800	0	0	3800	1615	1809	0	1615			
Grp Volume(v), veh/h	221	775	0	0	323	358	4	0	106			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1810	0	1615			
Q Serve(g_s), s	14.1	0.0	0.0	0.0	4.9	15.1	0.2	0.0	6.8			
Cycle Q Clear(g_c), s	14.1	0.0	0.0	0.0	4.9	15.1	0.2	0.0	6.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	247	2755	0	0	2126	904	347	0	310			
V/C Ratio(X)	0.90	0.28	0.00	0.00	0.15	0.40	0.01	0.00	0.34			
Avail Cap(c_a), veh/h	550	2755	0	0	2126	904	347	0	310			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.96	0.96	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.8	0.0	0.0	0.0	12.7	15.0	39.3	0.0	42.0			
Incr Delay (d2), s/veh	4.4	0.2	0.0	0.0	0.2	1.3	0.1	0.0	3.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.3	0.1	0.0	0.0	2.6	7.0	0.1	0.0	3.3			
LnGrp Delay(d),s/veh	47.3	0.2	0.0	0.0	12.9	16.3	39.4	0.0	45.0			
LnGrp LOS	D	A			B	B	D		D			
Approach Vol, veh/h		996			681			110				
Approach Delay, s/veh		10.7			14.7			44.8				
Approach LOS		B			B			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		92.0			19.9	72.1		28.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		87.0			36.5	47.0		23.0
Max Q Clear Time (g_c+I1), s		2.0			16.1	17.1		8.8
Green Ext Time (p_c), s		5.8			0.3	5.6		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	14.3
HCM 2010 LOS	B

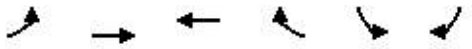
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	165	1401	231	104	1506	81	51	222	21	77	116	104
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	174	1475	0	109	1585	77	54	234	1	81	122	56
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	158	2448	694	119	2324	659	445	465	2	152	159	275
Arrive On Green	0.09	0.43	0.00	0.07	0.41	0.41	0.25	0.25	0.25	0.08	0.08	0.08
Sat Flow, veh/h	1810	5700	1615	1810	5700	1615	1810	1890	8	1810	1900	1591
Grp Volume(v), veh/h	174	1475	0	109	1585	77	54	0	235	81	122	56
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1898	1810	1900	1591
Q Serve(g_s), s	10.5	23.9	0.0	7.2	27.4	3.6	2.8	0.0	12.8	5.2	7.5	3.6
Cycle Q Clear(g_c), s	10.5	23.9	0.0	7.2	27.4	3.6	2.8	0.0	12.8	5.2	7.5	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	158	2448	694	119	2324	659	445	0	467	152	159	275
V/C Ratio(X)	1.10	0.60	0.00	0.91	0.68	0.12	0.12	0.00	0.50	0.53	0.77	0.20
Avail Cap(c_a), veh/h	158	2448	694	119	2324	659	445	0	467	445	467	533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	26.3	0.0	55.7	29.1	22.1	35.2	0.0	38.9	52.7	53.8	42.7
Incr Delay (d2), s/veh	100.5	1.1	0.0	55.8	0.7	0.0	0.6	0.0	3.8	1.1	2.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	12.8	0.0	5.4	14.5	1.6	1.5	0.0	7.2	2.6	4.1	1.6
LnGrp Delay(d),s/veh	155.2	27.5	0.0	111.5	29.8	22.1	35.7	0.0	42.8	53.8	56.7	42.8
LnGrp LOS	F	C		F	C	C	D		D	D	E	D
Approach Vol, veh/h		1649			1771			289			259	
Approach Delay, s/veh		40.9			34.5			41.5			52.8	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	57.0		15.6	15.0	54.4		35.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	7.9	32.1		29.5	10.5	29.5		29.5
Max Q Clear Time (g_c+I1), s	9.2	25.9		9.5	12.5	29.4		14.8
Green Ext Time (p_c), s	0.0	5.4		0.5	0.0	0.1		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	38.9
HCM 2010 LOS	D

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	174	1194	1694	156	106	68
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	191	1312	1862	161	116	19
Adj No. of Lanes	1	2	3	1	2	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	215	1995	1995	553	1221	737
Arrive On Green	0.12	0.52	0.35	0.35	0.34	0.34
Sat Flow, veh/h	1810	3800	5700	1579	3619	1615
Grp Volume(v), veh/h	191	1312	1862	161	116	19
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1579	1810	1615
Q Serve(g_s), s	8.3	20.0	25.2	5.9	1.8	0.5
Cycle Q Clear(g_c), s	8.3	20.0	25.2	5.9	1.8	0.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	215	1995	1995	553	1221	737
V/C Ratio(X)	0.89	0.66	0.93	0.29	0.09	0.03
Avail Cap(c_a), veh/h	215	1995	1995	553	1221	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.34	0.34	1.00	1.00
Uniform Delay (d), s/veh	34.7	13.8	25.1	18.8	18.1	12.0
Incr Delay (d2), s/veh	32.4	1.7	3.8	0.5	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	10.9	13.8	2.6	0.9	0.7
LnGrp Delay(d),s/veh	67.1	15.5	28.9	19.3	18.3	12.0
LnGrp LOS	E	B	C	B	B	B
Approach Vol, veh/h		1503	2023		135	
Approach Delay, s/veh		22.1	28.2		17.4	
Approach LOS		C	C		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.5		32.5	14.0	33.5		
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		
Max Green Setting (Gmax), s		42.0		27.0	9.5	28.0		
Max Q Clear Time (g_c+I1), s		22.0		3.8	10.3	27.2		
Green Ext Time (p_c), s		15.1		0.2	0.0	0.7		

Intersection Summary	
HCM 2010 Ctrl Delay	25.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	56	834	619	35	8	40
Conflicting Peds, #/hr	0	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	62	927	688	39	9	44

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	688	0	-	0	1276	344
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	588	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	916	-	-	-	*349	658
Stage 1	-	-	-	-	*466	-
Stage 2	-	-	-	-	*708	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	916	-	-	-	*300	658
Mov Cap-2 Maneuver	-	-	-	-	*300	-
Stage 1	-	-	-	-	*466	-
Stage 2	-	-	-	-	*608	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	916	-	-	-	549
HCM Lane V/C Ratio	0.068	-	-	-	0.097
HCM Control Delay (s)	9.2	0.6	-	-	12.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	99	1042	177	15	1649	69	138	53	10	60	53	54
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		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	106	1120	0	16	1773	72	148	57	8	65	57	23
Adj No. of Lanes	1	2	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	788	2984	1268	27	1920	78	170	1041	143	84	1207	1209
Arrive On Green	0.44	0.79	0.00	0.01	0.35	0.35	0.05	0.32	0.32	0.05	0.32	0.32
Sat Flow, veh/h	1810	3800	1615	1810	5440	221	3619	3271	449	1810	3800	1593
Grp Volume(v), veh/h	106	1120	0	16	1238	607	148	33	32	65	57	23
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1861	1810	1900	1820	1810	1900	1593
Q Serve(g_s), s	3.0	7.6	0.0	0.7	26.6	26.6	3.5	1.0	1.1	3.0	0.9	0.1
Cycle Q Clear(g_c), s	3.0	7.6	0.0	0.7	26.6	26.6	3.5	1.0	1.1	3.0	0.9	0.1
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	788	2984	1268	27	1341	657	170	605	579	84	1207	1209
V/C Ratio(X)	0.13	0.38	0.00	0.60	0.92	0.92	0.87	0.05	0.06	0.78	0.05	0.02
Avail Cap(c_a), veh/h	788	2984	1268	85	1341	657	170	605	579	85	1207	1209
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)	0.76	0.76	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.4	2.8	0.0	41.6	26.4	26.4	40.2	20.1	20.1	40.1	20.1	8.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.7	1.4	2.8	33.8	0.2	0.2	31.8	0.1	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	1.5	4.0	0.0	0.4	14.2	14.2	2.5	0.6	0.6	2.3	0.5	0.2
LnGrp Delay(d),s/veh	14.4	3.1	0.0	42.3	27.8	29.2	74.1	20.3	20.3	71.9	20.2	8.0
LnGrp LOS	B	A		D	C	C	E	C	C	E	C	A
Approach Vol, veh/h		1226			1861			213			145	
Approach Delay, s/veh		4.0			28.4			57.6			41.4	
Approach LOS		A			C			E			D	

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	5.8	73.2	8.5	32.5	43.5	35.5	8.4	32.6
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	30.0	4.0	27.0	4.0	* 30	4.0	27.0
Max Q Clear Time (g_c+I1), s	2.7	9.6	5.5	2.9	5.0	28.6	5.0	3.1
Green Ext Time (p_c), s	0.0	4.8	0.0	0.4	0.0	1.0	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	22.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	799	20	3	565	2	110	0	23	0	2	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	6	841	21	3	595	2	116	0	24	0	2	6
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	11	890	756	6	880	3	481	8	84	0	636	541
Arrive On Green	0.01	0.47	0.47	0.00	0.47	0.47	0.33	0.00	0.33	0.00	0.33	0.33
Sat Flow, veh/h	1810	1900	1615	1810	1893	6	1190	24	251	0	1900	1615
Grp Volume(v), veh/h	6	841	21	3	0	597	140	0	0	0	2	6
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1899	1464	0	0	0	1900	1615
Q Serve(g_s), s	0.3	33.8	0.6	0.1	0.0	19.6	5.1	0.0	0.0	0.0	0.1	0.2
Cycle Q Clear(g_c), s	0.3	33.8	0.6	0.1	0.0	19.6	5.5	0.0	0.0	0.0	0.1	0.2
Prop In Lane	1.00		1.00	1.00		0.00	0.83		0.17	0.00		1.00
Lane Grp Cap(c), veh/h	11	890	756	6	0	883	573	0	0	0	636	541
V/C Ratio(X)	0.53	0.95	0.03	0.51	0.00	0.68	0.24	0.00	0.00	0.00	0.00	0.01
Avail Cap(c_a), veh/h	90	914	777	90	0	914	573	0	0	0	636	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	20.3	11.5	39.8	0.0	16.7	19.5	0.0	0.0	0.0	17.7	17.8
Incr Delay (d2), s/veh	13.6	17.5	0.0	23.6	0.0	1.5	1.0	0.0	0.0	0.0	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	0.2	21.8	0.3	0.1	0.0	10.5	2.4	0.0	0.0	0.0	0.0	0.1
LnGrp Delay(d),s/veh	53.2	37.7	11.5	63.4	0.0	18.2	20.5	0.0	0.0	0.0	17.7	17.8
LnGrp LOS	D	D	B	E		B	C				B	B
Approach Vol, veh/h		868			600			140			8	
Approach Delay, s/veh		37.2			18.4			20.5			17.8	
Approach LOS		D			B			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		32.3	4.8	43.0		32.3	5.0	42.7
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	38.5		22.0	4.0	38.5
Max Q Clear Time (g_c+I1), s		7.5	2.1	35.8		2.2	2.3	21.6
Green Ext Time (p_c), s		0.4	0.0	1.7		0.5	0.0	5.8

Intersection Summary	
HCM 2010 Ctrl Delay	28.7
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	89	524	477	51	1011	96	725	381	20	46	305	47
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	97	570	441	55	1099	95	788	414	20	50	332	35
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	103	2465	1046	71	2177	188	695	1496	72	64	846	88
Arrive On Green	0.06	0.65	0.65	0.04	0.63	0.63	0.19	0.42	0.42	0.04	0.25	0.25
Sat Flow, veh/h	1810	3800	1613	1810	3449	298	3619	3593	173	1810	3383	354
Grp Volume(v), veh/h	97	570	441	55	605	589	788	218	216	50	185	182
Grp Sat Flow(s),veh/h/ln	1810	1900	1613	1810	1900	1847	1810	1900	1866	1810	1900	1837
Q Serve(g_s), s	5.3	6.2	14.6	3.0	17.2	17.3	19.2	7.6	7.6	2.7	8.1	8.2
Cycle Q Clear(g_c), s	5.3	6.2	14.6	3.0	17.2	17.3	19.2	7.6	7.6	2.7	8.1	8.2
Prop In Lane	1.00		1.00	1.00		0.16	1.00		0.09	1.00		0.19
Lane Grp Cap(c), veh/h	103	2465	1046	71	1199	1166	695	791	777	64	475	459
V/C Ratio(X)	0.94	0.23	0.42	0.77	0.50	0.51	1.13	0.28	0.28	0.78	0.39	0.40
Avail Cap(c_a), veh/h	103	2465	1046	72	1199	1166	695	791	777	121	475	459
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)	0.67	0.67	0.67	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	7.3	10.4	47.6	10.0	10.0	40.4	19.2	19.3	47.8	31.2	31.2
Incr Delay (d2), s/veh	54.4	0.1	0.8	35.9	1.5	1.6	76.4	0.8	0.8	7.2	2.4	2.5
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	4.2	3.3	6.7	2.2	9.4	9.2	16.9	4.1	4.1	1.5	4.6	4.5
LnGrp Delay(d),s/veh	101.4	7.4	11.3	83.5	11.5	11.6	116.8	20.0	20.1	55.0	33.6	33.8
LnGrp LOS	F	A	B	F	B	B	F	C	C	E	C	C
Approach Vol, veh/h		1108			1249			1222			417	
Approach Delay, s/veh		17.2			14.7			82.4			36.2	
Approach LOS		B			B			F			D	

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	8.4	71.4	24.7	30.5	10.2	69.6	8.1	47.1
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	31.8	19.2	* 25	5.7	30.1	6.7	37.5
Max Q Clear Time (g_c+I1), s	15.3	16.6	21.2	10.2	7.3	19.3	4.7	9.6
Green Ext Time (p_c), s	0.0	7.2	0.0	1.0	0.0	6.0	0.0	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	38.3
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	43	62	36	108	257	68	764	49	130	633	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.95	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	47	22	39	117	118	74	830	38	141	688	10
Adj No. of Lanes	1	1	1	1	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	15	186	158	52	225	189	639	1211	487	551	1026	430
Arrive On Green	0.01	0.10	0.10	0.03	0.12	0.12	0.35	0.32	0.32	0.30	0.27	0.27
Sat Flow, veh/h	1810	1900	1615	1810	1900	1595	1810	3800	1529	1810	3800	1593
Grp Volume(v), veh/h	8	47	22	39	117	118	74	830	38	141	688	10
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1595	1810	1900	1529	1810	1900	1593
Q Serve(g_s), s	0.4	1.8	0.5	1.7	4.6	5.6	2.2	15.2	1.1	4.7	12.9	0.3
Cycle Q Clear(g_c), s	0.4	1.8	0.5	1.7	4.6	5.6	2.2	15.2	1.1	4.7	12.9	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	15	186	158	52	225	189	639	1211	487	551	1026	430
V/C Ratio(X)	0.54	0.25	0.14	0.74	0.52	0.62	0.12	0.69	0.08	0.26	0.67	0.02
Avail Cap(c_a), veh/h	90	589	501	118	618	518	639	1211	487	551	1026	430
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	39.5	33.4	7.3	38.5	33.1	33.6	17.4	23.8	11.4	21.0	26.0	14.3
Incr Delay (d2), s/veh	11.0	0.3	0.1	7.5	0.7	1.3	0.0	3.2	0.3	0.1	3.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.0	0.2	1.0	2.5	2.6	1.1	8.5	0.5	2.4	7.2	0.1
LnGrp Delay(d),s/veh	50.6	33.7	7.4	46.0	33.8	34.8	17.5	26.9	11.7	21.1	29.1	14.4
LnGrp LOS	D	C	A	D	C	C	B	C	B	C	C	B
Approach Vol, veh/h		77			274			942			839	
Approach Delay, s/veh		27.9			36.0			25.6			27.5	
Approach LOS		C			D			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	28.9	31.0	6.8	13.3	32.8	27.1	5.2	15.0
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.5	25.5	5.2	24.8	8.4	21.6	4.0	26.0
Max Q Clear Time (g_c+I1), s	6.7	17.2	3.7	3.8	4.2	14.9	2.4	7.6
Green Ext Time (p_c), s	0.0	2.3	0.0	0.9	0.1	1.6	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	27.8
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	3	92	612	2	55	652
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	0	-	65	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	97	644	2	58	686

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1446	644	0	0	644	0
Stage 1	644	-	-	-	-	-
Stage 2	802	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	147	476	-	-	951	-
Stage 1	527	-	-	-	-	-
Stage 2	445	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	138	476	-	-	951	-
Mov Cap-2 Maneuver	138	-	-	-	-	-
Stage 1	527	-	-	-	-	-
Stage 2	418	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	138	476	951	-
HCM Lane V/C Ratio	-	-	0.023	0.203	0.061	-
HCM Control Delay (s)	-	-	31.7	14.5	9	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.8	0.2	-

Intersection	
Intersection Delay, s/veh	25.7
Intersection LOS	D

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Vol, veh/h	0	45	383	0	232	36	0	200	452
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	48	407	0	247	38	0	213	481
Number of Lanes	0	1	1	0	1	0	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	22.8	17.2	31.2
HCM LOS	C	C	D

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	87%	0%	0%	0%	100%
Vol Right, %	13%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	268	45	383	200	452
LT Vol	0	45	0	200	0
Through Vol	232	0	0	0	452
RT Vol	36	0	383	0	0
Lane Flow Rate	285	48	407	213	481
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.53	0.101	0.722	0.415	0.869
Departure Headway (Hd)	6.688	7.603	6.379	7.014	6.504
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	536	469	562	511	553
Service Time	4.777	5.39	4.165	4.799	4.289
HCM Lane V/C Ratio	0.532	0.102	0.724	0.417	0.87
HCM Control Delay	17.2	11.3	24.2	14.7	38.5
HCM Lane LOS	C	B	C	B	E
HCM 95th-tile Q	3.1	0.3	6	2	9.6



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	9	80	230	7	158	338
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	99	284	9	195	417
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	144	129	812	690	491	1450
Arrive On Green	0.08	0.08	0.43	0.43	0.27	0.76
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	11	99	284	9	195	417
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.4	4.2	7.0	0.2	6.2	4.7
Cycle Q Clear(g_c), s	0.4	4.2	7.0	0.2	6.2	4.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	144	129	812	690	491	1450
V/C Ratio(X)	0.08	0.77	0.35	0.01	0.40	0.29
Avail Cap(c_a), veh/h	439	392	812	690	491	1450
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	29.8	31.6	13.5	11.5	20.8	2.5
Incr Delay (d2), s/veh	0.1	3.6	1.2	0.0	2.4	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.0	3.9	0.1	3.4	2.5
LnGrp Delay(d),s/veh	29.9	35.2	14.7	11.6	23.2	3.0
LnGrp LOS	C	D	B	B	C	A
Approach Vol, veh/h	110		293			612
Approach Delay, s/veh	34.7		14.6			9.5
Approach LOS	C		B			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.5	35.4				58.9		11.1
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	19.0	18.5				42.0		17.0
Max Q Clear Time (g_c+I1), s	8.2	9.0				6.7		6.2
Green Ext Time (p_c), s	0.2	1.7				2.3		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	13.7
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	11	6	231	51	28	319
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	7	251	55	30	347

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	687	153	0	0	307	0
Stage 1	279	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	400	872	-	-	1265	-
Stage 1	749	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	391	872	-	-	1265	-
Mov Cap-2 Maneuver	564	-	-	-	-	-
Stage 1	749	-	-	-	-	-
Stage 2	660	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	644	1265	-
HCM Lane V/C Ratio	-	-	0.029	0.024	-
HCM Control Delay (s)	-	-	10.8	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	12	6	276	54	24	306
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	13	7	300	59	26	333

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	714	179	0	0	359	0
Stage 1	329	-	-	-	-	-
Stage 2	385	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	385	839	-	-	1211	-
Stage 1	707	-	-	-	-	-
Stage 2	692	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	377	839	-	-	1211	-
Mov Cap-2 Maneuver	557	-	-	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	677	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	627	1211	-
HCM Lane V/C Ratio	-	-	0.031	0.022	-
HCM Control Delay (s)	-	-	10.9	8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	10	10	284	50	48	253
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	0	-	0	140	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	14	400	70	68	356

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	892	200	0	0	400	0
Stage 1	400	-	-	-	-	-
Stage 2	492	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	300	814	-	-	1170	-
Stage 1	652	-	-	-	-	-
Stage 2	619	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	283	814	-	-	1170	-
Mov Cap-2 Maneuver	477	-	-	-	-	-
Stage 1	652	-	-	-	-	-
Stage 2	583	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	477	814	1170	-
HCM Lane V/C Ratio	-	-	0.03	0.017	0.058	-
HCM Control Delay (s)	-	-	12.8	9.5	8.3	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	4	4	7	5	290	1	39	5	110	88	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	5	2	9	7	320	1	52	7	147	117	8
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	6	95	81	308	412	350	2	618	525	443	1100	935
Arrive On Green	0.00	0.05	0.05	0.17	0.22	0.22	0.00	0.32	0.32	0.25	0.58	0.58
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Grp Volume(v), veh/h	3	5	2	9	7	320	1	52	7	147	117	8
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	0.2	0.3	0.1	0.4	0.3	19.4	0.1	1.9	0.3	6.7	2.8	0.2
Cycle Q Clear(g_c), s	0.2	0.3	0.1	0.4	0.3	19.4	0.1	1.9	0.3	6.7	2.8	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	6	95	81	308	412	350	2	618	525	443	1100	935
V/C Ratio(X)	0.52	0.05	0.02	0.03	0.02	0.91	0.50	0.08	0.01	0.33	0.11	0.01
Avail Cap(c_a), veh/h	100	551	468	308	523	444	81	618	525	443	1100	935
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	0.56	0.56	0.56	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	45.2	36.1	34.6	30.8	38.3	49.9	23.4	22.9	31.0	9.4	5.1
Incr Delay (d2), s/veh	24.3	0.1	0.0	0.0	0.0	11.5	58.7	0.3	0.0	0.2	0.2	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	0.1	0.1	0.0	0.2	0.2	9.8	0.1	1.0	0.1	3.4	1.5	0.1
LnGrp Delay(d),s/veh	74.1	45.3	36.1	34.6	30.8	49.8	108.6	23.7	22.9	31.2	9.6	5.1
LnGrp LOS	E	D	D	C	C	D	F	C	C	C	A	A
Approach Vol, veh/h		10			336			60			272	
Approach Delay, s/veh		52.1			49.0			25.0			21.1	
Approach LOS		D			D			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	30.0	38.0	21.5	10.5	4.6	63.4	4.8	27.2
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	24.5	* 33	4.0	29.0	4.5	42.5	5.5	27.5
Max Q Clear Time (g_c+I1), s	12.7	3.9	2.4	2.3	2.1	4.8	2.2	21.4
Green Ext Time (p_c), s	0.3	0.1	0.0	0.0	0.0	0.5	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	35.7
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	7.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	40	0	2	91	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	43	0	2	97	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	196	1	0	0	2	0
Stage 1	1	-	-	-	-	-
Stage 2	195	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	797	1090	-	-	1634	-
Stage 1	1028	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	750	1090	-	-	1634	-
Mov Cap-2 Maneuver	752	-	-	-	-	-
Stage 1	1028	-	-	-	-	-
Stage 2	793	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	1090	1634	-
HCM Lane V/C Ratio	-	-	-	0.039	0.059	-
HCM Control Delay (s)	-	-	0	8.4	7.3	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0.2	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	595	1	0	421	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	744	1	0	526	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	745	0	1270	744
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	526	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	808	-	187	507
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	646	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	808	-	187	507
Mov Cap-2 Maneuver	-	-	-	-	187	-
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	646	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	507	-	-	808	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	12.1	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	23	136	0	0	0	76	3	6	3	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	0	200	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	28	166	0	0	0	93	4	7	4	0	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	204	204	8	301	212	4	16	0	0	4	0	0
Stage 1	15	15	-	189	189	-	-	-	-	-	-	-
Stage 2	189	189	-	112	23	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	758	696	1080	655	689	1085	1615	-	-	1631	-	-
Stage 1	1010	887	-	817	748	-	-	-	-	-	-	-
Stage 2	817	748	-	898	880	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	723	654	1080	512	648	1085	1615	-	-	1631	-	-
Mov Cap-2 Maneuver	726	664	-	591	663	-	-	-	-	-	-	-
Stage 1	952	885	-	770	705	-	-	-	-	-	-	-
Stage 2	770	705	-	734	878	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	0	6.6	1.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1615	-	-	979	-	1631	-	-
HCM Lane V/C Ratio	0.057	-	-	0.204	-	0.002	-	-
HCM Control Delay (s)	7.4	-	-	9.6	0	7.2	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.8	-	0	-	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	4	4	0	0	22	19	68	0	0	12	5
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	4	4	0	0	24	21	74	0	0	13	5
Number of Lanes	0	0	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	8.2	7.7	7.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	50%	100%	0%	100%	0%
Vol Thru, %	71%	50%	0%	22%	0%	74%
Vol Right, %	29%	0%	0%	78%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	8	22	87	62	73
LT Vol	0	4	22	0	62	0
Through Vol	12	4	0	19	0	54
RT Vol	5	0	0	68	0	19
Lane Flow Rate	18	9	24	95	67	79
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.025	0.012	0.036	0.115	0.098	0.1
Departure Headway (Hd)	4.792	5.145	5.426	4.376	5.328	4.544
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	750	699	664	824	677	776
Service Time	2.802	3.151	3.128	2.078	3.028	2.344
HCM Lane V/C Ratio	0.024	0.013	0.036	0.115	0.099	0.102
HCM Control Delay	7.9	8.2	8.3	7.6	8.6	7.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0	0.1	0.4	0.3	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	62	54	19
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	67	59	21
Number of Lanes	0	1	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.2
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	46	25	13	104	6	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	50	27	14	113	7	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	77	0	205	64
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1535	-	788	1006
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	891	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1535	-	781	1006
Mov Cap-2 Maneuver	-	-	-	-	822	-
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	883	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	875	-	-	1535	-
HCM Lane V/C Ratio	0.011	-	-	0.009	-
HCM Control Delay (s)	9.2	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	46	3	19	116	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	50	3	21	126	1	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	53	0	219	52
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	167	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1566	-	774	1021
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	867	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1566	-	764	1021
Mov Cap-2 Maneuver	-	-	-	-	802	-
Stage 1	-	-	-	-	976	-
Stage 2	-	-	-	-	855	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	968	-	-	1566	-
HCM Lane V/C Ratio	0.006	-	-	0.013	-
HCM Control Delay (s)	8.7	-	-	7.3	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	24	25	16	130	6	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	26	27	17	141	7	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	53	0	216	40
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	176	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1566	-	777	1037
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1566	-	769	1037
Mov Cap-2 Maneuver	-	-	-	-	800	-
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	850	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	866	-	-	1566	-
HCM Lane V/C Ratio	0.011	-	-	0.011	-
HCM Control Delay (s)	9.2	-	-	7.3	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	8	16	2	0	2	85	188	0	24	99	12
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	9	19	2	0	2	100	221	0	28	116	14
Number of Lanes	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	3
HCM Control Delay	9.8	10.7	10.5
HCM LOS	A	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	89%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	11%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	99	12	8	18	2	85	188	192	79	33
LT Vol	24	0	0	8	0	2	0	0	192	0	0
Through Vol	0	99	0	0	16	0	85	0	0	79	0
RT Vol	0	0	12	0	2	0	0	188	0	0	33
Lane Flow Rate	28	116	14	9	21	2	100	221	226	93	39
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.054	0.207	0.022	0.019	0.039	0.004	0.171	0.335	0.406	0.154	0.057
Departure Headway (Hd)	6.902	6.399	5.694	7.227	6.649	6.646	6.146	5.446	6.471	5.968	5.264
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	519	560	628	495	538	539	584	659	558	601	680
Service Time	4.646	4.143	3.437	4.976	4.398	4.383	3.883	3.184	4.205	3.702	2.998
HCM Lane V/C Ratio	0.054	0.207	0.022	0.018	0.039	0.004	0.171	0.335	0.405	0.155	0.057
HCM Control Delay	10	10.8	8.6	10.1	9.7	9.4	10.2	10.9	13.6	9.8	8.3
HCM Lane LOS	A	B	A	B	A	A	B	B	B	A	A
HCM 95th-tile Q	0.2	0.8	0.1	0.1	0.1	0	0.6	1.5	2	0.5	0.2

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	17	77	10	2	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	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	18	84	11	2	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	180	2	2	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	178	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	814	1088	1634	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	858	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	772	1088	1634	-	-	-
Mov Cap-2 Maneuver	772	-	-	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	814	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	6.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1634	-	1088	-	-
HCM Lane V/C Ratio	0.051	-	0.017	-	-
HCM Control Delay (s)	7.3	-	8.4	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	59	70	54	165	5	431	97	91	3	24	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.94	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	81	84	74	226	4	590	133	93	4	33	0
Adj No. of Lanes	1	1	1	1	2	1	2	1	1	1	2	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	14	157	859	101	526	211	1627	879	747	406	902	0
Arrive On Green	0.01	0.08	0.08	0.06	0.14	0.14	0.45	0.46	0.46	0.22	0.24	0.00
Sat Flow, veh/h	1810	1900	1615	1810	3800	1523	3619	1900	1615	1810	3800	0
Grp Volume(v), veh/h	8	81	84	74	226	4	590	133	93	4	33	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1523	1810	1900	1615	1810	1900	0
Q Serve(g_s), s	0.5	4.9	0.0	4.8	6.5	0.2	12.9	4.9	3.9	0.2	0.8	0.0
Cycle Q Clear(g_c), s	0.5	4.9	0.0	4.8	6.5	0.2	12.9	4.9	3.9	0.2	0.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	14	157	859	101	526	211	1627	879	747	406	903	0
V/C Ratio(X)	0.57	0.52	0.10	0.74	0.43	0.02	0.36	0.15	0.12	0.01	0.04	0.00
Avail Cap(c_a), veh/h	68	435	1096	188	1124	451	1627	879	747	406	903	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)	0.86	0.86	0.86	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	0.00
Uniform Delay (d), s/veh	59.3	52.8	13.9	55.8	47.3	18.4	21.7	18.6	18.4	36.2	35.2	0.0
Incr Delay (d2), s/veh	10.9	0.8	0.0	3.9	0.2	0.0	0.0	0.4	0.3	0.0	0.1	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	0.3	2.6	1.4	2.5	3.4	0.1	6.4	2.6	1.8	0.1	0.4	0.0
LnGrp Delay(d),s/veh	70.2	53.6	13.9	59.7	47.6	18.5	21.8	19.0	18.7	36.2	35.3	0.0
LnGrp LOS	E	D	B	E	D	B	C	B	B	D	D	
Approach Vol, veh/h		173			304			816			37	
Approach Delay, s/veh		35.1			50.1			21.0			35.4	
Approach LOS		D			D			C			D	

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	31.4	61.0	12.2	15.4	58.4	34.0	5.4	22.1
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.5	55.5	12.5	* 28	31.5	28.5	4.5	35.5
Max Q Clear Time (g_c+I1), s	2.2	6.9	6.8	6.9	14.9	2.8	2.5	8.5
Green Ext Time (p_c), s	0.4	0.5	0.5	0.3	1.0	0.1	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	29.9
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	9	14	137	42	22	17	47	586	28	6	121	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	17	108	51	27	19	57	715	32	7	148	1
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	19	104	89	66	153	130	649	2450	110	13	1194	8
Arrive On Green	0.01	0.05	0.05	0.04	0.08	0.08	0.36	0.68	0.68	0.01	0.32	0.32
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3606	161	1810	3770	25
Grp Volume(v), veh/h	11	17	108	51	27	19	57	377	370	7	75	74
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1868	1810	1900	1895
Q Serve(g_s), s	0.5	0.8	2.4	2.5	1.2	1.0	1.9	7.1	7.1	0.3	2.5	2.5
Cycle Q Clear(g_c), s	0.5	0.8	2.4	2.5	1.2	1.0	1.9	7.1	7.1	0.3	2.5	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		0.01
Lane Grp Cap(c), veh/h	19	104	89	66	153	130	649	1291	1269	13	602	600
V/C Ratio(X)	0.57	0.16	1.22	0.78	0.18	0.15	0.09	0.29	0.29	0.54	0.12	0.12
Avail Cap(c_a), veh/h	90	538	458	151	602	511	649	1291	1269	90	602	600
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98
Uniform Delay (d), s/veh	44.3	40.6	10.3	43.0	38.6	38.5	19.1	5.8	5.8	44.5	21.9	21.9
Incr Delay (d2), s/veh	9.4	0.3	105.9	7.2	0.2	0.2	0.0	0.6	0.6	12.2	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	3.7	1.4	0.6	0.4	0.9	3.9	3.8	0.2	1.4	1.4
LnGrp Delay(d),s/veh	53.7	40.8	116.1	50.2	38.8	38.7	19.1	6.3	6.4	56.8	22.3	22.3
LnGrp LOS	D	D	F	D	D	D	B	A	A	E	C	C
Approach Vol, veh/h		136			97			804			156	
Approach Delay, s/veh		101.7			44.8			7.3			23.8	
Approach LOS		F			D			A			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	5.1	66.7	7.8	10.4	37.8	34.0	5.5	12.7
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.5	32.5	7.5	25.5	8.5	* 29	4.5	28.5
Max Q Clear Time (g_c+I1), s	2.3	9.1	4.5	4.4	3.9	4.5	2.5	3.2
Green Ext Time (p_c), s	0.0	2.5	0.0	0.3	1.0	0.4	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	23.2
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	476	206	71	5	245	15	103	255	25	9	65	198
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	506	219	59	5	261	14	110	271	23	10	69	144
Adj No. of Lanes	1	1	1	1	2	0	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	752	1450	1232	9	1222	65	152	1403	596	35	640	544
Arrive On Green	0.42	0.76	0.76	0.01	0.34	0.34	0.04	0.37	0.37	0.01	0.34	0.34
Sat Flow, veh/h	1810	1900	1614	1810	3573	191	3619	3800	1615	3619	1900	1615
Grp Volume(v), veh/h	506	219	59	5	138	137	110	271	23	10	69	144
Grp Sat Flow(s),veh/h/ln	1810	1900	1614	1810	1900	1863	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	21.5	2.9	0.9	0.3	4.9	5.0	2.9	4.6	0.9	0.3	2.4	6.2
Cycle Q Clear(g_c), s	21.5	2.9	0.9	0.3	4.9	5.0	2.9	4.6	0.9	0.3	2.4	6.2
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	752	1450	1232	9	650	638	152	1403	596	35	640	544
V/C Ratio(X)	0.67	0.15	0.05	0.53	0.21	0.21	0.72	0.19	0.04	0.28	0.11	0.26
Avail Cap(c_a), veh/h	752	1450	1232	76	650	638	152	1403	596	152	640	544
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	22.5	3.0	2.8	47.1	22.2	22.2	45.0	20.4	19.2	46.7	21.7	22.9
Incr Delay (d2), s/veh	1.9	0.2	0.1	16.1	0.7	0.8	13.5	0.3	0.1	1.6	0.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	1.6	0.4	0.2	2.7	2.7	1.7	2.5	0.4	0.1	1.3	2.9
LnGrp Delay(d),s/veh	24.4	3.2	2.8	63.3	22.9	23.0	58.5	20.7	19.3	48.3	22.0	24.1
LnGrp LOS	C	A	A	E	C	C	E	C	B	D	C	C
Approach Vol, veh/h		784			280			404			223	
Approach Delay, s/veh		16.9			23.7			30.9			24.6	
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	5.0	79.0	8.5	37.5	46.0	38.0	5.4	40.6
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	35.0	4.0	32.0	6.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	2.3	4.9	4.9	8.2	23.5	7.0	2.3	6.6
Green Ext Time (p_c), s	0.0	1.5	0.0	1.7	0.0	0.8	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	22.4
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	69	410	132	60	726	76	193	831	85	100	485	67
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		0.99	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	77	456	130	67	807	75	214	923	82	111	539	64
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	1	2	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	99	979	277	994	2909	270	238	1499	133	141	855	358
Arrive On Green	0.05	0.34	0.34	0.55	0.85	0.85	0.13	0.29	0.29	0.08	0.22	0.22
Sat Flow, veh/h	1810	2847	805	1810	3421	318	1810	5159	457	1810	3800	1590
Grp Volume(v), veh/h	77	303	283	67	448	434	214	679	326	111	539	64
Grp Sat Flow(s),veh/h/ln	1810	1900	1752	1810	1900	1839	1810	1900	1816	1810	1900	1590
Q Serve(g_s), s	3.4	10.0	10.1	1.4	3.7	3.7	9.3	12.3	12.4	4.8	10.2	3.8
Cycle Q Clear(g_c), s	3.4	10.0	10.1	1.4	3.7	3.7	9.3	12.3	12.4	4.8	10.2	3.8
Prop In Lane	1.00		0.46	1.00		0.17	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	99	653	602	994	1616	1564	238	1104	528	141	855	358
V/C Ratio(X)	0.78	0.46	0.47	0.07	0.28	0.28	0.90	0.61	0.62	0.79	0.63	0.18
Avail Cap(c_a), veh/h	102	653	602	994	1616	1564	238	1104	528	170	855	358
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	37.3	20.5	20.5	8.4	1.2	1.2	34.2	24.5	24.5	36.2	28.0	52.2
Incr Delay (d2), s/veh	27.2	2.4	2.6	0.0	0.4	0.4	32.6	2.6	5.3	14.7	3.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	5.6	5.3	0.7	2.1	2.0	6.8	6.8	7.0	3.0	5.8	1.8
LnGrp Delay(d),s/veh	64.5	22.9	23.2	8.5	1.6	1.6	66.8	27.1	29.9	50.9	31.5	53.3
LnGrp LOS	E	C	C	A	A	A	E	C	C	D	C	D
Approach Vol, veh/h		663			949			1219			714	
Approach Delay, s/veh		27.8			2.1			34.8			36.5	
Approach LOS		C			A			C			D	

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	10.3	33.0	16.0	23.5	8.9	74.4	10.7	28.8
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.8	* 28	10.5	* 18	4.5	27.0	7.5	21.0
Max Q Clear Time (g_c+I1), s	11.4	12.1	11.3	12.2	5.4	5.7	6.8	14.4
Green Ext Time (p_c), s	0.1	1.8	0.0	1.3	0.0	3.4	0.0	2.6

Intersection Summary	
HCM 2010 Ctrl Delay	25.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	19	158	71	186	107	190	98	816	286	89	570	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	174	62	204	118	109	108	897	289	98	626	23
Adj No. of Lanes	0	1	1	0	2	1	1	3	0	1	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	26	212	202	255	268	223	148	2024	649	122	2605	95
Arrive On Green	0.13	0.13	0.13	0.14	0.14	0.14	0.08	0.49	0.49	0.07	0.48	0.48
Sat Flow, veh/h	204	1686	1611	1810	1900	1580	1810	4121	1322	1810	5462	200
Grp Volume(v), veh/h	195	0	62	204	118	109	108	827	359	98	435	214
Grp Sat Flow(s),veh/h/ln	1890	0	1611	1810	1900	1580	1810	1900	1643	1810	1900	1862
Q Serve(g_s), s	12.1	0.0	4.2	13.1	6.8	7.6	7.0	17.0	17.1	6.4	8.1	8.2
Cycle Q Clear(g_c), s	12.1	0.0	4.2	13.1	6.8	7.6	7.0	17.0	17.1	6.4	8.1	8.2
Prop In Lane	0.11		1.00	1.00		1.00	1.00		0.80	1.00		0.11
Lane Grp Cap(c), veh/h	237	0	202	255	268	223	148	1866	807	122	1812	888
V/C Ratio(X)	0.82	0.00	0.31	0.80	0.44	0.49	0.73	0.44	0.45	0.80	0.24	0.24
Avail Cap(c_a), veh/h	472	0	403	452	475	395	148	1866	807	143	1812	888
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	0.0	47.7	49.9	47.2	47.6	53.8	19.9	19.9	55.2	18.5	18.6
Incr Delay (d2), s/veh	2.7	0.0	0.3	2.2	0.4	0.6	27.0	0.8	1.8	20.4	0.3	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	6.5	0.0	1.9	6.7	3.6	3.4	4.6	9.0	8.1	3.9	4.3	4.3
LnGrp Delay(d),s/veh	53.9	0.0	48.0	52.1	47.6	48.2	80.8	20.6	21.7	75.6	18.9	19.2
LnGrp LOS	D		D	D	D	D	F	C	C	E	B	B
Approach Vol, veh/h		257			431			1294			747	
Approach Delay, s/veh		52.5			49.9			25.9			26.4	
Approach LOS		D			D			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	12.6	64.4		20.6	14.3	62.7		22.4
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	9.5	29.5		30.0	9.8	29.2		30.0
Max Q Clear Time (g_c+I1), s	8.4	19.1		14.1	9.0	10.2		15.1
Green Ext Time (p_c), s	0.0	5.6		0.7	0.0	7.7		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	32.3
HCM 2010 LOS	C

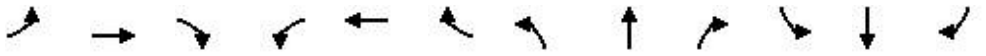
Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	645	125	507	358	0	0	0	730	0	0	185
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	0	1900	1900	1900	1900	0	0	0	1900	0	0	1900
Adj Flow Rate, veh/h	0	679	124	534	377	0	0	0	0	0	0	73
Adj No. of Lanes	0	2	1	1	2	0	0	0	1	0	0	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2229	947	461	3452	0	0	0	0	0	0	0
Arrive On Green	0.00	0.59	0.59	0.25	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3800	1615	1810	3800	0		0			0	
Grp Volume(v), veh/h	0	679	124	534	377	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0						
Q Serve(g_s), s	0.0	5.4	2.1	15.3	0.6	0.0						
Cycle Q Clear(g_c), s	0.0	5.4	2.1	15.3	0.6	0.0						
Prop In Lane	0.00		1.00	1.00		0.00						
Lane Grp Cap(c), veh/h	0	2229	947	461	3452	0						
V/C Ratio(X)	0.00	0.30	0.13	1.16	0.11	0.00						
Avail Cap(c_a), veh/h	0	2229	947	461	3452	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	6.2	5.6	22.3	0.3	0.0						
Incr Delay (d2), s/veh	0.0	0.4	0.3	92.7	0.1	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	2.8	3.0	19.4	0.3	0.0						
LnGrp Delay(d),s/veh	0.0	6.6	5.8	115.0	0.3	0.0						
LnGrp LOS		A	A	F	A							
Approach Vol, veh/h		803			911							
Approach Delay, s/veh		6.5			67.6							
Approach LOS		A			E							

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		
Phs Duration (G+Y+Rc), s	19.3	40.7				60.0		
Change Period (Y+Rc), s	4.0	5.5				5.5		
Max Green Setting (Gmax), s	15.3	19.2				38.5		
Max Q Clear Time (g_c+I1), s	17.3	7.4				2.6		
Green Ext Time (p_c), s	0.0	3.7				4.8		

Intersection Summary	
HCM 2010 Ctrl Delay	39.0
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	393	9	214	133	0	0	0	0	382	2	278
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	418	10	228	141	0				406	2	219
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1827	776	253	2500	0				466	2	418
Arrive On Green	0.00	0.48	0.48	0.23	1.00	0.00				0.26	0.26	0.26
Sat Flow, veh/h	0	3800	1615	1810	3800	0				1801	9	1615
Grp Volume(v), veh/h	0	418	10	228	141	0				408	0	219
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1615
Q Serve(g_s), s	0.0	7.7	0.4	14.7	0.0	0.0				25.9	0.0	14.0
Cycle Q Clear(g_c), s	0.0	7.7	0.4	14.7	0.0	0.0				25.9	0.0	14.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1827	776	253	2500	0				468	0	418
V/C Ratio(X)	0.00	0.23	0.01	0.90	0.06	0.00				0.87	0.00	0.52
Avail Cap(c_a), veh/h	0	1827	776	309	2500	0				830	0	740
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.99	0.99	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.2	16.3	45.2	0.0	0.0				42.6	0.0	38.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	22.1	0.0	0.0				5.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.1	0.2	8.8	0.0	0.0				13.6	0.0	6.3
LnGrp Delay(d),s/veh	0.0	18.5	16.3	67.3	0.0	0.0				47.7	0.0	39.2
LnGrp LOS		B	B	E	A					D		D
Approach Vol, veh/h		428			369						627	
Approach Delay, s/veh		18.4			41.6						44.8	
Approach LOS		B			D						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	21.3	62.7		36.0		84.0		
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0		
Max Green Setting (Gmax), s	20.5	30.0		55.0		55.0		
Max Q Clear Time (g_c+I1), s	16.7	9.7		27.9		2.0		
Green Ext Time (p_c), s	0.1	2.1		3.1		2.2		

Intersection Summary	
HCM 2010 Ctrl Delay	36.0
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	1217	144	0	1484	66	29	30	0	87	0	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		0.98	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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	1255	144	0	1530	59	30	31	0	90	0	22
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	1	1	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	189	1871	214	0	2036	78	501	544	0	495	0	462
Arrive On Green	0.56	0.56	0.56	0.00	0.56	0.56	0.29	0.29	0.00	0.29	0.00	0.29
Sat Flow, veh/h	326	3341	382	0	3636	140	1412	1900	0	1400	0	1615
Grp Volume(v), veh/h	14	711	688	0	798	791	30	31	0	90	0	22
Grp Sat Flow(s),veh/h/ln	326	1900	1823	0	1900	1875	1412	1900	0	1400	0	1615
Q Serve(g_s), s	2.2	17.1	17.3	0.0	20.7	20.9	1.0	0.8	0.0	3.2	0.0	0.6
Cycle Q Clear(g_c), s	23.1	17.1	17.3	0.0	20.7	20.9	1.7	0.8	0.0	4.0	0.0	0.6
Prop In Lane	1.00		0.21	0.00		0.07	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	1064	1021	0	1064	1050	501	544	0	495	0	462
V/C Ratio(X)	0.07	0.67	0.67	0.00	0.75	0.75	0.06	0.06	0.00	0.18	0.00	0.05
Avail Cap(c_a), veh/h	189	1064	1021	0	1064	1050	501	544	0	495	0	462
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	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.7	10.1	10.1	0.0	10.8	10.9	17.4	16.8	0.0	18.3	0.0	16.8
Incr Delay (d2), s/veh	0.8	3.3	3.6	0.0	4.9	5.0	0.2	0.2	0.0	0.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	9.9	9.6	0.0	12.1	12.0	0.4	0.4	0.0	1.4	0.0	0.3
LnGrp Delay(d),s/veh	20.4	13.4	13.7	0.0	15.7	15.9	17.6	17.0	0.0	19.1	0.0	17.0
LnGrp LOS	C	B	B		B	B	B	B		B		B
Approach Vol, veh/h		1413			1589			61			112	
Approach Delay, s/veh		13.6			15.8			17.3			18.7	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.4		23.6		41.4		23.6
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		36.4		18.6		36.4		18.6
Max Q Clear Time (g_c+I1), s		25.1		6.0		22.9		3.7
Green Ext Time (p_c), s		8.8		0.2		10.2		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	14.9
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	248	527	0	0	338	560	8	1	135	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	279	592	0	0	380	604	9	1	43			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	303	2755	0	0	2007	853	314	35	310			
Arrive On Green	0.34	1.00	0.00	0.00	0.53	0.53	0.19	0.19	0.19			
Sat Flow, veh/h	1810	3800	0	0	3800	1614	1636	182	1615			
Grp Volume(v), veh/h	279	592	0	0	380	604	10	0	43			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1614	1818	0	1615			
Q Serve(g_s), s	17.8	0.0	0.0	0.0	6.3	33.9	0.5	0.0	2.7			
Cycle Q Clear(g_c), s	17.8	0.0	0.0	0.0	6.3	33.9	0.5	0.0	2.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.90		1.00			
Lane Grp Cap(c), veh/h	303	2755	0	0	2007	853	348	0	310			
V/C Ratio(X)	0.92	0.21	0.00	0.00	0.19	0.71	0.03	0.00	0.14			
Avail Cap(c_a), veh/h	550	2755	0	0	2007	853	348	0	310			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.98	0.98	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	39.1	0.0	0.0	0.0	14.8	21.3	39.4	0.0	40.3			
Incr Delay (d2), s/veh	5.4	0.2	0.0	0.0	0.2	4.9	0.2	0.0	0.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	9.3	0.1	0.0	0.0	3.3	16.3	0.3	0.0	1.3			
LnGrp Delay(d),s/veh	44.5	0.2	0.0	0.0	15.0	26.3	39.6	0.0	41.2			
LnGrp LOS	D	A			B	C	D		D			
Approach Vol, veh/h		871			984			53				
Approach Delay, s/veh		14.4			21.9			40.9				
Approach LOS		B			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		92.0			23.6	68.4		28.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		87.0			36.5	47.0		23.0
Max Q Clear Time (g_c+I1), s		2.0			19.8	35.9		4.7
Green Ext Time (p_c), s		5.7			0.3	4.1		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	19.0
HCM 2010 LOS	B

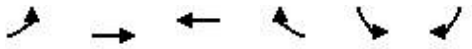
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	97	1298	23	25	1234	74	366	95	181	100	20	168
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	100	1338	0	26	1272	45	304	200	133	118	0	66
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	124	2878	816	33	2589	718	445	262	174	203	0	202
Arrive On Green	0.07	0.50	0.00	0.02	0.45	0.45	0.25	0.25	0.25	0.06	0.00	0.06
Sat Flow, veh/h	1810	5700	1615	1810	5700	1581	1810	1065	709	3619	0	1615
Grp Volume(v), veh/h	100	1338	0	26	1272	45	304	0	333	118	0	66
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1581	1810	0	1774	1810	0	1615
Q Serve(g_s), s	6.5	18.2	0.0	1.7	18.8	1.9	18.3	0.0	20.9	3.8	0.0	4.5
Cycle Q Clear(g_c), s	6.5	18.2	0.0	1.7	18.8	1.9	18.3	0.0	20.9	3.8	0.0	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	124	2878	816	33	2589	718	445	0	436	203	0	202
V/C Ratio(X)	0.80	0.46	0.00	0.80	0.49	0.06	0.68	0.00	0.76	0.58	0.00	0.33
Avail Cap(c_a), veh/h	143	2878	816	119	2589	718	445	0	436	890	0	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.1	19.2	0.0	58.7	23.0	18.4	41.0	0.0	42.0	55.2	0.0	47.9
Incr Delay (d2), s/veh	21.3	0.5	0.0	15.1	0.1	0.0	8.3	0.0	12.0	1.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	9.7	0.0	1.0	9.9	0.8	10.1	0.0	11.7	1.9	0.0	2.0
LnGrp Delay(d),s/veh	76.4	19.8	0.0	73.8	23.1	18.4	49.3	0.0	54.0	56.2	0.0	48.3
LnGrp LOS	E	B		E	C	B	D		D	E		D
Approach Vol, veh/h		1438			1343			637			184	
Approach Delay, s/veh		23.7			23.9			51.7			53.4	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.7	66.1		12.2	12.7	60.0		35.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	7.9	32.1		29.5	9.5	30.5		29.5
Max Q Clear Time (g_c+I1), s	3.7	20.2		6.5	8.5	20.8		22.9
Green Ext Time (p_c), s	0.0	8.5		0.3	0.0	6.2		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	30.2
HCM 2010 LOS	C

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	92	1776	1079	167	325	102
Number	5	2	6	16	7	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	95	1831	1112	164	335	46
Adj No. of Lanes	1	2	3	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	122	1995	2286	648	1221	654
Arrive On Green	0.07	0.52	0.40	0.40	0.34	0.34
Sat Flow, veh/h	1810	3800	5700	1615	3619	1615
Grp Volume(v), veh/h	95	1831	1112	164	335	46
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1615	1810	1615
Q Serve(g_s), s	4.1	35.3	11.6	5.4	5.4	1.4
Cycle Q Clear(g_c), s	4.1	35.3	11.6	5.4	5.4	1.4
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	122	1995	2286	648	1221	654
V/C Ratio(X)	0.78	0.92	0.49	0.25	0.27	0.07
Avail Cap(c_a), veh/h	215	1995	2286	648	1221	654
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.80	0.80	1.00	1.00
Uniform Delay (d), s/veh	36.7	17.4	17.8	16.0	19.3	14.6
Incr Delay (d2), s/veh	3.9	8.2	0.6	0.8	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	20.6	6.2	2.5	2.8	1.7
LnGrp Delay(d),s/veh	40.6	25.7	18.4	16.7	19.9	14.8
LnGrp LOS	D	C	B	B	B	B
Approach Vol, veh/h		1926	1276		381	
Approach Delay, s/veh		26.4	18.2		19.3	
Approach LOS		C	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		47.5		32.5	9.9	37.6		
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		
Max Green Setting (Gmax), s		42.0		27.0	9.5	28.0		
Max Q Clear Time (g_c+I1), s		37.3		7.4	6.1	13.6		
Green Ext Time (p_c), s		4.1		0.6	0.0	11.2		

Intersection Summary	
HCM 2010 Ctrl Delay	22.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	28	635	835	17	14	64
Conflicting Peds, #/hr	0	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	30	690	908	18	15	70

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	908	0	-	0	1314	454
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	406	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	758	-	-	-	*255	559
Stage 1	-	-	-	-	*359	-
Stage 2	-	-	-	-	*780	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	758	-	-	-	*239	559
Mov Cap-2 Maneuver	-	-	-	-	*239	-
Stage 1	-	-	-	-	*359	-
Stage 2	-	-	-	-	*730	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	758	-	-	-	451
HCM Lane V/C Ratio	0.04	-	-	-	0.188
HCM Control Delay (s)	9.9	0.3	-	-	14.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	72	1763	277	6	979	43	158	53	11	119	138	105
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		0.99	1.00		1.00	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	78	1916	0	7	1064	43	172	58	7	129	150	36
Adj No. of Lanes	1	2	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1173	3822	1625	13	1919	77	170	1059	126	85	1252	1572
Arrive On Green	0.65	1.00	0.00	0.01	0.35	0.35	0.05	0.32	0.32	0.05	0.33	0.33
Sat Flow, veh/h	1810	3800	1615	1810	5438	220	3619	3335	395	1810	3800	1595
Grp Volume(v), veh/h	78	1916	0	7	743	364	172	33	32	129	150	36
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1858	1810	1900	1830	1810	1900	1595
Q Serve(g_s), s	1.3	0.0	0.0	0.3	13.4	13.4	4.0	1.0	1.0	4.0	2.3	0.2
Cycle Q Clear(g_c), s	1.3	0.0	0.0	0.3	13.4	13.4	4.0	1.0	1.0	4.0	2.3	0.2
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	1173	3822	1625	13	1341	656	170	604	581	85	1252	1572
V/C Ratio(X)	0.07	0.50	0.00	0.54	0.55	0.55	1.01	0.05	0.06	1.51	0.12	0.02
Avail Cap(c_a), veh/h	1173	3822	1625	85	1341	656	170	604	581	85	1252	1572
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)	0.47	0.47	0.00	0.46	0.46	0.46	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.5	0.0	0.0	42.1	22.1	22.1	40.5	20.1	20.1	40.5	19.9	8.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	5.9	0.8	1.6	71.6	0.2	0.2	282.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.1	0.0	0.2	7.2	7.2	3.7	0.6	0.6	8.7	1.3	0.4
LnGrp Delay(d),s/veh	5.5	0.2	0.0	47.9	22.9	23.7	112.1	20.3	20.3	323.2	20.1	8.0
LnGrp LOS	A	A		D	C	C	F	C	C	F	C	A
Approach Vol, veh/h		1994			1114			237			315	
Approach Delay, s/veh		0.4			23.3			86.9			142.8	
Approach LOS		A			C			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	5.1	91.8	8.5	33.5	61.4	35.5	9.5	32.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.0	30.0	4.0	27.0	4.0	* 30	4.0	* 27
Max Q Clear Time (g_c+I1), s	2.3	2.0	6.0	4.3	3.3	15.4	6.0	3.0
Green Ext Time (p_c), s	0.0	11.5	0.0	0.7	0.0	3.8	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	25.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	484	47	20	694	5	40	4	10	8	4	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	7	550	53	23	789	6	45	5	11	9	5	14
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	13	828	703	36	844	6	451	55	94	414	215	566
Arrive On Green	0.01	0.44	0.44	0.02	0.45	0.45	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	1810	1900	1615	1810	1883	14	1064	156	268	969	614	1615
Grp Volume(v), veh/h	7	550	53	23	0	795	61	0	0	14	0	14
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1897	1489	0	0	1583	0	1615
Q Serve(g_s), s	0.3	18.4	1.5	1.0	0.0	31.8	1.3	0.0	0.0	0.0	0.0	0.5
Cycle Q Clear(g_c), s	0.3	18.4	1.5	1.0	0.0	31.8	2.1	0.0	0.0	0.4	0.0	0.5
Prop In Lane	1.00		1.00	1.00		0.01	0.74		0.18	0.64		1.00
Lane Grp Cap(c), veh/h	13	828	703	36	0	851	600	0	0	629	0	566
V/C Ratio(X)	0.54	0.66	0.08	0.64	0.00	0.93	0.10	0.00	0.00	0.02	0.00	0.02
Avail Cap(c_a), veh/h	90	860	731	120	0	889	600	0	0	629	0	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.6	17.9	13.2	38.9	0.0	21.0	17.5	0.0	0.0	17.0	0.0	17.0
Incr Delay (d2), s/veh	12.1	1.4	0.0	6.7	0.0	15.8	0.3	0.0	0.0	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	10.0	0.7	0.6	0.0	20.3	1.0	0.0	0.0	0.2	0.0	0.2
LnGrp Delay(d),s/veh	51.7	19.4	13.2	45.6	0.0	36.8	17.8	0.0	0.0	17.1	0.0	17.1
LnGrp LOS	D	B	B	D		D	B			B		B
Approach Vol, veh/h		610			818			61			28	
Approach Delay, s/veh		19.2			37.0			17.8			17.1	
Approach LOS		B			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		33.6	6.1	40.3		33.6	5.1	41.4
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		23.0	5.3	36.2		23.0	4.0	37.5
Max Q Clear Time (g_c+I1), s		4.1	3.0	20.4		2.5	2.3	33.8
Green Ext Time (p_c), s		0.2	0.0	5.2		0.2	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	28.7
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	82	933	817	22	560	67	534	496	62	109	535	43
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	87	993	854	23	596	65	568	528	62	116	569	39
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	2734	1162	35	2283	248	462	1120	131	146	977	67
Arrive On Green	0.06	0.72	0.72	0.02	0.68	0.68	0.21	0.56	0.56	0.08	0.28	0.28
Sat Flow, veh/h	1810	3800	1615	1810	3368	367	3619	3333	390	1810	3517	241
Grp Volume(v), veh/h	87	993	854	23	336	325	568	300	290	116	307	301
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1835	1810	1900	1824	1810	1900	1858
Q Serve(g_s), s	4.3	8.9	41.2	1.1	6.2	6.2	11.5	8.5	8.5	5.7	12.5	12.6
Cycle Q Clear(g_c), s	4.3	8.9	41.2	1.1	6.2	6.2	11.5	8.5	8.5	5.7	12.5	12.6
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.21	1.00		0.13
Lane Grp Cap(c), veh/h	111	2734	1162	35	1288	1244	462	638	613	146	528	516
V/C Ratio(X)	0.79	0.36	0.73	0.65	0.26	0.26	1.23	0.47	0.47	0.79	0.58	0.58
Avail Cap(c_a), veh/h	111	2734	1162	80	1288	1244	462	638	613	175	528	516
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	4.8	15.9	43.8	5.7	5.7	35.4	15.0	15.0	40.6	28.0	28.0
Incr Delay (d2), s/veh	3.2	0.0	0.4	7.4	0.5	0.5	118.1	2.1	2.2	15.6	4.6	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.6	18.3	0.6	3.4	3.3	13.3	4.7	4.5	3.5	7.2	7.1
LnGrp Delay(d),s/veh	44.9	4.8	16.3	51.2	6.2	6.2	153.5	17.1	17.2	56.2	32.6	32.8
LnGrp LOS	D	A	B	D	A	A	F	B	B	E	C	C
Approach Vol, veh/h		1934			684			1158			724	
Approach Delay, s/veh		11.7			7.7			84.0			36.5	
Approach LOS		B			A			F			D	

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	6.2	71.3	17.0	30.5	10.0	67.5	11.8	35.7
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	29.5	11.5	* 25	5.5	28.0	8.7	27.8
Max Q Clear Time (g_c+I1), s	13.1	43.2	13.5	14.6	6.3	8.2	7.7	10.5
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	9.1	0.0	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	33.7
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	159	221	22	100	144	75	871	60	302	917	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.96	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	169	121	23	106	56	80	927	46	321	976	15
Adj No. of Lanes	1	1	1	1	2	0	1	2	1	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	89	220	187	35	206	101	103	1068	437	634	2225	945
Arrive On Green	0.05	0.12	0.12	0.02	0.09	0.09	0.06	0.28	0.28	0.47	0.78	0.78
Sat Flow, veh/h	1810	1900	1615	1810	2390	1177	1810	3800	1555	1810	3800	1615
Grp Volume(v), veh/h	28	169	121	23	83	79	80	927	46	321	976	15
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1668	1810	1900	1555	1810	1900	1615
Q Serve(g_s), s	1.3	7.8	5.2	1.1	3.7	4.1	3.9	20.9	2.0	11.2	7.8	0.1
Cycle Q Clear(g_c), s	1.3	7.8	5.2	1.1	3.7	4.1	3.9	20.9	2.0	11.2	7.8	0.1
Prop In Lane	1.00		1.00	1.00		0.71	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	89	220	187	35	164	144	103	1068	437	634	2225	945
V/C Ratio(X)	0.32	0.77	0.65	0.66	0.51	0.55	0.77	0.87	0.11	0.51	0.44	0.02
Avail Cap(c_a), veh/h	89	528	449	101	549	482	183	1068	437	634	2225	945
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.59	0.59	0.59
Uniform Delay (d), s/veh	41.3	38.6	24.9	43.8	39.3	39.5	41.9	30.8	24.0	18.6	5.0	1.6
Incr Delay (d2), s/veh	0.7	2.1	1.4	7.5	0.9	1.2	4.6	9.5	0.5	0.2	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	0.7	4.2	2.4	0.6	2.0	1.9	2.1	12.4	0.9	5.6	4.0	0.1
LnGrp Delay(d),s/veh	42.1	40.7	26.3	51.3	40.2	40.7	46.4	40.3	24.4	18.8	5.4	1.6
LnGrp LOS	D	D	C	D	D	D	D	D	C	B	A	A
Approach Vol, veh/h		318			185			1053			1312	
Approach Delay, s/veh		35.4			41.8			40.1			8.6	
Approach LOS		D			D			D			A	

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	37.0	30.8	6.2	15.9	9.6	58.2	8.9	13.3
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	14.7	* 25	5.0	25.0	9.1	30.9	4.0	26.0
Max Q Clear Time (g_c+I1), s	13.2	22.9	3.1	9.8	5.9	9.8	3.3	6.1
Green Ext Time (p_c), s	0.2	1.1	0.0	0.7	0.0	4.4	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	25.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	1	60	808	7	124	979
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	0	-	65	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	65	869	8	133	1053

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2188	869	0	0	869	0
Stage 1	869	-	-	-	-	-
Stage 2	1319	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	51	354	-	-	784	-
Stage 1	414	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	42	354	-	-	784	-
Mov Cap-2 Maneuver	42	-	-	-	-	-
Stage 1	414	-	-	-	-	-
Stage 2	209	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.6	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	42	354	784	-
HCM Lane V/C Ratio	-	-	0.026	0.182	0.17	-
HCM Control Delay (s)	-	-	93	17.4	10.5	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0.7	0.6	-

Intersection	
Intersection Delay, s/veh	53.9
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Vol, veh/h	0	18	243	0	565	18	0	512	447
Peak Hour Factor	0.92	0.86	0.86	0.92	0.86	0.86	0.92	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	21	283	0	657	21	0	595	520
Number of Lanes	0	1	1	0	1	0	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	17.7	63.1	58.2
HCM LOS	C	F	F

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	97%	0%	0%	0%	100%
Vol Right, %	3%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	583	18	243	512	447
LT Vol	0	18	0	512	0
Through Vol	565	0	0	0	447
RT Vol	18	0	243	0	0
Lane Flow Rate	678	21	283	595	520
Geometry Grp	4	7	7	7	7
Degree of Util (X)	1	0.048	0.553	1	0.938
Departure Headway (Hd)	6.343	8.248	7.048	6.999	6.499
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	569	435	511	524	561
Service Time	4.403	5.981	4.782	4.699	4.199
HCM Lane V/C Ratio	1.192	0.048	0.554	1.135	0.927
HCM Control Delay	63.1	11.4	18.2	65.8	49.5
HCM Lane LOS	F	B	C	F	E
HCM 95th-tile Q	14.5	0.2	3.3	13.9	12

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	7	176	439	14	72	412
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	9	217	542	17	89	509
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	289	258	660	561	491	1298
Arrive On Green	0.16	0.16	0.35	0.35	0.27	0.68
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	9	217	542	17	89	509
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.3	9.1	18.2	0.5	2.6	8.1
Cycle Q Clear(g_c), s	0.3	9.1	18.2	0.5	2.6	8.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	289	258	660	561	491	1298
V/C Ratio(X)	0.03	0.84	0.82	0.03	0.18	0.39
Avail Cap(c_a), veh/h	439	392	660	561	491	1298
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	24.8	28.5	20.9	15.1	19.5	4.8
Incr Delay (d2), s/veh	0.0	6.0	11.0	0.1	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.5	11.5	0.2	1.4	4.4
LnGrp Delay(d),s/veh	24.8	34.6	31.9	15.2	20.3	5.7
LnGrp LOS	C	C	C	B	C	A
Approach Vol, veh/h	226		559			598
Approach Delay, s/veh	34.2		31.4			7.9
Approach LOS	C		C			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.5	29.8				53.3		16.7
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	19.0	18.5				42.0		17.0
Max Q Clear Time (g_c+I1), s	4.6	20.2				10.1		11.1
Green Ext Time (p_c), s	0.1	0.0				3.8		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	21.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	55	30	423	12	7	412
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	60	33	460	13	8	448

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	929	236	0	0	473	0
Stage 1	466	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	284	772	-	-	1099	-
Stage 1	604	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	282	772	-	-	1099	-
Mov Cap-2 Maneuver	480	-	-	-	-	-
Stage 1	604	-	-	-	-	-
Stage 2	633	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	554	1099	-
HCM Lane V/C Ratio	-	-	0.167	0.007	-
HCM Control Delay (s)	-	-	12.8	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	59	25	410	14	5	461
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	64	27	446	15	5	501

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	965	230	0	0	461	0
Stage 1	453	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	270	779	-	-	1111	-
Stage 1	613	-	-	-	-	-
Stage 2	606	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	269	779	-	-	1111	-
Mov Cap-2 Maneuver	470	-	-	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	603	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	533	1111	-
HCM Lane V/C Ratio	-	-	0.171	0.005	-
HCM Control Delay (s)	-	-	13.1	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	52	49	382	12	10	535
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	0	-	0	140	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	73	69	538	17	14	754

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1320	269	0	0	538	0
Stage 1	538	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	162	735	-	-	1040	-
Stage 1	555	-	-	-	-	-
Stage 2	454	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	160	735	-	-	1040	-
Mov Cap-2 Maneuver	361	-	-	-	-	-
Stage 1	555	-	-	-	-	-
Stage 2	448	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.1	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	361	735	1040	-
HCM Lane V/C Ratio	-	-	0.203	0.094	0.014	-
HCM Control Delay (s)	-	-	17.5	10.4	8.5	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.3	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	11	6	5	11	0	241	0	71	3	318	212	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	9	7	16	0	344	0	101	0	454	303	3
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	25	432	366	25	432	367	2	658	559	445	1196	1017
Arrive On Green	0.01	0.23	0.23	0.01	0.00	0.23	0.00	0.35	0.00	0.25	0.63	0.63
Sat Flow, veh/h	1810	1900	1611	1810	1900	1615	1810	1900	1615	1810	1900	1615
Grp Volume(v), veh/h	16	9	7	16	0	344	0	101	0	454	303	3
Grp Sat Flow(s),veh/h/ln	1810	1900	1611	1810	1900	1615	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	1.1	0.4	0.4	1.1	0.0	25.1	0.0	4.4	0.0	29.5	8.4	0.1
Cycle Q Clear(g_c), s	1.1	0.4	0.4	1.1	0.0	25.1	0.0	4.4	0.0	29.5	8.4	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	432	366	25	432	367	2	658	559	445	1196	1017
V/C Ratio(X)	0.64	0.02	0.02	0.64	0.00	0.94	0.00	0.15	0.00	1.02	0.25	0.00
Avail Cap(c_a), veh/h	113	467	396	113	467	397	60	658	559	445	1196	1017
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	0.83	0.00	0.83	0.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	36.0	36.0	58.9	0.0	45.5	0.0	27.1	0.0	45.3	9.8	8.2
Incr Delay (d2), s/veh	9.8	0.0	0.0	8.2	0.0	24.4	0.0	0.5	0.0	48.0	0.5	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	0.6	0.2	0.2	0.6	0.0	13.6	0.0	2.4	0.0	20.6	4.5	0.0
LnGrp Delay(d),s/veh	68.7	36.0	36.0	67.0	0.0	69.9	0.0	27.6	0.0	93.2	10.3	8.2
LnGrp LOS	E	D	D	E		E		C		F	B	A
Approach Vol, veh/h		32			360			101			760	
Approach Delay, s/veh		52.3			69.8			27.6			59.8	
Approach LOS		D			E			C			E	

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	34.0	47.1	6.2	32.8	0.0	81.1	6.2	32.8
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	29.5	33.5	7.5	29.5	4.0	59.0	7.5	29.5
Max Q Clear Time (g_c+I1), s	31.5	6.4	3.1	2.4	0.0	10.4	3.1	27.1
Green Ext Time (p_c), s	0.0	1.2	0.0	0.6	0.0	1.3	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	59.9
HCM 2010 LOS	E

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	70	2	8	200	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	93	3	11	267	13

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	555	8	0	0	13	0
Stage 1	8	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	496	1080	-	-	1619	-
Stage 1	1020	-	-	-	-	-
Stage 2	584	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	414	1080	-	-	1619	-
Mov Cap-2 Maneuver	462	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	488	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	1080	1619	-
HCM Lane V/C Ratio	-	-	-	0.086	0.165	-
HCM Control Delay (s)	-	-	0	8.6	7.7	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.3	0.6	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	509	0	0	594	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	559	0	0	653	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	559	0	1212	559
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	653	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1020	-	*203	670
Stage 1	-	-	-	-	*637	-
Stage 2	-	-	-	-	*563	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	1020	-	*203	670
Mov Cap-2 Maneuver	-	-	-	-	*203	-
Stage 1	-	-	-	-	*637	-
Stage 2	-	-	-	-	*563	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	670	-	-	1020	-
HCM Lane V/C Ratio	0.002	-	-	-	-
HCM Control Delay (s)	10.4	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Notes

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

Intersection	
Int Delay, s/veh	8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	11	21	63	0	0	0	160	4	0	3	2	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	0	200	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	13	26	77	0	0	0	195	5	0	4	2	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	414	414	12	465	423	5	21	0	0	5	0	0
Stage 1	19	19	-	395	395	-	-	-	-	-	-	-
Stage 2	395	395	-	70	28	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	552	532	1074	511	526	1084	1608	-	-	1630	-	-
Stage 1	1005	884	-	634	608	-	-	-	-	-	-	-
Stage 2	634	608	-	945	876	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	500	466	1074	413	461	1084	1608	-	-	1630	-	-
Mov Cap-2 Maneuver	524	502	-	504	501	-	-	-	-	-	-	-
Stage 1	883	882	-	557	534	-	-	-	-	-	-	-
Stage 2	557	534	-	850	874	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	0	7.4	1.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1608	-	-	782	-	1630	-	-
HCM Lane V/C Ratio	0.121	-	-	0.148	-	0.002	-	-
HCM Control Delay (s)	7.5	-	-	10.4	0	7.2	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.5	-	0	-	-

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	20	20	0	0	5	4	84	0	0	60	23
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	22	22	0	0	5	4	91	0	0	65	25
Number of Lanes	0	0	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	8.5	7.5	8.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	50%	100%	0%	100%	0%
Vol Thru, %	72%	50%	0%	5%	0%	79%
Vol Right, %	28%	0%	0%	95%	0%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	40	5	88	46	19
LT Vol	0	20	5	0	46	0
Through Vol	60	20	0	4	0	15
RT Vol	23	0	0	84	0	4
Lane Flow Rate	90	43	5	96	50	21
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.119	0.062	0.008	0.114	0.075	0.027
Departure Headway (Hd)	4.766	5.123	5.455	4.283	5.42	4.77
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	755	702	659	840	663	753
Service Time	2.778	3.135	3.164	1.992	3.134	2.484
HCM Lane V/C Ratio	0.119	0.061	0.008	0.114	0.075	0.028
HCM Control Delay	8.4	8.5	8.2	7.5	8.6	7.6
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0	0.4	0.2	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	46	15	4
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	50	16	4
Number of Lanes	0	1	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.3
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	82	7	3	65	28	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	89	8	3	71	30	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	97	0	170	93
Stage 1	-	-	-	-	93	-
Stage 2	-	-	-	-	77	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1509	-	825	970
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	951	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1509	-	823	970
Mov Cap-2 Maneuver	-	-	-	-	856	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	949	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	889	-	-	1509	-
HCM Lane V/C Ratio	0.05	-	-	0.002	-
HCM Control Delay (s)	9.3	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	95	1	4	64	3	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	103	1	4	70	3	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	104	0	182	104
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	78	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1500	-	812	956
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	950	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1500	-	810	956
Mov Cap-2 Maneuver	-	-	-	-	848	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	947	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	940	-	-	1500	-
HCM Lane V/C Ratio	0.027	-	-	0.003	-
HCM Control Delay (s)	8.9	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	107	7	3	40	28	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	116	8	3	43	30	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	124	0	170	120
Stage 1	-	-	-	-	120	-
Stage 2	-	-	-	-	50	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1475	-	825	937
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	978	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1475	-	823	937
Mov Cap-2 Maneuver	-	-	-	-	850	-
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	976	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	881	-	-	1475	-
HCM Lane V/C Ratio	0.056	-	-	0.002	-
HCM Control Delay (s)	9.3	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	41	67	20	0	4	22	55	0	8	51	4
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	48	79	24	0	5	26	65	0	9	60	5
Number of Lanes	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	3
HCM Control Delay	9.5	8.6	9.2
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	77%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	23%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	51	4	41	87	4	22	55	175	73	10
LT Vol	8	0	0	41	0	4	0	0	175	0	0
Through Vol	0	51	0	0	67	0	22	0	0	73	0
RT Vol	0	0	4	0	20	0	0	55	0	0	10
Lane Flow Rate	9	60	5	48	102	5	26	65	206	86	12
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.017	0.099	0.007	0.084	0.158	0.008	0.042	0.093	0.335	0.128	0.015
Departure Headway (Hd)	6.444	5.941	5.238	6.233	5.572	6.375	5.875	5.174	5.865	5.363	4.661
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	559	607	687	570	638	556	603	684	607	662	759
Service Time	4.144	3.641	2.938	4.02	3.359	4.173	3.673	2.972	3.648	3.146	2.444
HCM Lane V/C Ratio	0.016	0.099	0.007	0.084	0.16	0.009	0.043	0.095	0.339	0.13	0.016
HCM Control Delay	9.3	9.3	8	9.6	9.4	9.2	8.9	8.5	11.6	8.9	7.5
HCM Lane LOS	A	A	A	A	A	A	A	A	B	A	A
HCM 95th-tile Q	0.1	0.3	0	0.3	0.6	0	0.1	0.3	1.5	0.4	0

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	84	20	2	10	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	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	91	22	2	11	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	57	11	11	0	-	0
Stage 1	11	-	-	-	-	-
Stage 2	46	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	955	1076	1621	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	982	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	942	1076	1621	-	-	-
Mov Cap-2 Maneuver	917	-	-	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	969	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	6.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1621	-	1076	-	-
HCM Lane V/C Ratio	0.013	-	0.085	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	11	143	398	147	235	45	308	76	115	103	225	24
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.99	1.00		1.00	1.00		0.49
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	17	217	533	223	356	45	467	115	89	156	341	24
Adj No. of Lanes	1	1	1	1	2	1	2	1	1	1	2	0
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	26	329	697	252	1131	478	967	797	677	184	804	54
Arrive On Green	0.00	0.06	0.06	0.14	0.30	0.30	0.27	0.42	0.42	0.10	0.25	0.25
Sat Flow, veh/h	1810	1900	1535	1810	3800	1604	3619	1900	1613	1810	3269	222
Grp Volume(v), veh/h	17	217	533	223	356	45	467	115	89	156	193	172
Grp Sat Flow(s),veh/h/ln	1810	1900	1535	1810	1900	1604	1810	1900	1613	1810	1900	1591
Q Serve(g_s), s	1.1	13.4	9.5	14.5	8.7	2.4	13.0	4.5	4.1	10.2	10.2	11.0
Cycle Q Clear(g_c), s	1.1	13.4	9.5	14.5	8.7	2.4	13.0	4.5	4.1	10.2	10.2	11.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	26	329	697	252	1131	478	967	797	677	184	467	391
V/C Ratio(X)	0.65	0.66	0.76	0.89	0.31	0.09	0.48	0.14	0.13	0.85	0.41	0.44
Avail Cap(c_a), veh/h	83	420	770	354	1409	595	967	797	677	264	467	391
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.47	0.47	0.47	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.4	53.1	12.4	50.7	32.7	30.5	37.0	21.5	21.4	53.0	38.0	38.3
Incr Delay (d2), s/veh	4.7	0.6	1.7	14.0	0.1	0.0	0.1	0.4	0.4	11.6	2.7	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.1	9.6	8.2	4.6	1.1	6.5	2.4	1.9	5.7	5.7	5.2
LnGrp Delay(d),s/veh	64.1	53.7	14.1	64.7	32.7	30.5	37.1	21.9	21.8	64.7	40.7	41.8
LnGrp LOS	E	D	B	E	C	C	D	C	C	E	D	D
Approach Vol, veh/h		767			624			671			521	
Approach Delay, s/veh		26.4			44.0			32.5			48.2	
Approach LOS		C			D			C			D	

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	16.7	55.9	21.2	26.3	37.5	35.0	6.2	41.2
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	17.5	32.5	23.5	26.5	20.5	* 30	5.5	44.5
Max Q Clear Time (g_c+I1), s	12.2	6.5	16.5	15.4	15.0	13.0	3.1	10.7
Green Ext Time (p_c), s	0.1	1.3	0.2	2.7	0.6	1.1	0.0	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	36.6
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	38	210	42	19	14	56	437	49	50	627	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	10	54	179	60	27	1	80	624	66	71	896	60
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	183	263	223	77	127	108	103	1697	179	91	1746	117
Arrive On Green	0.10	0.14	0.14	0.04	0.07	0.07	0.06	0.50	0.50	0.05	0.50	0.50
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3379	357	1810	3522	236
Grp Volume(v), veh/h	10	54	179	60	27	1	80	350	340	71	483	473
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1836	1810	1900	1858
Q Serve(g_s), s	0.4	1.9	8.1	2.5	1.0	0.0	3.3	8.4	8.5	2.9	12.9	12.9
Cycle Q Clear(g_c), s	0.4	1.9	8.1	2.5	1.0	0.0	3.3	8.4	8.5	2.9	12.9	12.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		0.13
Lane Grp Cap(c), veh/h	183	263	223	77	127	108	103	954	922	91	942	921
V/C Ratio(X)	0.05	0.21	0.80	0.78	0.21	0.01	0.78	0.37	0.37	0.78	0.51	0.51
Avail Cap(c_a), veh/h	183	608	517	97	608	517	109	954	922	109	942	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.70	0.70
Uniform Delay (d), s/veh	30.5	28.7	31.3	35.6	33.1	21.1	34.9	11.4	11.4	35.2	12.8	12.8
Incr Delay (d2), s/veh	0.0	0.1	2.5	21.0	0.3	0.0	24.9	1.1	1.1	15.2	1.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.0	3.7	1.7	0.5	0.0	2.4	4.7	4.5	1.8	7.1	6.9
LnGrp Delay(d),s/veh	30.5	28.8	33.9	56.5	33.5	21.1	59.8	12.5	12.5	50.4	14.2	14.2
LnGrp LOS	C	C	C	E	C	C	E	B	B	D	B	B
Approach Vol, veh/h		243			88			770			1027	
Approach Delay, s/veh		32.6			49.0			17.4			16.7	
Approach LOS		C			D			B			B	

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	8.3	43.2	7.7	15.9	8.8	42.7	13.1	10.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.5	22.5	4.0	24.0	4.5	22.5	4.0	* 24
Max Q Clear Time (g_c+I1), s	4.9	10.5	4.5	10.1	5.3	14.9	2.4	3.0
Green Ext Time (p_c), s	0.0	4.8	0.0	0.4	0.0	3.7	0.1	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	269	207	74	18	145	6	57	269	7	30	337	570
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	349	269	96	23	188	8	74	349	9	39	438	735
Adj No. of Lanes	1	1	1	1	2	0	2	2	1	2	2	0
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1016	1700	1445	35	1238	52	130	1354	575	98	640	544
Arrive On Green	0.56	0.89	0.89	0.02	0.34	0.34	0.04	0.36	0.36	0.03	0.34	0.34
Sat Flow, veh/h	1810	1900	1615	1810	3618	153	3619	3800	1615	3619	1900	1615
Grp Volume(v), veh/h	349	269	96	23	98	98	74	349	9	39	438	735
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1871	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	10.0	1.6	2.8	1.2	3.4	3.4	1.9	6.2	0.3	1.0	18.9	32.0
Cycle Q Clear(g_c), s	10.0	1.6	2.8	1.2	3.4	3.4	1.9	6.2	0.3	1.0	18.9	32.0
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1016	1700	1445	35	650	640	130	1354	575	98	640	544
V/C Ratio(X)	0.34	0.16	0.07	0.66	0.15	0.15	0.57	0.26	0.02	0.40	0.68	1.35
Avail Cap(c_a), veh/h	1016	1700	1445	99	650	640	152	1354	575	152	640	544
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	11.3	0.6	10.7	46.3	21.7	21.7	45.1	21.7	19.8	45.5	27.1	31.5
Incr Delay (d2), s/veh	0.1	0.2	0.1	7.8	0.5	0.5	1.4	0.5	0.0	1.0	5.9	169.8
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	5.0	0.9	1.3	0.7	1.9	1.9	1.0	3.3	0.2	0.5	10.9	39.9
LnGrp Delay(d),s/veh	11.4	0.8	10.8	54.1	22.2	22.2	46.5	22.1	19.8	46.4	33.0	201.3
LnGrp LOS	B	A	B	D	C	C	D	C	B	D	C	F
Approach Vol, veh/h		714			219			432			1212	
Approach Delay, s/veh		7.3			25.5			26.3			135.5	
Approach LOS		A			C			C			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	6.3	91.9	8.9	37.5	60.2	38.0	7.1	39.3
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	5.3	33.8	4.0	* 32	6.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	12.2	4.8	3.9	34.0	12.0	5.4	3.0	8.2
Green Ext Time (p_c), s	0.0	1.4	0.0	0.0	0.0	0.6	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	72.3
HCM 2010 LOS	E

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	77	568	203	48	410	73	157	754	47	125	929	44
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	79	580	186	49	418	65	160	769	37	128	948	34
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	924	296	814	2399	370	174	1557	75	161	1021	434
Arrive On Green	0.05	0.33	0.33	0.45	0.75	0.75	0.10	0.29	0.29	0.09	0.27	0.27
Sat Flow, veh/h	1810	2759	882	1810	3209	495	1810	5395	259	1810	3800	1615
Grp Volume(v), veh/h	79	399	367	49	246	237	160	541	265	128	948	34
Grp Sat Flow(s),veh/h/ln	1810	1900	1741	1810	1900	1805	1810	1900	1854	1810	1900	1615
Q Serve(g_s), s	3.5	14.1	14.2	1.2	3.0	3.1	7.0	9.4	9.5	5.5	19.4	1.7
Cycle Q Clear(g_c), s	3.5	14.1	14.2	1.2	3.0	3.1	7.0	9.4	9.5	5.5	19.4	1.7
Prop In Lane	1.00		0.51	1.00		0.27	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	90	637	583	814	1420	1349	174	1096	535	161	1021	434
V/C Ratio(X)	0.87	0.63	0.63	0.06	0.17	0.18	0.92	0.49	0.50	0.79	0.93	0.08
Avail Cap(c_a), veh/h	90	637	583	814	1420	1349	174	1096	535	188	1021	434
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	37.7	22.4	22.4	12.4	2.9	2.9	35.8	23.6	23.6	35.7	28.5	39.3
Incr Delay (d2), s/veh	54.0	4.6	5.1	0.0	0.3	0.3	44.7	1.6	3.3	15.4	15.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	8.2	7.7	0.6	1.7	1.6	5.7	5.2	5.3	3.5	12.3	0.8
LnGrp Delay(d),s/veh	91.7	27.0	27.5	12.4	3.2	3.2	80.5	25.2	26.9	51.1	43.9	39.7
LnGrp LOS	F	C	C	B	A	A	F	C	C	D	D	D
Approach Vol, veh/h		845			532			966			1110	
Approach Delay, s/veh		33.3			4.1			34.8			44.6	
Approach LOS		C			A			C			D	

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	12.5	32.3	13.2	27.0	8.5	66.3	11.6	28.6
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	7.0	* 27	7.7	* 22	4.0	26.8	8.3	20.9
Max Q Clear Time (g_c+I1), s	11.2	16.2	9.0	21.4	5.5	5.1	7.5	11.5
Green Ext Time (p_c), s	0.2	2.2	0.0	0.0	0.0	1.7	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	32.9
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	41	97	72	156	55	87	41	845	174	128	775	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	45	107	63	171	60	-4	45	929	166	141	852	22
Adj No. of Lanes	0	1	1	0	2	1	1	3	0	1	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	57	136	167	218	229	195	148	2453	436	143	2872	74
Arrive On Green	0.10	0.10	0.10	0.12	0.12	0.00	0.08	0.52	0.52	0.08	0.52	0.52
Sat Flow, veh/h	554	1318	1610	1810	1900	1615	1810	4701	836	1810	5530	143
Grp Volume(v), veh/h	152	0	63	171	60	-4	45	750	345	141	585	289
Grp Sat Flow(s),veh/h/ln	1872	0	1610	1810	1900	1615	1810	1900	1738	1810	1900	1873
Q Serve(g_s), s	9.5	0.0	4.4	11.0	3.4	0.0	2.8	14.1	14.2	9.3	10.5	10.5
Cycle Q Clear(g_c), s	9.5	0.0	4.4	11.0	3.4	0.0	2.8	14.1	14.2	9.3	10.5	10.5
Prop In Lane	0.30		1.00	1.00		1.00	1.00		0.48	1.00		0.08
Lane Grp Cap(c), veh/h	194	0	167	218	229	195	148	1983	907	143	1973	972
V/C Ratio(X)	0.79	0.00	0.38	0.78	0.26	-0.02	0.30	0.38	0.38	0.98	0.30	0.30
Avail Cap(c_a), veh/h	468	0	403	452	475	404	148	1983	907	143	1973	972
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	52.5	0.0	50.2	51.2	47.9	0.0	51.9	17.1	17.1	55.2	16.4	16.4
Incr Delay (d2), s/veh	2.7	0.0	0.5	2.3	0.2	0.0	5.2	0.6	1.2	70.1	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	2.0	5.7	1.8	0.0	1.6	7.5	7.1	7.4	5.6	5.7
LnGrp Delay(d),s/veh	55.1	0.0	50.7	53.6	48.1	0.0	57.1	17.7	18.3	125.2	16.8	17.2
LnGrp LOS	E		D	D	D		E	B	B	F	B	B
Approach Vol, veh/h		215			227			1140			1015	
Approach Delay, s/veh		53.8			53.1			19.4			32.0	
Approach LOS		D			D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	68.1		17.9	14.3	67.8		20.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	9.5	29.5		30.0	9.8	29.2		30.0
Max Q Clear Time (g_c+I1), s	11.3	16.2		11.5	4.8	12.5		13.0
Green Ext Time (p_c), s	0.0	6.8		0.6	0.0	7.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	30.1
HCM 2010 LOS	C

Notes

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

APPENDIX 5.3:

E+P CONDITIONS WITHOUT INDIAN STREET BRIDGE OFF-RAMP QUEUING ANALYSIS WORKSHEETS

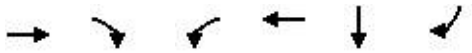
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Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	351	38	369	1347	775	225
v/c Ratio	0.26	0.05	0.83	0.54	0.93	0.49
Control Delay	15.3	0.1	39.3	6.8	25.3	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	0.1	39.3	6.8	25.3	14.8
Queue Length 50th (ft)	47	0	123	112	48	33
Queue Length 95th (ft)	74	0	#242	154	#249	87
Internal Link Dist (ft)	658			955		
Turn Bay Length (ft)						
Base Capacity (vph)	1330	743	484	2475	849	474
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.05	0.76	0.54	0.91	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	405	9	146	173	505	165
v/c Ratio	0.28	0.01	0.45	0.08	0.81	0.22
Control Delay	28.1	0.0	35.4	11.7	46.9	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.1	0.0	35.4	11.7	46.9	4.2
Queue Length 50th (ft)	108	0	46	27	355	0
Queue Length 95th (ft)	167	0	70	42	427	41
Internal Link Dist (ft)	844			267	1109	
Turn Bay Length (ft)		100	80			270
Base Capacity (vph)	1442	761	324	2234	870	960
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.01	0.45	0.08	0.58	0.17

Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	24	1067	1798	396	289	35	44
v/c Ratio	0.21	0.50	0.84	1.00	0.53	0.14	0.08
Control Delay	12.5	9.7	16.4	73.4	23.7	19.1	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	9.7	16.4	73.4	23.7	19.1	8.8
Queue Length 50th (ft)	4	115	261	~156	95	10	3
Queue Length 95th (ft)	19	157	354	#321	164	30	23
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	117	2132	2143	395	544	250	560
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.50	0.84	1.00	0.53	0.14	0.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	221	709	322	378	4	192
v/c Ratio	0.76	0.26	0.16	0.31	0.01	0.37
Control Delay	37.4	6.5	14.8	2.4	39.5	7.9
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay	37.4	7.2	14.8	2.4	39.5	7.9
Queue Length 50th (ft)	155	80	60	0	3	0
Queue Length 95th (ft)	205	145	95	50	13	62
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	577	2755	2059	1202	364	519
Starvation Cap Reductn	7	1614	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.62	0.16	0.31	0.01	0.37

Intersection Summary

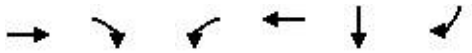


Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	679	132	534	377	785	195
v/c Ratio	0.56	0.19	1.10	0.15	1.04	0.25
Control Delay	19.0	4.2	98.0	4.5	54.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	4.2	98.0	4.5	54.4	0.7
Queue Length 50th (ft)	100	0	~227	22	~120	0
Queue Length 95th (ft)	144	30	#391	35	#334	0
Internal Link Dist (ft)	658			955		
Turn Bay Length (ft)						
Base Capacity (vph)	1216	697	484	2438	758	790
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.19	1.10	0.15	1.04	0.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	418	10	228	141	391	296
v/c Ratio	0.24	0.01	0.77	0.06	0.77	0.41
Control Delay	23.0	0.0	67.0	10.5	50.2	4.9
Queue Delay	0.0	0.0	1.6	0.0	0.0	0.0
Total Delay	23.0	0.0	68.6	10.5	50.2	4.9
Queue Length 50th (ft)	97	0	190	17	280	0
Queue Length 95th (ft)	167	0	274	44	348	58
Internal Link Dist (ft)	844			267	1109	
Turn Bay Length (ft)		100	80			270
Base Capacity (vph)	1729	896	341	2464	870	1031
Starvation Cap Reductn	0	0	32	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.01	0.74	0.06	0.45	0.29

Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	14	1419	1667	30	31	90	37
v/c Ratio	0.12	0.66	0.78	0.08	0.06	0.23	0.07
Control Delay	9.8	11.7	14.4	17.7	17.3	19.6	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	11.7	14.4	17.7	17.3	19.6	7.7
Queue Length 50th (ft)	2	173	232	9	9	27	1
Queue Length 95th (ft)	12	234	312	26	26	60	19
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	117	2138	2132	398	543	400	567
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.66	0.78	0.08	0.06	0.23	0.07

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	279	574	380	554	10	152
v/c Ratio	0.79	0.21	0.20	0.45	0.03	0.31
Control Delay	44.1	1.8	17.2	2.8	39.8	8.2
Queue Delay	0.1	0.3	0.0	0.0	0.0	0.0
Total Delay	44.3	2.1	17.2	2.8	39.8	8.2
Queue Length 50th (ft)	184	4	77	0	6	0
Queue Length 95th (ft)	65	21	118	57	22	54
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	577	2755	1941	1228	364	487
Starvation Cap Reductn	28	1469	0	0	0	0
Spillback Cap Reductn	0	0	65	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.45	0.20	0.45	0.03	0.31

Intersection Summary

APPENDIX 5.4:

E+P CONDITIONS WITH INDIAN STREET BRIDGE OFF-RAMP QUEUING ANALYSIS WORKSHEETS

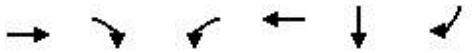
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Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	351	38	369	1347	711	225
v/c Ratio	0.25	0.05	0.82	0.53	0.88	0.54
Control Delay	14.7	0.1	38.4	6.2	18.7	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	0.1	38.4	6.2	18.7	16.2
Queue Length 50th (ft)	47	0	121	107	26	34
Queue Length 95th (ft)	74	0	#242	154	#192	87
Internal Link Dist (ft)	658			955		
Turn Bay Length (ft)						
Base Capacity (vph)	1408	779	488	2562	849	474
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.05	0.76	0.53	0.84	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	406	10	147	173	571	166
v/c Ratio	0.31	0.01	0.45	0.08	0.83	0.21
Control Delay	31.3	0.0	35.3	13.2	45.2	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.3	0.0	35.3	13.2	45.2	3.7
Queue Length 50th (ft)	115	0	46	27	398	0
Queue Length 95th (ft)	176	0	71	42	472	39
Internal Link Dist (ft)	844			267	1109	
Turn Bay Length (ft)		100	80			270
Base Capacity (vph)	1314	698	324	2105	870	960
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.01	0.45	0.08	0.66	0.17

Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	24	1004	1784	396	289	35	44
v/c Ratio	0.21	0.47	0.83	1.00	0.53	0.14	0.08
Control Delay	12.5	9.4	16.1	73.4	23.7	19.1	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	9.4	16.1	73.4	23.7	19.1	8.8
Queue Length 50th (ft)	4	106	257	~156	95	10	3
Queue Length 95th (ft)	19	145	349	#321	164	30	23
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	117	2132	2143	395	544	250	560
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.47	0.83	1.00	0.53	0.14	0.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	221	775	323	393	4	192
v/c Ratio	0.76	0.28	0.16	0.33	0.01	0.37
Control Delay	34.3	7.2	14.8	2.4	39.5	7.9
Queue Delay	0.0	0.9	0.0	0.0	0.0	0.0
Total Delay	34.3	8.1	14.8	2.4	39.5	7.9
Queue Length 50th (ft)	157	103	60	0	3	0
Queue Length 95th (ft)	13	156	95	50	13	62
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	577	2755	2059	1209	364	519
Starvation Cap Reductn	3	1606	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.67	0.16	0.33	0.01	0.37

Intersection Summary

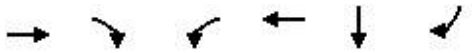


Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	679	132	534	377	768	195
v/c Ratio	0.56	0.19	1.10	0.15	1.01	0.25
Control Delay	19.0	4.2	98.0	4.5	47.8	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	4.2	98.0	4.5	47.8	0.7
Queue Length 50th (ft)	100	0	~227	22	~98	0
Queue Length 95th (ft)	144	30	#391	35	#318	0
Internal Link Dist (ft)	658			955		
Turn Bay Length (ft)						
Base Capacity (vph)	1216	697	484	2438	758	790
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.19	1.10	0.15	1.01	0.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	418	10	228	141	408	296
v/c Ratio	0.25	0.01	0.77	0.06	0.78	0.40
Control Delay	23.7	0.0	68.0	11.0	49.6	4.7
Queue Delay	0.0	0.0	1.6	0.0	0.0	0.0
Total Delay	23.7	0.0	69.6	11.0	49.6	4.7
Queue Length 50th (ft)	98	0	190	17	292	0
Queue Length 95th (ft)	169	0	274	45	360	57
Internal Link Dist (ft)	844			267	1109	
Turn Bay Length (ft)		100	80			270
Base Capacity (vph)	1694	879	341	2429	870	1031
Starvation Cap Reductn	0	0	32	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.01	0.74	0.06	0.47	0.29

Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	14	1403	1598	30	31	90	37
v/c Ratio	0.12	0.66	0.75	0.08	0.06	0.23	0.07
Control Delay	9.8	11.5	13.6	17.7	17.3	19.6	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	11.5	13.6	17.7	17.3	19.6	7.7
Queue Length 50th (ft)	2	169	214	9	9	27	1
Queue Length 95th (ft)	12	229	289	26	26	60	19
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	117	2138	2133	398	543	400	567
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.66	0.75	0.08	0.06	0.23	0.07

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	279	592	380	629	10	152
v/c Ratio	0.79	0.21	0.20	0.50	0.03	0.31
Control Delay	45.2	1.9	17.2	3.1	39.8	8.2
Queue Delay	0.1	0.3	0.0	0.0	0.0	0.0
Total Delay	45.3	2.2	17.2	3.1	39.8	8.2
Queue Length 50th (ft)	185	6	77	3	6	0
Queue Length 95th (ft)	65	27	118	63	22	54
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	577	2755	1941	1261	364	487
Starvation Cap Reductn	25	1464	0	0	0	0
Spillback Cap Reductn	0	0	65	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.46	0.20	0.50	0.03	0.31

Intersection Summary

APPENDIX 5.5:

E+P CONDITIONS WITHOUT INDIAN STREET BRIDGE TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM				
				TRAFFIC CONDITIONS		**E+P w/o Indian**	
				CALC	CHS	DATE	07/09/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/09/15
Major Street:	**Heacock St**			Critical Approach Speed (Major)		50	mph
Minor Street:	**Driveway 1**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **10,527** vpd Minor Street Future ADT = **281** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... √

or

In built up area of isolated community of < 10,000 population .....

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL: XX

CONDITION A - Minimum Vehicular Volume

Satisfied / Not Satisfied: XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **10,527**	1 **281**	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied / Not Satisfied: XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **10,527**	1 **281**	12,000	8,400 *	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied / Not Satisfied: XX

No one condition satisfied, but following conditions fulfilled 80% of more .....

	A	B
	17%	33%

2 CONDITIONS 80%

2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM				
				TRAFFIC CONDITIONS		**E+P w/o Indian**	
				CALC	CHS	DATE	07/09/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/09/15
Major Street:	**Heacock St**			Critical Approach Speed (Major)		50	mph
Minor Street:	**Driveway 2**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **10,506** vpd Minor Street Future ADT = **718** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... √

or

In built up area of isolated community of < 10,000 population .....

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches)		Minimum Requirements EADT: Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
CONDITION A - Minimum Vehicular Volume	Urban	Rural	Urban	Rural
Satisfied / Not Satisfied XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street				
1 **10,506** / *1* **718**	8,000	5,600 *	2,400	1,680
2 + / *1*	9,600	6,720	2,400	1,680
2 + / *2* +	9,600	6,720	3,200	2,240
1 / *2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied / Not Satisfied XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street	Urban	Rural	Urban	Rural
1 **10,506** / *1* **718**	12,000	8,400 *	1,200	850
2 + / *1*	14,400	10,080	1,200	850
2 + / *2* +	14,400	10,080	1,600	1,120
1 / *2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ..... **A** 43% **B** 84%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

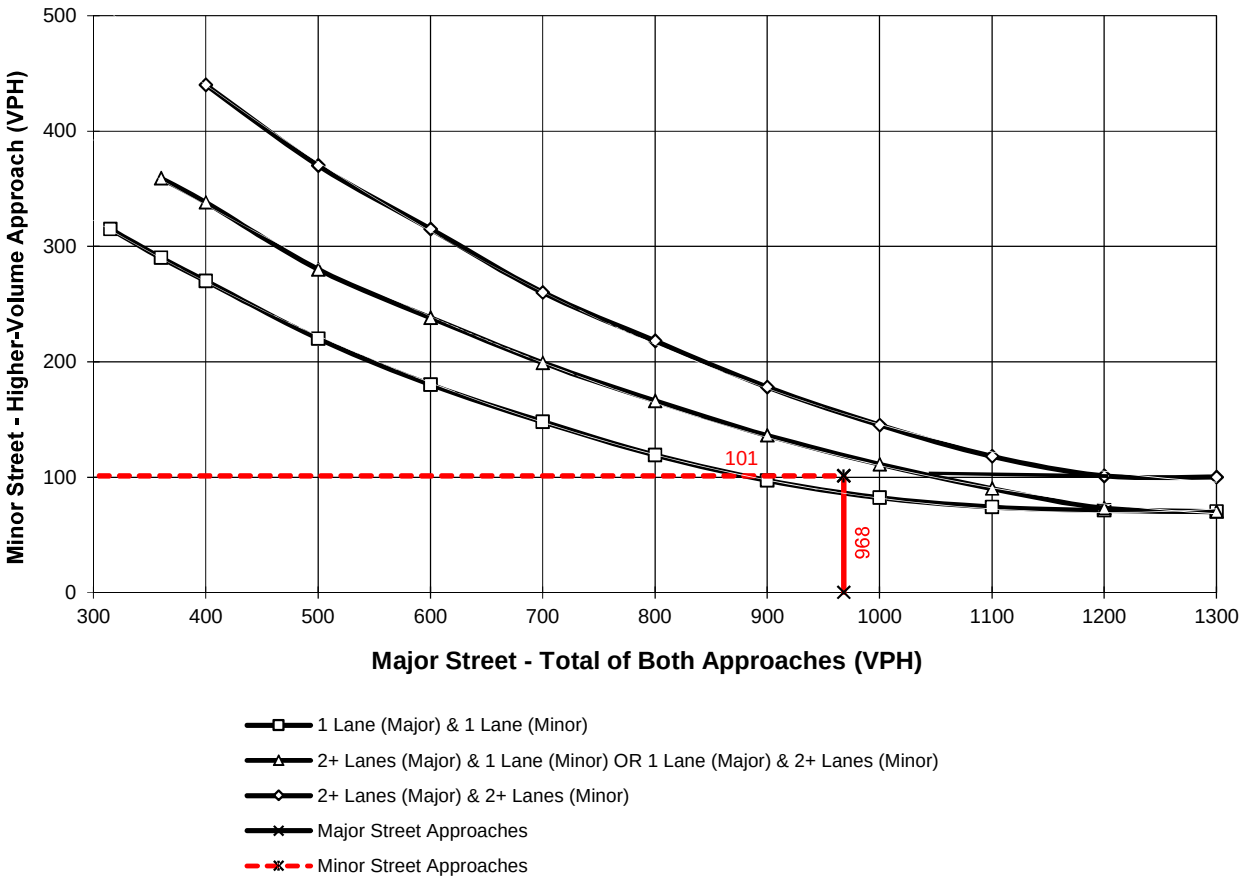
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P (Without Indian) Conditions - Weekday PM Peak Hour**

Major Street Name = **Heacock Street** Total of Both Approaches (VPH) = **968**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Cardinal Avenue** High Volume Approach (VPH) = **101**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

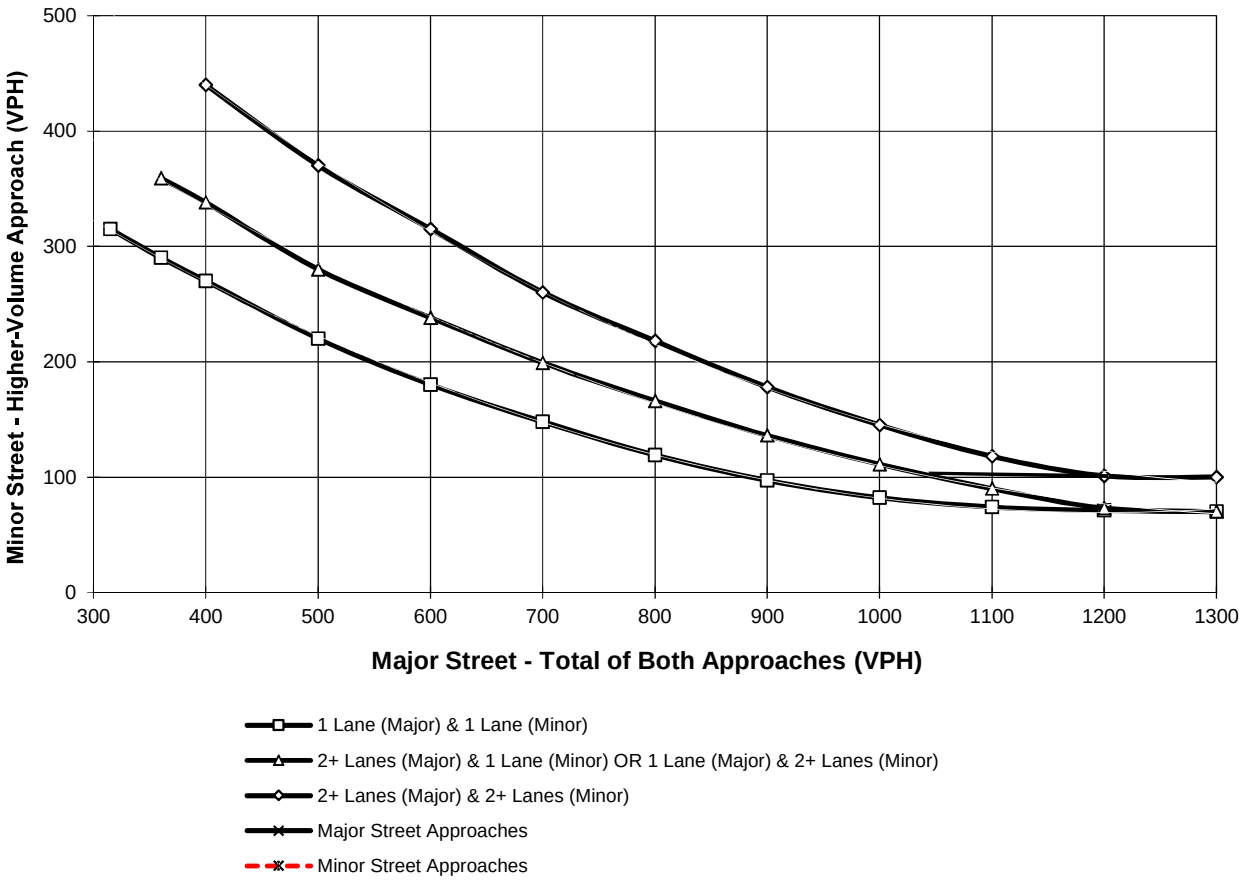
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P (Without Indian) Conditions - Weekday PM Peak Hour**

Major Street Name = **Heacock Street** Total of Both Approaches (VPH) = **220**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Nandina Avenue** High Volume Approach (VPH) = **70**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

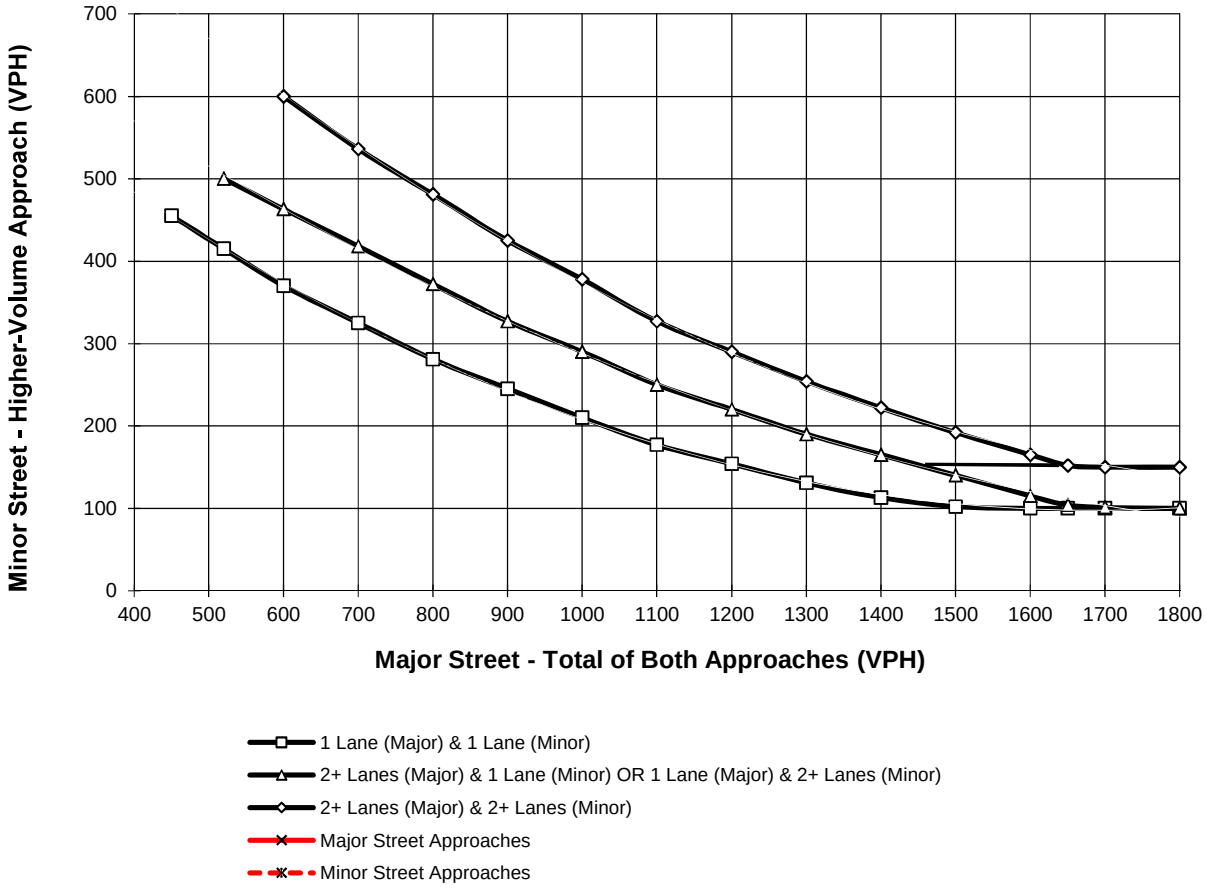
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **E+P (Without Indian) Conditions - Weekday AM Peak Hour**

Major Street Name = **Krameria Avenue (North)** Total of Both Approaches (VPH) = **250**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Cosmos Street** High Volume Approach (VPH) = **104**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM				
				TRAFFIC CONDITIONS		**E+P w/o Indian**	
				CALC	CHS	DATE	07/09/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/09/15
Major Street:	**Krameria Street**			Critical Approach Speed (Major)		25	mph
Minor Street:	**Cosmos Street**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **1,512** vpd Minor Street Future ADT = **1,783** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ……..

or

In built up area of isolated community of < 10,000 population ……

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume					
Satisfied	Not Satisfied	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **1,512**	*1* **1,783**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic					
Satisfied	Not Satisfied	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **1,512**	*1* **1,783**	12,000	8,400	1,200 *	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied				
	XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 19%	**B** 13%			

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM				
				TRAFFIC CONDITIONS		**E+P w/o Indian**	
				CALC	CHS	DATE	07/09/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/09/15
Major Street:	**Krameria Street**			Critical Approach Speed (Major)		25	mph
Minor Street:	**Driveway 3**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **2,252** vpd Minor Street Future ADT = **456** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); …….. [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population …… [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **2,252**	*1* **456**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2 +*	9,600	6,720	3,200	2,240
1	*2 +*	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **2,252**	*1* **456**	12,000	8,400	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2 +*	14,400	10,080	1,600	1,120
1	*2 +*	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 19% **B** 19%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM				
				TRAFFIC CONDITIONS		**E+P w/o Indian**	
				CALC	CHS	DATE	07/09/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/09/15
Major Street:	**Krameria Street**			Critical Approach Speed (Major)		25	mph
Minor Street:	**Driveway 4**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **1,884** vpd Minor Street Future ADT = **194** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [ ]

or

In built up area of isolated community of < 10,000 population ..... [ ]

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **1,884**	*1* **194**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **1,884**	*1* **194**	12,000	8,400	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more	**A** 8% **B** 16%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM				
				TRAFFIC CONDITIONS		**E+P w/o Indian**	
				CALC	CHS	DATE	07/09/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/09/15
Major Street:	**Krameria Street**			Critical Approach Speed (Major)		25	mph
Minor Street:	**Driveway 5**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **1,595** vpd Minor Street Future ADT = **447** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [ ]

or

In built up area of isolated community of < 10,000 population ..... [ ]

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **1,595**	*1* **447**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **1,595**	*1* **447**	12,000	8,400	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more	**A** 19% **B** 13%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

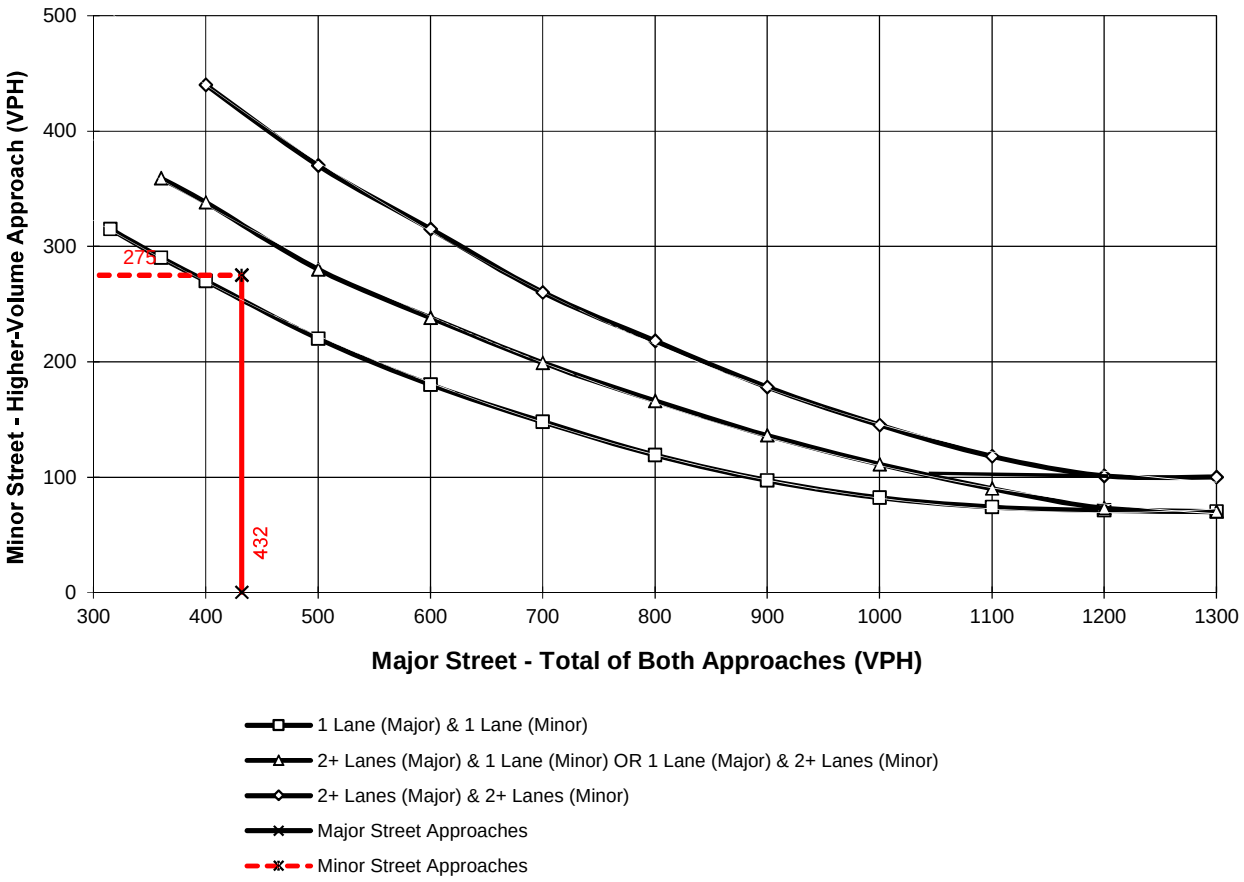
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P (Without Indian) Conditions - Weekday AM Peak Hour**

Major Street Name = **Indian Avenue** Total of Both Approaches (VPH) = **432**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Krameria Avenue** High Volume Approach (VPH) = **275**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 5.6:

E+P CONDITIONS WITH INDIAN STREET BRIDGE TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM				
				TRAFFIC CONDITIONS		**E+P w/ Indian**	
				CALC	CHS	DATE	07/09/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/09/15
Major Street:	**Heacock St**			Critical Approach Speed (Major)		50	mph
Minor Street:	**Driveway 1**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **9,713** vpd Minor Street Future ADT = **281** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [√]

or

In built up area of isolated community of < 10,000 population ..... [ ]

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL: XX

CONDITION A - Minimum Vehicular Volume

Satisfied / Not Satisfied: XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **9,713**	1 **281**	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied / Not Satisfied: XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **9,713**	1 **281**	12,000	8,400 *	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied / Not Satisfied: XX

No one condition satisfied, but following conditions fulfilled 80% of more ..... **A** 17% **B** 33%

2 CONDITIONS 80%

2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM		TRAFFIC CONDITIONS		E+P w/ Indian
				CALC	CHS	DATE	07/12/15
Jurisdiction:	City of Moreno Valley			CHK	CHS	DATE	07/12/15
Major Street:	Heacock St				Critical Approach Speed (Major)		50 mph
Minor Street:	Driveway 2				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **10,079** vpd Minor Street Future ADT = **717** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... √

or

In built up area of isolated community of < 10,000 population .....

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches)		Minimum Requirements EADT: Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
CONDITION A - Minimum Vehicular Volume				
Satisfied / Not Satisfied (XX)				
Number of lanes for moving traffic on each approach	Urban	Rural	Urban	Rural
Major Street / Minor Street				
1 **10,079** / 1 **717**	8,000	5,600 *	2,400	1,680
2 + / 1	9,600	6,720	2,400	1,680
2 + / 2 +	9,600	6,720	3,200	2,240
1 / 2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic				
Satisfied / Not Satisfied (XX)				
Number of lanes for moving traffic on each approach	Urban	Rural	Urban	Rural
Major Street / Minor Street				
1 **10,079** / 1 **717**	12,000	8,400 *	1,200	850
2 + / 1	14,400	10,080	1,200	850
2 + / 2 +	14,400	10,080	1,600	1,120
1 / 2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied (XX)	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ..... A: **43%** B: **84%**				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

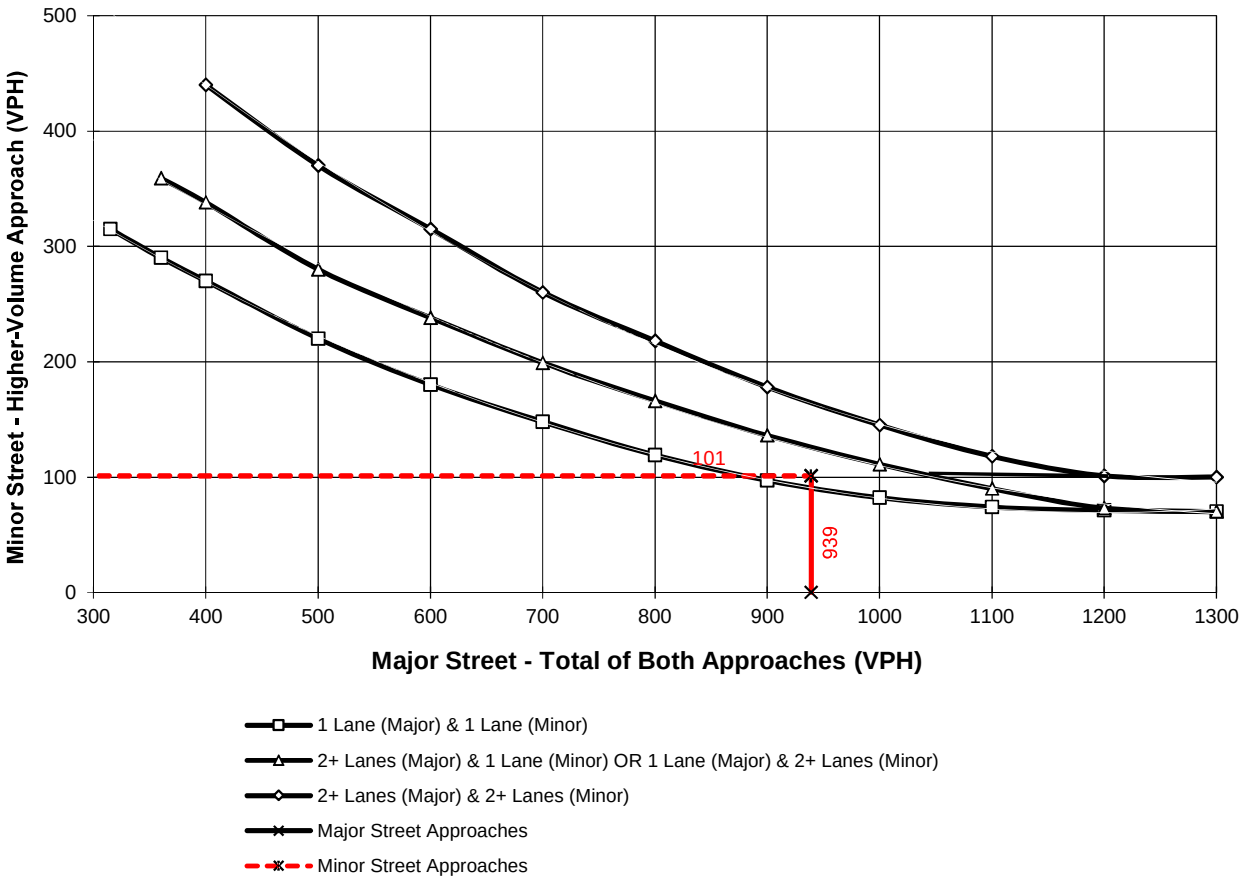
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P (With Indian) Conditions - Weekday PM Peak Hour**

Major Street Name = **Heacock Street** Total of Both Approaches (VPH) = **939**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Nandina Avenue** High Volume Approach (VPH) = **101**
Number of Approach Lanes Minor Street = **1**

WARRANTED FOR A SIGNAL



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

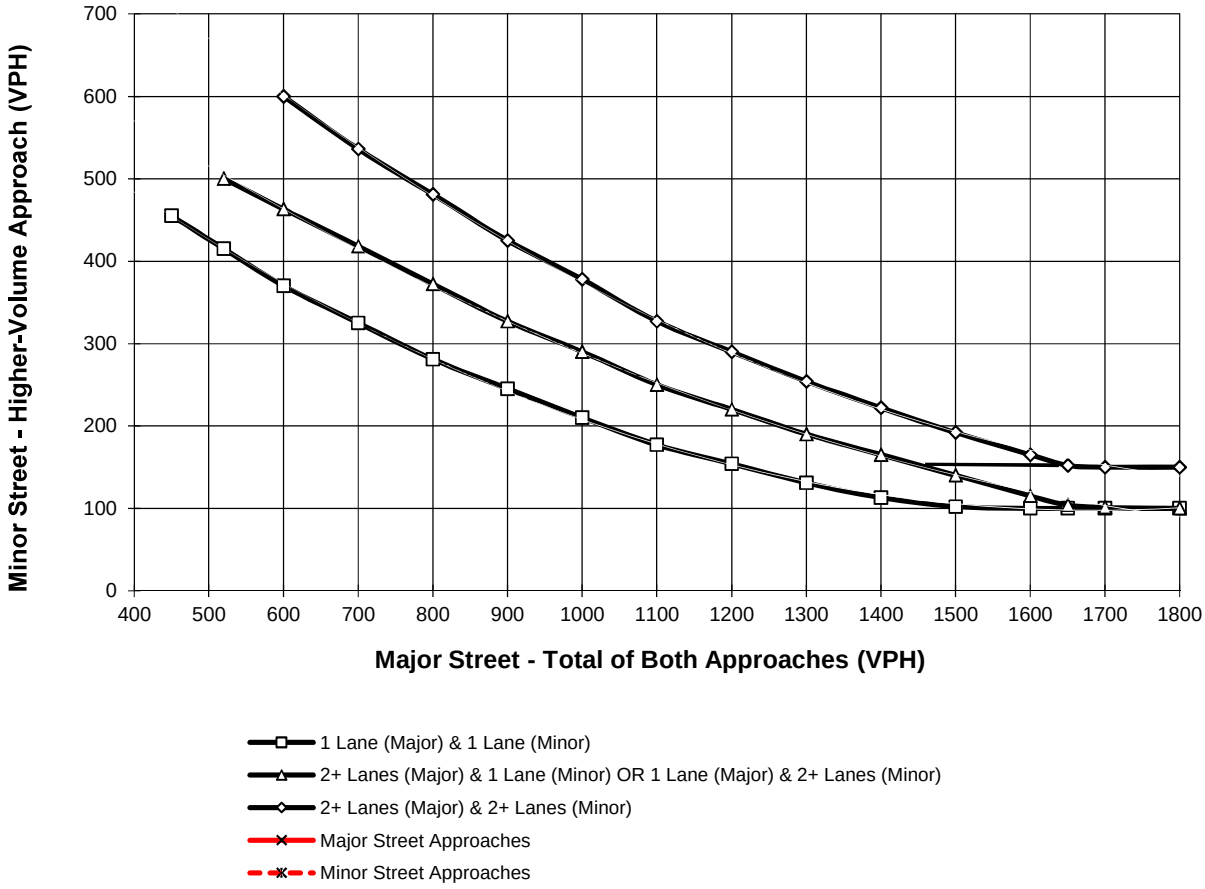
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **E+P (Without Indian) Conditions - Weekday AM Peak Hour**

Major Street Name = **Krameria Avenue (North)** Total of Both Approaches (VPH) = **164**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Cosmos Street** High Volume Approach (VPH) = **85**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM		TRAFFIC CONDITIONS		E+P w/ Indian
				CALC	CHS	DATE	07/09/15
Jurisdiction:	City of Moreno Valley			CHK	CHS	DATE	07/09/15
Major Street:	Krameria Street				Critical Approach Speed (Major)		25 mph
Minor Street:	Cosmos Street				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **1,145** vpd Minor Street Future ADT = **1,204** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ……..

or

In built up area of isolated community of < 10,000 population ……

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT	
XX	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
CONDITION A - Minimum Vehicular Volume		
Satisfied / Not Satisfied: XX		
Number of lanes for moving traffic on each approach		
Major Street / Minor Street	Urban / Rural	Urban / Rural
1 **1,145** / *1* **1,204**	8,000 / 5,600	2,400 / 1,680
2 + / *1*	9,600 / 6,720	2,400 / 1,680
2 + / *2* +	9,600 / 6,720	3,200 / 2,240
1 / *2* +	8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffic		
Satisfied / Not Satisfied: XX	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach		
Major Street / Minor Street	Urban / Rural	Urban / Rural
1 **1,145** / *1* **1,204**	12,000 / 8,400	1,200 * / 850
2 + / *1*	14,400 / 10,080	1,200 / 850
2 + / *2* +	14,400 / 10,080	1,600 / 1,120
1 / *2* +	12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A + B		
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 14% B: 10%		

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM		TRAFFIC CONDITIONS		E+P w/ Indian
				CALC	CHS	DATE	07/09/15
Jurisdiction:	City of Moreno Valley			CHK	CHS	DATE	07/09/15
Major Street:	Krameria Street				Critical Approach Speed (Major)		25 mph
Minor Street:	Driveway 3				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **1,750** vpd Minor Street Future ADT = **256** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ……..

or

In built up area of isolated community of < 10,000 population ……

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach					
Major Street	Minor Street				
1 **1,750**	*1* **256**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach					
Major Street	Minor Street				
1 **1,750**	*1* **256**	12,000	8,400	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 11% **B** 15%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM				
				TRAFFIC CONDITIONS		**E+P w/ Indian**	
				CALC	CHS	DATE	07/09/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/09/15
Major Street:	**Krameria Street**			Critical Approach Speed (Major)		25	mph
Minor Street:	**Driveway 4**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **1,723** vpd Minor Street Future ADT = **124** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ……..

or

In built up area of isolated community of < 10,000 population ……

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **1,723**	*1* **124**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **1,723**	*1* **124**	12,000	8,400	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 5% **B** 10%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM				
				TRAFFIC CONDITIONS		**E+P w/ Indian**	
				CALC	CHS	DATE	07/09/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/09/15
Major Street:	**Krameria Street**			Critical Approach Speed (Major)		25	mph
Minor Street:	**Driveway 5**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **1,708** vpd Minor Street Future ADT = **278** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ……..

or

In built up area of isolated community of < 10,000 population ……

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume					
Satisfied	Not Satisfied	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **1,708**	*1* **278**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic					
Satisfied	Not Satisfied	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **1,708**	*1* **278**	12,000	8,400	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied				
	XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 12%	**B** 14%			

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

APPENDIX 5.7:

E+P CONDITIONS WITHOUT INDIAN STREET BRIDGE BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/13/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5152	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1442	pc/h/ln
S	69.3	mph
D = v_p / S	20.8	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/13/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4739	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1314	pc/h/ln
S	69.8	mph
D = v_p / S	18.8	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/12/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2590	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	962	pc/h/ln
S	70.0	mph
D = v_p / S	13.7	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/12/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2202	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	3
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.985

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	810	pc/h/ln
S	70.0	mph
D = v_p / S	11.6	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/13/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2761	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	8
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.962

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	780	pc/h/ln
S	70.0	mph
D = v_p / S	11.1	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/13/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3689	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1028	pc/h/ln
S	70.0	mph
D = v_p / S	14.7	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/13/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4102	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1516	pc/h/ln
S	68.8	mph
D = v_p / S	22.0	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/13/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3783	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1398	pc/h/ln
S	69.5	mph
D = v_p / S	20.1	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/13/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5581	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1554	pc/h/ln
S	68.5	mph
D = v_p / S	22.7	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/13/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5365	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1487	pc/h/ln
S	69.0	mph
D = v_p / S	21.5	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/13/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3866	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1436	pc/h/ln
S	69.4	mph
D = v_p / S	20.7	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/13/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3519	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1300	pc/h/ln
S	69.9	mph
D = v_p / S	18.6	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/13/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2703	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	8
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.962

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	764	pc/h/ln
S	70.0	mph
D = v_p / S	10.9	pc/mi/ln
LOS	A	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/13/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2727	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	756	pc/h/ln
S	70.0	mph
D = v_p / S	10.8	pc/mi/ln
LOS	A	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/13/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3296	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1218	pc/h/ln
S	70.0	mph
D = v_p / S	17.4	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/13/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2794	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	3
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.985

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1028	pc/h/ln
S	70.0	mph
D = v_p / S	14.7	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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APPENDIX 5.8:

E+P CONDITIONS WITH INDIAN STREET BRIDGE BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5152	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1442	pc/h/ln
S	69.3	mph
D = v_p / S	20.8	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4774	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1330	pc/h/ln
S	69.8	mph
D = v_p / S	19.1	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2625	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	975	pc/h/ln
S	70.0	mph
D = v_p / S	13.9	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2202	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	3
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.985

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	810	pc/h/ln
S	70.0	mph
D = v_p / S	11.6	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2761	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	8
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.962

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	780	pc/h/ln
S	70.0	mph
D = v_p / S	11.1	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3697	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1030	pc/h/ln
S	70.0	mph
D = v_p / S	14.7	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4110	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1519	pc/h/ln
S	68.8	mph
D = v_p / S	22.1	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3783	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1398	pc/h/ln
S	69.5	mph
D = v_p / S	20.1	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5581	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1554	pc/h/ln
S	68.5	mph
D = v_p / S	22.7	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5374	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1490	pc/h/ln
S	69.0	mph
D = v_p / S	21.6	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3875	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1439	pc/h/ln
S	69.3	mph
D = v_p / S	20.8	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3519	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1300	pc/h/ln
S	69.9	mph
D = v_p / S	18.6	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2703	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	8
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.962

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	764	pc/h/ln
S	70.0	mph
D = v_p / S	10.9	pc/mi/ln
LOS	A	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2766	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	770	pc/h/ln
S	70.0	mph
D = v_p / S	11.0	pc/mi/ln
LOS	A	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3334	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1238	pc/h/ln
S	70.0	mph
D = v_p / S	17.7	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2794	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	3
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.985

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1028	pc/h/ln
S	70.0	mph
D = v_p / S	14.7	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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APPENDIX 5.9:

E+P CONDITIONS WITHOUT INDIAN STREET BRIDGE FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P w/o Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off
L_{up} = 1000 ft
V_u = 173 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	4979
Ramp Volume, V_R	605
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4979	0.92	Level	6	0	0.971	1.00	5574
Ramp	605	0.92	Level	16	0	0.926	1.00	710
UpStream	173	0.92	Level	14	0	0.935	1.00	201
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.436 using Equation (Exhibit 13-7)
V_{12} = 2831 pc/h
V_3 or V_{av34} 1371 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5574	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	4864	Exhibit 13-8	9600	No
V_R	710	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2831	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 28.6 (pc/mi/ln)
LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.752 (Exhibit 13-12)
S_R = 48.9 mph (Exhibit 13-12)
S_0 = 75.3 mph (Exhibit 13-12)
S = 59.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	4979
Ramp Volume, V_R	605
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1500 ft
V_D = 365 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4979	0.92	Level	6	0	0.971	1.00	5574
Ramp	605	0.92	Level	16	0	0.926	1.00	710
UpStream								
DownStream	365	0.92	Level	6	0	0.971	1.00	409

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.436 using Equation (Exhibit 13-7)
V_{12} = 2831 pc/h
V_3 or V_{av34} 1371 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5574	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	4864	Exhibit 13-8	9600	No
V_R	710	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2831	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 28.6 (pc/mi/ln)
LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.752 (Exhibit 13-12)
S_R = 48.9 mph (Exhibit 13-12)
S_0 = 75.3 mph (Exhibit 13-12)
S = 59.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	2590
Ramp Volume, V_R	502
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1420 ft
V_D = 114 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2590	0.92	Level	5	0	0.976	1.00	2886
Ramp	502	0.92	Level	18	0	0.917	1.00	595
UpStream								
DownStream	114	0.92	Level	29	0	0.873	1.00	142

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.660 using Equation (Exhibit 13-7)
V_{12} = 2108 pc/h
V_3 or V_{av34} 778 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2886	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2291	Exhibit 13-8	7200	No
V_R	595	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2108	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 20.6 (pc/mi/ln)
LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.352 (Exhibit 13-12)
S_R = 60.2 mph (Exhibit 13-12)
S_0 = 76.8 mph (Exhibit 13-12)
S = 63.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P w/o Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
- ☑ Yes ☐ On
- ☐ No ☑ Off
- L_{up} = 1420 ft
- V_u = 502 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	260
Deceleration Lane Length L_D	
Freeway Volume, V_F	2088
Ramp Volume, V_R	114
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
- ☐ Yes ☐ On
- ☑ No ☐ Off
- L_{down} = ft
- V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2088	0.92	Level	1	0	0.995	1.00	2281
Ramp	114	0.92	Level	29	0	0.873	1.00	142
UpStream	502	0.92	Level	18	0	0.917	1.00	595
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

- L_{EQ} = 585.36 (Equation 13-6 or 13-7)
- P_{FM} = 0.585 using Equation (Exhibit 13-6)
- V_{12} = 1334 pc/h
- V_3 or V_{av34} = 947 pc/h (Equation 13-14 or 13-17)
- Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
- Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
- If Yes, V_{12a} = 1334 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2423	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1476	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

- D_R = 15.3 (pc/mi/ln)
- LOS = B (Exhibit 13-2)

Speed Determination

- M_S = 0.315 (Exibit 13-11)
- S_R = 61.2 mph (Exhibit 13-11)
- S_0 = 68.4 mph (Exhibit 13-11)
- S = 63.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

- L_{EQ} = (Equation 13-12 or 13-13)
- P_{FD} = using Equation (Exhibit 13-7)
- V_{12} = pc/h
- V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)
- Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
- Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
- If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

- D_R = (pc/mi/ln)
- LOS = (Exhibit 13-2)

Speed Determination

- D_s = (Exhibit 13-12)
- S_R = mph (Exhibit 13-12)
- S_0 = mph (Exhibit 13-12)
- S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P w/o Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1075 ft	Acceleration Lane Length, L_A: 0	L_{down} = ft
V_u = 15 veh/h	Deceleration Lane Length L_D	V_D = veh/h
	Freeway Volume, V_F: 2443	
	Ramp Volume, V_R: 318	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2443	0.92	Level	7	0	0.966	1.00	2748
Ramp	318	0.92	Level	11	0	0.948	1.00	365
UpStream	15	0.92	Level	87	0	0.697	1.00	23
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 1587 pc/h

V_3 or V_{av34} = 1161 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1587 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3113	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1952	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 20.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.348 (Exibit 13-11)

S_R = 60.2 mph (Exhibit 13-11)

S_0 = 67.6 mph (Exhibit 13-11)

S = 62.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P w/o Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 152 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3631	
	Ramp Volume, V_R: 471	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3631	0.92	Level	3	0	0.985	1.00	4006
Ramp	471	0.92	Level	13	0	0.939	1.00	545
UpStream	152	0.92	Level	15	0	0.930	1.00	178
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1058.51 (Equation 13-6 or 13-7)

P_{FM} = 0.586 using Equation (Exhibit 13-6)

V_{12} = 2347 pc/h

V_3 or V_{av34} = 1659 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2347 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4551	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2892	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 25.9 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.364 (Exibit 13-11)

S_R = 59.8 mph (Exhibit 13-11)

S_0 = 65.8 mph (Exhibit 13-11)

S = 61.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P w/o Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	3783
Ramp Volume, V_R	152
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1395 ft

V_D = 471 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3783	0.92	Level	4	0	0.980	1.00	4194
Ramp	152	0.92	Level	15	0	0.930	1.00	178
UpStream								
DownStream	471	0.92	Level	13	0	0.939	1.00	545

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.647 using Equation (Exhibit 13-7)

V_{12} = 2776 pc/h

V_3 or V_{av34} 1418 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4194	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4016	Exhibit 13-8	7200	No
V_R	178	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2776	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 25.6 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.314 (Exhibit 13-12)

S_R = 61.2 mph (Exhibit 13-12)

S_0 = 75.2 mph (Exhibit 13-12)

S = 65.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off

L_{up} = 1000 ft

V_u = 152 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	5429
Ramp Volume, V_R	683
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5429	0.92	Level	5	0	0.976	1.00	6049
Ramp	683	0.92	Level	6	0	0.971	1.00	765
UpStream	152	0.92	Level	13	0	0.939	1.00	176
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3069 pc/h

V_3 or V_{av34} 1490 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6049	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5284	Exhibit 13-8	9600	No
V_R	765	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3069	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 30.6 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.757 (Exhibit 13-12)

S_R = 48.8 mph (Exhibit 13-12)

S_0 = 74.9 mph (Exhibit 13-12)

S = 58.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P w/o Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	5429
Ramp Volume, V_R	683
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1500 ft

V_D = 619 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5429	0.92	Level	5	0	0.976	1.00	6049
Ramp	683	0.92	Level	6	0	0.971	1.00	765
UpStream								
DownStream	619	0.92	Level	2	0	0.990	1.00	680

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3069 pc/h

V_3 or V_{av34} 1490 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6049	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5284	Exhibit 13-8	9600	No
V_R	765	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3069	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 30.6 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.757 (Exhibit 13-12)

S_R = 48.8 mph (Exhibit 13-12)

S_0 = 74.9 mph (Exhibit 13-12)

S = 58.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	3866
Ramp Volume, V_R	543
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1420 ft
V_D = 196 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3866	0.92	Level	5	0	0.976	1.00	4307
Ramp	543	0.92	Level	13	0	0.939	1.00	629
UpStream								
DownStream	196	0.92	Level	18	0	0.917	1.00	232

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.623 using Equation (Exhibit 13-7)
V_{12} = 2922 pc/h
V_3 or V_{av34} 1385 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4307	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3678	Exhibit 13-8	7200	No
V_R	629	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2922	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 27.6 (pc/mi/ln)
LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.355 (Exhibit 13-12)
S_R = 60.1 mph (Exhibit 13-12)
S_0 = 75.3 mph (Exhibit 13-12)
S = 64.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P w/o Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
- ☑ Yes ☐ On
- ☐ No ☑ Off
- L_{up} = 1420 ft
- V_u = 543 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	260
Deceleration Lane Length L_D	
Freeway Volume, V_F	3323
Ramp Volume, V_R	196
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
- ☐ Yes ☐ On
- ☑ No ☐ Off
- L_{down} = ft
- V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3323	0.92	Level	3	0	0.985	1.00	3666
Ramp	196	0.92	Level	18	0	0.917	1.00	232
UpStream	543	0.92	Level	13	0	0.939	1.00	629
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

- L_{EQ} = 901.01 (Equation 13-6 or 13-7)
- P_{FM} = 0.585 using Equation (Exhibit 13-6)
- V_{12} = 2144 pc/h
- V_3 or V_{av34} = 1522 pc/h (Equation 13-14 or 13-17)
- Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
- Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
- If Yes, V_{12a} = 2144 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3898	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2376	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

- D_R = 22.3 (pc/mi/ln)
- LOS = C (Exhibit 13-2)

Speed Determination

- M_S = 0.340 (Exibit 13-11)
- S_R = 60.5 mph (Exhibit 13-11)
- S_0 = 66.3 mph (Exhibit 13-11)
- S = 62.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

- L_{EQ} = (Equation 13-12 or 13-13)
- P_{FD} = using Equation (Exhibit 13-7)
- V_{12} = pc/h
- V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)
- Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
- Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
- If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

- D_R = (pc/mi/ln)
- LOS = (Exhibit 13-2)

Speed Determination

- D_s = (Exhibit 13-12)
- S_R = mph (Exhibit 13-12)
- S_0 = mph (Exhibit 13-12)
- S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P w/o Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1075 ft	Acceleration Lane Length, L_A: 0	L_{down} = ft
V_u = 113 veh/h	Deceleration Lane Length L_D	V_D = veh/h
	Freeway Volume, V_F: 2076	
	Ramp Volume, V_R: 627	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2076	0.92	Level	6	0	0.971	1.00	2324
Ramp	627	0.92	Level	14	0	0.935	1.00	729
UpStream	113	0.92	Level	16	0	0.926	1.00	133
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 1342 pc/h

V_3 or V_{av34} = 982 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1342 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3053	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2071	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 21.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.352 (Exibit 13-11)

S_R = 60.1 mph (Exhibit 13-11)

S_0 = 68.3 mph (Exhibit 13-11)

S = 62.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P w/o Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 130 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2664	
	Ramp Volume, V_R: 632	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2664	0.92	Level	2	0	0.990	1.00	2925
Ramp	632	0.92	Level	12	0	0.943	1.00	728
UpStream	130	0.92	Level	11	0	0.948	1.00	149
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 866.34 (Equation 13-6 or 13-7)

P_{FM} = 0.586 using Equation (Exhibit 13-6)

V_{12} = 1714 pc/h

V_3 or V_{av34} 1211 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1714 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3653	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2442	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 22.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.339 (Exibit 13-11)

S_R = 60.5 mph (Exhibit 13-11)

S_0 = 67.4 mph (Exhibit 13-11)

S = 62.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P w/o Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	2794
Ramp Volume, V_R	130
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1395 ft
V_D = 632 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2794	0.92	Level	3	0	0.985	1.00	3083
Ramp	130	0.92	Level	11	0	0.948	1.00	149
UpStream								
DownStream	632	0.92	Level	12	0	0.943	1.00	728

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.676 using Equation (Exhibit 13-7)
V_{12} = 2133 pc/h
V_3 or V_{av34} 950 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3083	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2934	Exhibit 13-8	7200	No
V_R	149	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2133	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 20.1 (pc/mi/ln)
LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.311 (Exhibit 13-12)
S_R = 61.3 mph (Exhibit 13-12)
S_0 = 76.8 mph (Exhibit 13-12)
S = 65.3 mph (Exhibit 13-13)

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APPENDIX 5.10:

E+P CONDITIONS WITH INDIAN STREET BRIDGE FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off

L_{up} = 1000 ft

V_u = 173 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	4979
Ramp Volume, V_R	570
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4979	0.92	Level	6	0	0.971	1.00	5574
Ramp	570	0.92	Level	13	0	0.939	1.00	660
UpStream	173	0.92	Level	14	0	0.935	1.00	201
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 2803 pc/h

V_3 or V_{av34} 1385 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5574	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	4914	Exhibit 13-8	9600	No
V_R	660	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2803	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 28.4 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.747 (Exhibit 13-12)

S_R = 49.1 mph (Exhibit 13-12)

S_0 = 75.3 mph (Exhibit 13-12)

S = 59.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	4979
Ramp Volume, V_R	570
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1500 ft

V_D = 365 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4979	0.92	Level	6	0	0.971	1.00	5574
Ramp	570	0.92	Level	13	0	0.939	1.00	660
UpStream								
DownStream	365	0.92	Level	6	0	0.971	1.00	409

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 2803 pc/h

V_3 or V_{av34} 1385 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5574	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	4914	Exhibit 13-8	9600	No
V_R	660	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2803	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 28.4 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.747 (Exhibit 13-12)

S_R = 49.1 mph (Exhibit 13-12)

S_0 = 75.3 mph (Exhibit 13-12)

S = 59.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P w/ Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	2625
Ramp Volume, V_R	537
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1420 ft; V_D = 114 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2625	0.92	Level	5	0	0.976	1.00	2925
Ramp	537	0.92	Level	21	0	0.905	1.00	645
UpStream								
DownStream	114	0.92	Level	29	0	0.873	1.00	142

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.657 using Equation (Exhibit 13-7)

V_{12} = 2143 pc/h

V_3 or V_{av34} 782 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2925	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2280	Exhibit 13-8	7200	No
V_R	645	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2143	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 20.9 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.356 (Exhibit 13-12)

S_R = 60.0 mph (Exhibit 13-12)

S_0 = 76.8 mph (Exhibit 13-12)

S = 63.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P w/ Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off

L_{up} = 1420 ft

V_u = 537 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	260
Deceleration Lane Length L_D	
Freeway Volume, V_F	2088
Ramp Volume, V_R	114
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2088	0.92	Level	1	0	0.995	1.00	2281
Ramp	114	0.92	Level	29	0	0.873	1.00	142
UpStream	537	0.92	Level	21	0	0.905	1.00	645
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 585.36 (Equation 13-6 or 13-7)

P_{FM} = 0.585 using Equation (Exhibit 13-6)

V_{12} = 1334 pc/h

V_3 or V_{av34} = 947 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1334 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2423	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1476	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 15.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.315 (Exibit 13-11)

S_R = 61.2 mph (Exhibit 13-11)

S_0 = 68.4 mph (Exhibit 13-11)

S = 63.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P w/ Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1075 ft
V_u = 15 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	0
Deceleration Lane Length L_D	
Freeway Volume, V_F	2451
Ramp Volume, V_R	310
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2451	0.92	Level	7	0	0.966	1.00	2757
Ramp	310	0.92	Level	10	0	0.952	1.00	354
UpStream	15	0.92	Level	87	0	0.697	1.00	23
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = 0.577 using Equation (Exhibit 13-6)
V_{12} = 1592 pc/h
V_3 or V_{av34} = 1165 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 1592 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3111	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1946	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 20.5 (pc/mi/ln)
LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.348 (Exibit 13-11)
S_R = 60.2 mph (Exhibit 13-11)
S_0 = 67.6 mph (Exhibit 13-11)
S = 62.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = using Equation (Exhibit 13-7)
V_{12} = pc/h
V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)
S_R = mph (Exhibit 13-12)
S_0 = mph (Exhibit 13-12)
S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P w/ Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 152 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3631	
	Ramp Volume, V_R: 479	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3631	0.92	Level	3	0	0.985	1.00	4006
Ramp	479	0.92	Level	14	0	0.935	1.00	557
UpStream	152	0.92	Level	15	0	0.930	1.00	178
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1061.08 (Equation 13-6 or 13-7)

P_{FM} = 0.586 using Equation (Exhibit 13-6)

V_{12} = 2347 pc/h

V_3 or V_{av34} = 1659 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2347 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4563	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2904	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 26.0 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.365 (Exibit 13-11)

S_R = 59.8 mph (Exhibit 13-11)

S_0 = 65.8 mph (Exhibit 13-11)

S = 61.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	3783
Ramp Volume, V_R	152
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1395 ft
V_D = 479 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3783	0.92	Level	4	0	0.980	1.00	4194
Ramp	152	0.92	Level	15	0	0.930	1.00	178
UpStream								
DownStream	479	0.92	Level	14	0	0.935	1.00	557

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.647 using Equation (Exhibit 13-7)
V_{12} = 2776 pc/h
V_3 or V_{av34} 1418 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4194	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4016	Exhibit 13-8	7200	No
V_R	178	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2776	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 25.6 (pc/mi/ln)
LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.314 (Exhibit 13-12)
S_R = 61.2 mph (Exhibit 13-12)
S_0 = 75.2 mph (Exhibit 13-12)
S = 65.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off

L_{up} = 1000 ft

V_u = 152 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	5429
Ramp Volume, V_R	674
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5429	0.92	Level	5	0	0.976	1.00	6049
Ramp	674	0.92	Level	5	0	0.976	1.00	751
UpStream	152	0.92	Level	13	0	0.939	1.00	176
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3061 pc/h

V_3 or V_{av34} 1494 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6049	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5298	Exhibit 13-8	9600	No
V_R	751	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3061	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 30.6 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.756 (Exhibit 13-12)

S_R = 48.8 mph (Exhibit 13-12)

S_0 = 74.9 mph (Exhibit 13-12)

S = 59.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	5429
Ramp Volume, V_R	674
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1500 ft
V_D = 619 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5429	0.92	Level	5	0	0.976	1.00	6049
Ramp	674	0.92	Level	5	0	0.976	1.00	751
UpStream								
DownStream	619	0.92	Level	2	0	0.990	1.00	680

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.436 using Equation (Exhibit 13-7)
V_{12} = 3061 pc/h
V_3 or V_{av34} 1494 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6049	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5298	Exhibit 13-8	9600	No
V_R	751	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3061	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 30.6 (pc/mi/ln)
LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.756 (Exhibit 13-12)
S_R = 48.8 mph (Exhibit 13-12)
S_0 = 74.9 mph (Exhibit 13-12)
S = 59.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P w/ Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	3875
Ramp Volume, V_R	552
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1420 ft; V_D = 196 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3875	0.92	Level	5	0	0.976	1.00	4317
Ramp	552	0.92	Level	14	0	0.935	1.00	642
UpStream								
DownStream	196	0.92	Level	18	0	0.917	1.00	232

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.623 using Equation (Exhibit 13-7)

V_{12} = 2930 pc/h

V_3 or V_{av34} 1387 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4317	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3675	Exhibit 13-8	7200	No
V_R	642	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2930	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 27.7 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.356 (Exhibit 13-12)

S_R = 60.0 mph (Exhibit 13-12)

S_0 = 75.3 mph (Exhibit 13-12)

S = 64.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P w/ Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 552 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3323	
	Ramp Volume, V_R: 196	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3323	0.92	Level	3	0	0.985	1.00	3666
Ramp	196	0.92	Level	18	0	0.917	1.00	232
UpStream	552	0.92	Level	14	0	0.935	1.00	642
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 901.01 (Equation 13-6 or 13-7)

P_{FM} = 0.585 using Equation (Exhibit 13-6)

V_{12} = 2144 pc/h

V_3 or V_{av34} = 1522 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2144 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3898	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2376	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 22.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.340 (Exibit 13-11)

S_R = 60.5 mph (Exhibit 13-11)

S_0 = 66.3 mph (Exhibit 13-11)

S = 62.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P w/ Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1075 ft	Acceleration Lane Length, L_A: 0	L_{down} = ft
V_u = 113 veh/h	Deceleration Lane Length L_D	V_D = veh/h
	Freeway Volume, V_F: 2115	
	Ramp Volume, V_R: 588	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2115	0.92	Level	7	0	0.966	1.00	2379
Ramp	588	0.92	Level	12	0	0.943	1.00	677
UpStream	113	0.92	Level	16	0	0.926	1.00	133
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 1374 pc/h

V_3 or V_{av34} = 1005 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1374 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3056	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2051	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 21.2 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.351 (Exibit 13-11)

S_R = 60.2 mph (Exhibit 13-11)

S_0 = 68.2 mph (Exhibit 13-11)

S = 62.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P w/ Indian

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1395 ft
V_u = 130 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	300
Deceleration Lane Length L_D	
Freeway Volume, V_F	2664
Ramp Volume, V_R	670
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2664	0.92	Level	2	0	0.990	1.00	2925
Ramp	670	0.92	Level	15	0	0.930	1.00	783
UpStream	130	0.92	Level	11	0	0.948	1.00	149
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 878.11 (Equation 13-6 or 13-7)
P_{FM} = 0.586 using Equation (Exhibit 13-6)
V_{12} = 1714 pc/h
V_3 or V_{av34} = 1211 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 1714 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3708	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2497	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 22.7 (pc/mi/ln)
LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.341 (Exibit 13-11)
S_R = 60.4 mph (Exhibit 13-11)
S_0 = 67.4 mph (Exhibit 13-11)
S = 62.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = using Equation (Exhibit 13-7)
V_{12} = pc/h
V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)
S_R = mph (Exhibit 13-12)
S_0 = mph (Exhibit 13-12)
S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	E+P w/ Indian

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	2794
Ramp Volume, V_R	130
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1395 ft
V_D = 670 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2794	0.92	Level	3	0	0.985	1.00	3083
Ramp	130	0.92	Level	11	0	0.948	1.00	149
UpStream								
DownStream	670	0.92	Level	15	0	0.930	1.00	783

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.676 using Equation (Exhibit 13-7)
V_{12} = 2133 pc/h
V_3 or V_{av34} 950 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3083	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2934	Exhibit 13-8	7200	No
V_R	149	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2133	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 20.1 (pc/mi/ln)
LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.311 (Exhibit 13-12)
S_R = 61.3 mph (Exhibit 13-12)
S_0 = 76.8 mph (Exhibit 13-12)
S = 65.3 mph (Exhibit 13-13)

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APPENDIX 5.11:

E+P CONDITIONS WITHOUT INDIAN STREET BRIDGE INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	3	92	626	2	55	713
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	97	659	2	58	751
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	138	123	747	635	561	1476
Arrive On Green	0.08	0.08	0.39	0.39	0.31	0.78
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	3	97	659	2	58	751
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.1	4.4	24.2	0.1	1.7	10.9
Cycle Q Clear(g_c), s	0.1	4.4	24.2	0.1	1.7	10.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	138	123	747	635	561	1476
V/C Ratio(X)	0.02	0.79	0.88	0.00	0.10	0.51
Avail Cap(c_a), veh/h	627	560	747	635	561	1476
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	32.0	34.0	21.1	13.8	18.4	3.1
Incr Delay (d2), s/veh	0.0	4.1	14.2	0.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.1	15.6	0.0	0.9	6.1
LnGrp Delay(d),s/veh	32.1	38.1	35.3	13.8	18.5	4.3
LnGrp LOS	C	D	D	B	B	A
Approach Vol, veh/h	100		661			809
Approach Delay, s/veh	38.0		35.3			5.4
Approach LOS	D		D			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	28.8	35.0				63.8		11.2
Change Period (Y+Rc), s	5.5	* 5.5				5.5		5.5
Max Green Setting (Gmax), s	4.0	* 30				38.0		26.0
Max Q Clear Time (g_c+I1), s	3.7	26.2				12.9		6.4
Green Ext Time (p_c), s	0.1	0.9				2.9		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	20.0
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	45	383	246	36	200	513
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	48	407	262	38	213	546
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	450	585	700	101	205	1148
Arrive On Green	0.25	0.25	0.43	0.43	0.15	0.80
Sat Flow, veh/h	1810	1615	1623	235	1810	1900
Grp Volume(v), veh/h	48	407	0	300	213	546
Grp Sat Flow(s),veh/h/ln	1810	1615	0	1858	1810	1900
Q Serve(g_s), s	1.5	16.1	0.0	8.2	8.5	6.8
Cycle Q Clear(g_c), s	1.5	16.1	0.0	8.2	8.5	6.8
Prop In Lane	1.00	1.00		0.13	1.00	
Lane Grp Cap(c), veh/h	450	585	0	801	205	1148
V/C Ratio(X)	0.11	0.70	0.00	0.37	1.04	0.48
Avail Cap(c_a), veh/h	627	743	0	801	205	1148
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.85	0.85
Uniform Delay (d), s/veh	21.7	20.4	0.0	14.5	31.8	3.6
Incr Delay (d2), s/veh	0.0	1.2	0.0	1.3	68.4	1.2
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	7.3	0.0	4.5	8.1	3.7
LnGrp Delay(d),s/veh	21.8	21.6	0.0	15.8	100.3	4.8
LnGrp LOS	C	C		B	F	A
Approach Vol, veh/h	455		300			759
Approach Delay, s/veh	21.6		15.8			31.6
Approach LOS	C		B			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	13.0	37.8				50.8		24.2
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	8.5	25.0				38.0		26.0
Max Q Clear Time (g_c+I1), s	10.5	10.2				8.8		18.1
Green Ext Time (p_c), s	0.0	2.6				2.9		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	25.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	4	4	7	5	315	1	39	5	115	88	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	5	2	9	7	353	1	52	7	153	117	8
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	16	95	81	16	95	737	2	618	525	735	1406	1195
Arrive On Green	0.01	0.05	0.05	0.01	0.05	0.05	0.00	0.32	0.32	0.41	0.74	0.74
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Grp Volume(v), veh/h	3	5	2	9	7	353	1	52	7	153	117	8
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	0.2	0.3	0.1	0.5	0.4	0.0	0.1	1.9	0.3	5.5	1.7	0.1
Cycle Q Clear(g_c), s	0.2	0.3	0.1	0.5	0.4	0.0	0.1	1.9	0.3	5.5	1.7	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	16	95	81	16	95	737	2	618	525	735	1406	1195
V/C Ratio(X)	0.19	0.05	0.02	0.56	0.07	0.48	0.50	0.08	0.01	0.21	0.08	0.01
Avail Cap(c_a), veh/h	100	551	468	72	523	1100	81	618	525	735	1406	1195
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	0.19	0.19	0.19	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	45.2	36.1	49.4	45.3	18.9	49.9	23.4	22.9	19.3	3.6	1.1
Incr Delay (d2), s/veh	2.1	0.1	0.0	2.2	0.0	0.0	58.7	0.3	0.0	0.1	0.1	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	0.1	0.1	0.0	0.3	0.2	6.8	0.1	1.0	0.1	2.7	0.9	0.0
LnGrp Delay(d),s/veh	51.3	45.3	36.1	51.6	45.3	19.0	108.6	23.7	22.9	19.3	3.7	1.2
LnGrp LOS	D	D	D	D	D	B	F	C	C	B	A	A
Approach Vol, veh/h		10			369			60			278	
Approach Delay, s/veh		45.3			20.3			25.0			12.2	
Approach LOS		D			C			C			B	

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	46.1	38.0	5.4	10.5	4.6	79.5	5.4	10.5
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	14.5	* 33	4.0	29.0	4.5	42.5	5.5	27.5
Max Q Clear Time (g_c+I1), s	7.5	3.9	2.5	2.3	2.1	3.7	2.2	2.4
Green Ext Time (p_c), s	0.3	0.1	0.0	0.0	0.0	0.5	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	17.9
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	60	876	7	124	996
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	65	942	8	133	1071
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	92	82	965	820	500	1594
Arrive On Green	0.05	0.05	0.51	0.51	0.28	0.84
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	1	65	942	8	133	1071
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.1	4.0	48.4	0.2	5.7	20.8
Cycle Q Clear(g_c), s	0.1	4.0	48.4	0.2	5.7	20.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	92	82	965	820	500	1594
V/C Ratio(X)	0.01	0.79	0.98	0.01	0.27	0.67
Avail Cap(c_a), veh/h	470	420	965	820	500	1594
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	45.1	46.9	24.0	12.2	28.3	3.0
Incr Delay (d2), s/veh	0.0	6.3	23.7	0.0	0.1	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.9	31.5	0.1	2.9	11.4
LnGrp Delay(d),s/veh	45.1	53.2	47.7	12.2	28.4	5.2
LnGrp LOS	D	D	D	B	C	A
Approach Vol, veh/h	66		950			1204
Approach Delay, s/veh	53.1		47.4			7.8
Approach LOS	D		D			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	33.1	56.3				89.4		10.6
Change Period (Y+Rc), s	5.5	* 5.5				5.5		5.5
Max Green Setting (Gmax), s	7.7	* 51				63.0		26.0
Max Q Clear Time (g_c+I1), s	7.7	50.4				22.8		6.0
Green Ext Time (p_c), s	0.0	0.2				5.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	26.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	18	243	633	18	512	464
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	283	736	21	595	540
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	250	714	788	22	550	1463
Arrive On Green	0.14	0.14	0.43	0.43	0.30	0.77
Sat Flow, veh/h	1810	1615	1838	52	1810	1900
Grp Volume(v), veh/h	21	283	0	757	595	540
Grp Sat Flow(s),veh/h/ln	1810	1615	0	1891	1810	1900
Q Serve(g_s), s	1.2	14.2	0.0	45.8	36.5	11.0
Cycle Q Clear(g_c), s	1.2	14.2	0.0	45.8	36.5	11.0
Prop In Lane	1.00	1.00		0.03	1.00	
Lane Grp Cap(c), veh/h	250	714	0	810	550	1463
V/C Ratio(X)	0.08	0.40	0.00	0.93	1.08	0.37
Avail Cap(c_a), veh/h	392	841	0	810	550	1463
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.68	0.68
Uniform Delay (d), s/veh	45.1	22.6	0.0	32.7	41.8	4.4
Incr Delay (d2), s/veh	0.1	0.1	0.0	19.2	55.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	6.4	0.0	28.1	26.7	5.9
LnGrp Delay(d),s/veh	45.1	22.8	0.0	51.9	97.6	4.9
LnGrp LOS	D	C		D	F	A
Approach Vol, veh/h	304		757			1135
Approach Delay, s/veh	24.3		51.9			53.5
Approach LOS	C		D			D

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	41.0	56.9				97.9		22.1
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	36.5	42.0				83.0		26.0
Max Q Clear Time (g_c+I1), s	38.5	47.8				13.0		16.2
Green Ext Time (p_c), s	0.0	0.0				5.4		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	48.9
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	11	6	5	11	0	247	0	71	3	344	212	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	9	7	16	0	353	0	101	0	491	303	3
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	26	96	81	26	96	831	469	534	454	840	923	784
Arrive On Green	0.01	0.05	0.05	0.01	0.00	0.05	0.00	0.28	0.00	0.46	0.49	0.49
Sat Flow, veh/h	1810	1900	1599	1810	1900	1615	1810	1900	1615	1810	1900	1615
Grp Volume(v), veh/h	16	9	7	16	0	353	0	101	0	491	303	3
Grp Sat Flow(s),veh/h/ln	1810	1900	1599	1810	1900	1615	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	0.9	0.5	0.4	0.9	0.0	0.0	0.0	4.2	0.0	21.0	10.2	0.1
Cycle Q Clear(g_c), s	0.9	0.5	0.4	0.9	0.0	0.0	0.0	4.2	0.0	21.0	10.2	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	26	96	81	26	96	831	469	534	454	840	923	784
V/C Ratio(X)	0.62	0.09	0.09	0.62	0.00	0.42	0.00	0.19	0.00	0.58	0.33	0.00
Avail Cap(c_a), veh/h	86	470	396	69	452	1134	469	534	454	840	923	784
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	0.82	0.00	0.82	0.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	47.6	47.5	51.5	0.0	15.8	0.0	28.7	0.0	20.7	16.5	13.9
Incr Delay (d2), s/veh	8.8	0.2	0.2	7.3	0.0	0.1	0.0	0.8	0.0	0.7	1.0	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	0.3	0.2	0.5	0.0	6.3	0.0	2.3	0.0	10.5	5.6	0.0
LnGrp Delay(d),s/veh	60.3	47.7	47.7	58.7	0.0	15.9	0.0	29.5	0.0	21.4	17.5	13.9
LnGrp LOS	E	D	D	E		B		C		C	B	B
Approach Vol, veh/h		32			369			101			797	
Approach Delay, s/veh		54.0			17.8			29.5			19.9	
Approach LOS		D			B			C			B	

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	53.2	35.0	6.0	10.8	31.7	56.5	6.0	10.8
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	25.5	29.5	4.0	26.0	4.0	51.0	5.0	25.0
Max Q Clear Time (g_c+I1), s	23.0	6.2	2.9	2.5	0.0	12.2	2.9	2.0
Green Ext Time (p_c), s	0.2	0.2	0.0	0.0	0.0	0.9	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	20.9
HCM 2010 LOS	C

APPENDIX 5.12:

E+P CONDITIONS WITH INDIAN STREET BRIDGE INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	3	92	612	2	55	652
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	97	644	2	58	686
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	138	123	747	635	561	1476
Arrive On Green	0.08	0.08	0.39	0.39	0.31	0.78
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	3	97	644	2	58	686
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.1	4.4	23.3	0.1	1.7	9.5
Cycle Q Clear(g_c), s	0.1	4.4	23.3	0.1	1.7	9.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	138	123	747	635	561	1476
V/C Ratio(X)	0.02	0.79	0.86	0.00	0.10	0.46
Avail Cap(c_a), veh/h	627	560	747	635	561	1476
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	32.0	34.0	20.9	13.8	18.4	2.9
Incr Delay (d2), s/veh	0.0	4.1	12.5	0.0	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.1	14.8	0.0	0.9	5.2
LnGrp Delay(d),s/veh	32.1	38.1	33.4	13.8	18.5	4.0
LnGrp LOS	C	D	C	B	B	A
Approach Vol, veh/h	100		646			744
Approach Delay, s/veh	38.0		33.3			5.1
Approach LOS	D		C			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	28.8	35.0				63.8		11.2
Change Period (Y+Rc), s	5.5	* 5.5				5.5		5.5
Max Green Setting (Gmax), s	4.0	* 30				38.0		26.0
Max Q Clear Time (g_c+I1), s	3.7	25.3				11.5		6.4
Green Ext Time (p_c), s	0.1	1.0				2.6		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	19.5
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	45	383	232	36	200	452
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	48	407	247	38	213	481
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	427	603	746	115	249	1232
Arrive On Green	0.24	0.24	0.46	0.46	0.14	0.65
Sat Flow, veh/h	1810	1615	1609	248	1810	1900
Grp Volume(v), veh/h	48	407	0	285	213	481
Grp Sat Flow(s),veh/h/ln	1810	1615	0	1856	1810	1900
Q Serve(g_s), s	2.0	20.1	0.0	9.2	10.9	11.3
Cycle Q Clear(g_c), s	2.0	20.1	0.0	9.2	10.9	11.3
Prop In Lane	1.00	1.00		0.13	1.00	
Lane Grp Cap(c), veh/h	427	603	0	860	249	1232
V/C Ratio(X)	0.11	0.67	0.00	0.33	0.86	0.39
Avail Cap(c_a), veh/h	497	666	0	860	390	1232
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.88	0.88
Uniform Delay (d), s/veh	28.5	24.9	0.0	16.2	40.1	7.9
Incr Delay (d2), s/veh	0.0	1.7	0.0	1.0	5.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	9.2	0.0	5.0	5.8	6.2
LnGrp Delay(d),s/veh	28.5	26.7	0.0	17.2	45.8	8.7
LnGrp LOS	C	C		B	D	A
Approach Vol, veh/h	455		285			694
Approach Delay, s/veh	26.9		17.2			20.1
Approach LOS	C		B			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	17.5	49.5				67.1		27.9
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	20.5	32.9				57.9		26.1
Max Q Clear Time (g_c+I1), s	12.9	11.2				13.3		22.1
Green Ext Time (p_c), s	0.2	2.5				2.6		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	21.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	4	4	7	5	290	1	39	5	110	88	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	3	5	2	9	7	320	1	52	7	147	117	8
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	16	95	81	16	95	737	2	618	525	735	1406	1195
Arrive On Green	0.01	0.05	0.05	0.01	0.05	0.05	0.00	0.32	0.32	0.41	0.74	0.74
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Grp Volume(v), veh/h	3	5	2	9	7	320	1	52	7	147	117	8
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	0.2	0.3	0.1	0.5	0.4	0.0	0.1	1.9	0.3	5.3	1.7	0.1
Cycle Q Clear(g_c), s	0.2	0.3	0.1	0.5	0.4	0.0	0.1	1.9	0.3	5.3	1.7	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	16	95	81	16	95	737	2	618	525	735	1406	1195
V/C Ratio(X)	0.19	0.05	0.02	0.56	0.07	0.43	0.50	0.08	0.01	0.20	0.08	0.01
Avail Cap(c_a), veh/h	100	551	468	72	523	1100	81	618	525	735	1406	1195
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	0.74	0.74	0.74	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	45.2	36.1	49.4	45.3	18.4	49.9	23.4	22.9	19.2	3.6	1.1
Incr Delay (d2), s/veh	2.1	0.1	0.0	8.2	0.1	0.1	58.7	0.3	0.0	0.0	0.1	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	0.1	0.1	0.0	0.3	0.2	6.0	0.1	1.0	0.1	2.6	0.9	0.0
LnGrp Delay(d),s/veh	51.3	45.3	36.1	57.6	45.4	18.6	108.6	23.7	22.9	19.2	3.7	1.2
LnGrp LOS	D	D	D	E	D	B	F	C	C	B	A	A
Approach Vol, veh/h		10			336			60			272	
Approach Delay, s/veh		45.3			20.2			25.0			12.0	
Approach LOS		D			C			C			B	

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	46.1	38.0	5.4	10.5	4.6	79.5	5.4	10.5
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	14.5	* 33	4.0	29.0	4.5	42.5	5.5	27.5
Max Q Clear Time (g_c+I1), s	7.3	3.9	2.5	2.3	2.1	3.7	2.2	2.4
Green Ext Time (p_c), s	0.3	0.1	0.0	0.0	0.0	0.5	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	17.7
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	476	206	71	5	245	15	103	255	25	9	65	198
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	506	219	59	5	261	14	110	271	23	10	69	144
Adj No. of Lanes	1	3	0	1	3	0	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	752	3146	802	9	1834	97	152	1403	596	35	1280	1215
Arrive On Green	0.42	0.76	0.76	0.01	0.34	0.34	0.04	0.37	0.37	0.01	0.34	0.34
Sat Flow, veh/h	1810	4121	1051	1810	5362	284	3619	3800	1615	3619	3800	1615
Grp Volume(v), veh/h	506	182	96	5	184	91	110	271	23	10	69	144
Grp Sat Flow(s),veh/h/ln	1810	1729	1714	1810	1900	1846	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	21.5	1.2	1.3	0.3	3.2	3.2	2.9	4.6	0.9	0.3	1.2	0.8
Cycle Q Clear(g_c), s	21.5	1.2	1.3	0.3	3.2	3.2	2.9	4.6	0.9	0.3	1.2	0.8
Prop In Lane	1.00		0.61	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	752	2639	1308	9	1300	631	152	1403	596	35	1280	1215
V/C Ratio(X)	0.67	0.07	0.07	0.53	0.14	0.14	0.72	0.19	0.04	0.28	0.05	0.12
Avail Cap(c_a), veh/h	752	2639	1308	76	1300	631	152	1403	596	152	1280	1215
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	22.5	2.8	2.8	47.1	21.6	21.6	45.0	20.4	19.2	46.7	21.3	8.8
Incr Delay (d2), s/veh	1.9	0.1	0.1	16.1	0.2	0.5	13.5	0.3	0.1	1.6	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	0.6	0.7	0.2	1.7	1.7	1.7	2.5	0.4	0.1	0.6	1.7
LnGrp Delay(d),s/veh	24.4	2.9	2.9	63.3	21.8	22.1	58.5	20.7	19.3	48.3	21.4	9.0
LnGrp LOS	C	A	A	E	C	C	E	C	B	D	C	A
Approach Vol, veh/h		784			280			404			223	
Approach Delay, s/veh		16.8			22.7			30.9			14.6	
Approach LOS		B			C			C			B	

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	5.0	79.0	8.5	37.5	46.0	38.0	5.4	40.6
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	35.0	4.0	32.0	6.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	2.3	3.3	4.9	3.2	23.5	5.2	2.3	6.6
Green Ext Time (p_c), s	0.0	1.7	0.0	1.4	0.0	0.9	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	20.8
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	60	808	7	124	979
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	65	869	8	133	1053
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	92	82	876	745	552	1571
Arrive On Green	0.05	0.05	0.46	0.46	0.30	0.83
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	1	65	869	8	133	1053
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.0	3.6	40.9	0.2	5.0	19.4
Cycle Q Clear(g_c), s	0.0	3.6	40.9	0.2	5.0	19.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	92	82	876	745	552	1571
V/C Ratio(X)	0.01	0.79	0.99	0.01	0.24	0.67
Avail Cap(c_a), veh/h	523	467	876	745	552	1571
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	40.6	42.2	24.1	13.1	23.5	3.0
Incr Delay (d2), s/veh	0.0	6.3	28.5	0.0	0.1	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.7	28.2	0.1	2.5	10.7
LnGrp Delay(d),s/veh	40.6	48.6	52.6	13.2	23.6	5.3
LnGrp LOS	D	D	D	B	C	A
Approach Vol, veh/h	66		877			1186
Approach Delay, s/veh	48.4		52.2			7.4
Approach LOS	D		D			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	32.9	47.0				79.9		10.1
Change Period (Y+Rc), s	5.5	* 5.5				5.5		5.5
Max Green Setting (Gmax), s	7.0	* 42				53.0		26.0
Max Q Clear Time (g_c+I1), s	7.0	42.9				21.4		5.6
Green Ext Time (p_c), s	0.0	0.0				5.4		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	27.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	18	243	565	18	512	447
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	21	283	657	21	595	520
Adj No. of Lanes	1	1	1	0	1	1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	247	726	772	25	565	1466
Arrive On Green	0.14	0.14	0.42	0.42	0.31	0.77
Sat Flow, veh/h	1810	1615	1831	59	1810	1900
Grp Volume(v), veh/h	21	283	0	678	595	520
Grp Sat Flow(s),veh/h/ln	1810	1615	0	1890	1810	1900
Q Serve(g_s), s	1.2	14.0	0.0	38.8	37.5	10.3
Cycle Q Clear(g_c), s	1.2	14.0	0.0	38.8	37.5	10.3
Prop In Lane	1.00	1.00		0.03	1.00	
Lane Grp Cap(c), veh/h	247	726	0	797	565	1466
V/C Ratio(X)	0.08	0.39	0.00	0.85	1.05	0.35
Avail Cap(c_a), veh/h	392	855	0	797	565	1466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.67	0.67
Uniform Delay (d), s/veh	45.2	22.1	0.0	31.3	41.3	4.3
Incr Delay (d2), s/veh	0.1	0.1	0.0	11.1	45.7	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	6.2	0.0	22.6	25.9	5.5
LnGrp Delay(d),s/veh	45.3	22.2	0.0	42.4	86.9	4.8
LnGrp LOS	D	C		D	F	A
Approach Vol, veh/h	304		678			1115
Approach Delay, s/veh	23.8		42.4			48.6
Approach LOS	C		D			D

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	42.0	56.1				98.1		21.9
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	37.5	41.0				83.0		26.0
Max Q Clear Time (g_c+I1), s	39.5	40.8				12.3		16.0
Green Ext Time (p_c), s	0.0	0.1				4.7		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	43.0
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	11	6	5	11	0	241	0	71	3	318	212	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	9	7	16	0	344	0	101	0	454	303	3
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	26	96	81	26	96	831	469	534	454	840	923	784
Arrive On Green	0.01	0.05	0.05	0.01	0.00	0.05	0.00	0.28	0.00	0.46	0.49	0.49
Sat Flow, veh/h	1810	1900	1599	1810	1900	1615	1810	1900	1615	1810	1900	1615
Grp Volume(v), veh/h	16	9	7	16	0	344	0	101	0	454	303	3
Grp Sat Flow(s),veh/h/ln	1810	1900	1599	1810	1900	1615	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	0.9	0.5	0.4	0.9	0.0	0.0	0.0	4.2	0.0	18.9	10.2	0.1
Cycle Q Clear(g_c), s	0.9	0.5	0.4	0.9	0.0	0.0	0.0	4.2	0.0	18.9	10.2	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	26	96	81	26	96	831	469	534	454	840	923	784
V/C Ratio(X)	0.62	0.09	0.09	0.62	0.00	0.41	0.00	0.19	0.00	0.54	0.33	0.00
Avail Cap(c_a), veh/h	86	470	396	69	452	1134	469	534	454	840	923	784
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	0.83	0.00	0.83	0.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	47.6	47.5	51.5	0.0	15.7	0.0	28.7	0.0	20.1	16.5	13.9
Incr Delay (d2), s/veh	8.8	0.2	0.2	7.3	0.0	0.1	0.0	0.8	0.0	0.4	1.0	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	0.3	0.2	0.5	0.0	6.0	0.0	2.3	0.0	9.4	5.6	0.0
LnGrp Delay(d),s/veh	60.3	47.7	47.7	58.8	0.0	15.8	0.0	29.5	0.0	20.5	17.5	13.9
LnGrp LOS	E	D	D	E		B		C		C	B	B
Approach Vol, veh/h		32			360			101			760	
Approach Delay, s/veh		54.0			17.7			29.5			19.3	
Approach LOS		D			B			C			B	

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	53.2	35.0	6.0	10.8	31.7	56.5	6.0	10.8
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	25.5	29.5	4.0	26.0	4.0	51.0	5.0	25.0
Max Q Clear Time (g_c+I1), s	20.9	6.2	2.9	2.5	0.0	12.2	2.9	2.0
Green Ext Time (p_c), s	0.3	0.2	0.0	0.0	0.0	0.9	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	20.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	269	207	74	18	145	6	57	269	7	30	337	570
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	349	269	96	23	188	8	74	349	9	39	438	735
Adj No. of Lanes	1	3	0	1	3	0	2	2	1	2	2	1
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	896	3257	1086	34	1680	71	125	1228	522	94	1158	1292
Arrive On Green	0.50	0.80	0.80	0.02	0.31	0.31	0.03	0.32	0.32	0.03	0.30	0.30
Sat Flow, veh/h	1810	4095	1365	1810	5428	228	3619	3800	1615	3619	3800	1615
Grp Volume(v), veh/h	349	248	117	23	131	65	74	349	9	39	438	735
Grp Sat Flow(s),veh/h/ln	1810	1900	1659	1810	1900	1856	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	12.7	1.5	1.6	1.3	2.6	2.6	2.1	7.2	0.4	1.1	9.5	0.0
Cycle Q Clear(g_c), s	12.7	1.5	1.6	1.3	2.6	2.6	2.1	7.2	0.4	1.1	9.5	0.0
Prop In Lane	1.00		0.82	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	896	3023	1320	34	1176	575	125	1228	522	94	1158	1292
V/C Ratio(X)	0.39	0.08	0.09	0.68	0.11	0.11	0.59	0.28	0.02	0.42	0.38	0.57
Avail Cap(c_a), veh/h	896	3023	1320	91	1176	575	138	1228	522	138	1158	1292
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	16.6	2.3	2.4	51.2	25.9	25.9	49.9	26.5	24.2	50.4	28.7	3.9
Incr Delay (d2), s/veh	0.1	0.1	0.1	8.7	0.2	0.4	3.0	0.6	0.1	1.1	0.9	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.8	0.8	0.7	1.4	1.4	1.1	3.9	0.2	0.6	5.1	8.2
LnGrp Delay(d),s/veh	16.7	2.4	2.5	59.9	26.1	26.3	52.9	27.1	24.3	51.5	29.6	5.7
LnGrp LOS	B	A	A	E	C	C	D	C	C	D	C	A
Approach Vol, veh/h		714			219			432			1212	
Approach Delay, s/veh		9.4			29.7			31.4			15.8	
Approach LOS		A			C			C			B	

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	6.5	89.1	9.1	37.5	57.5	38.0	7.2	39.4
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	5.3	43.7	4.0	* 32	16.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	3.3	3.6	4.1	11.5	14.7	4.6	3.1	9.2
Green Ext Time (p_c), s	0.0	1.8	0.0	3.0	0.2	0.6	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	17.8
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX 6.1:

OPENING YEAR CUMULATIVE (2020) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	579	124	580	2468	0	0	0	933	0	0	537
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5	4.0	5.5				5.6			4.0
Lane Util. Factor		*1.00	1.00	1.00	*1.00				1.00			1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	1.00	1.00	1.00				1.00			1.00
Flt Protected		1.00	1.00	1.00	1.00				1.00			1.00
Satd. Flow (prot)		3800	1900	1900	3800				1900			1900
Flt Permitted		1.00	1.00	1.00	1.00				1.00			1.00
Satd. Flow (perm)		3800	1900	1900	3800				1900			1900
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	609	131	611	2598	0	0	0	982	0	0	565
RTOR Reduction (vph)	0	0	89	0	0	0	0	0	440	0	0	94
Lane Group Flow (vph)	0	609	42	611	2598	0	0	0	542	0	0	471
Confl. Bikes (#/hr)									2			2
Turn Type		NA	Perm	Prot	NA				Prot			Prot
Protected Phases		2		1	6				3			7
Permitted Phases			2									
Actuated Green, G (s)		19.2	19.2	15.3	38.5				10.4			12.0
Effective Green, g (s)		19.2	19.2	15.3	38.5				10.4			12.0
Actuated g/C Ratio		0.32	0.32	0.26	0.64				0.17			0.20
Clearance Time (s)		5.5	5.5	4.0	5.5				5.6			4.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0				2.0			2.0
Lane Grp Cap (vph)		1216	608	484	2438				329			380
v/s Ratio Prot		0.16		c0.32	c0.68				c0.29			0.25
v/s Ratio Perm			0.02									
v/c Ratio		0.50	0.07	1.26	1.07				1.65			1.24
Uniform Delay, d1		16.5	14.2	22.4	10.8				24.8			24.0
Progression Factor		1.00	1.00	1.00	1.00				1.00			1.00
Incremental Delay, d2		1.5	0.2	133.9	38.7				304.9			127.9
Delay (s)		18.0	14.4	156.2	49.4				329.7			151.9
Level of Service		B	B	F	D				F			F
Approach Delay (s)		17.4			69.8			329.7			151.9	
Approach LOS		B			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	117.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	109.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

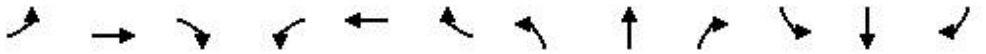
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	524	43	230	288	0	0	0	0	1476	2	386
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	557	41	245	306	0				1570	2	347
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	950	404	302	1742	0				828	1	740
Arrive On Green	0.00	0.25	0.25	0.33	0.92	0.00				0.46	0.46	0.46
Sat Flow, veh/h	0	3800	1615	1810	3800	0				1807	2	1615
Grp Volume(v), veh/h	0	557	41	245	306	0				1572	0	347
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1615
Q Serve(g_s), s	0.0	15.5	2.3	14.9	1.0	0.0				55.0	0.0	17.8
Cycle Q Clear(g_c), s	0.0	15.5	2.3	14.9	1.0	0.0				55.0	0.0	17.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	950	404	302	1742	0				829	0	740
V/C Ratio(X)	0.00	0.59	0.10	0.81	0.18	0.00				1.90	0.00	0.47
Avail Cap(c_a), veh/h	0	950	404	309	1742	0				829	0	740
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.98	0.98	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	39.5	34.6	38.3	2.7	0.0				32.5	0.0	22.4
Incr Delay (d2), s/veh	0.0	2.6	0.5	13.5	0.2	0.0				407.4	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	8.5	1.1	8.5	0.5	0.0				121.3	0.0	8.0
LnGrp Delay(d),s/veh	0.0	42.2	35.1	51.7	3.0	0.0				439.9	0.0	22.9
LnGrp LOS		D	D	D	A					F		C
Approach Vol, veh/h		598			551						1919	
Approach Delay, s/veh		41.7			24.6						364.5	
Approach LOS		D			C						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	25.0	35.0		60.0		60.0		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	20.5	* 30		55.0		55.0		
Max Q Clear Time (g_c+I1), s	16.9	17.5		57.0		3.0		
Green Ext Time (p_c), s	0.6	1.9		0.0		1.4		

Intersection Summary	
HCM 2010 Ctrl Delay	240.6
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	39	1372	101	0	2643	247	878	345	36	52	0	73
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		0.99	1.00		0.99
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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	40	1400	97	0	2697	208	896	352	37	53	0	69
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	1	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	1968	136	0	1953	149	454	483	51	210	0	456
Arrive On Green	0.56	0.56	0.56	0.00	0.56	0.56	0.29	0.29	0.29	0.29	0.00	0.29
Sat Flow, veh/h	89	3515	243	0	3488	265	1353	1688	177	1010	0	1593
Grp Volume(v), veh/h	40	755	742	0	1453	1453	896	0	389	53	0	69
Grp Sat Flow(s),veh/h/ln	89	1900	1857	0	1900	1853	1353	0	1866	1010	0	1593
Q Serve(g_s), s	0.0	18.8	19.0	0.0	36.4	36.4	16.5	0.0	12.2	3.2	0.0	2.1
Cycle Q Clear(g_c), s	36.4	18.8	19.0	0.0	36.4	36.4	18.6	0.0	12.2	15.5	0.0	2.1
Prop In Lane	1.00		0.13	0.00		0.14	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	111	1064	1040	0	1064	1038	454	0	534	210	0	456
V/C Ratio(X)	0.36	0.71	0.71	0.00	1.37	1.40	1.97	0.00	0.73	0.25	0.00	0.15
Avail Cap(c_a), veh/h	111	1064	1040	0	1064	1038	454	0	534	210	0	456
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	10.4	10.5	0.0	14.3	14.3	26.3	0.0	20.9	27.9	0.0	17.3
Incr Delay (d2), s/veh	8.9	4.0	4.2	0.0	170.4	185.7	445.6	0.0	8.5	2.9	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	10.8	10.7	0.0	69.0	71.7	64.3	0.0	7.5	1.1	0.0	1.0
LnGrp Delay(d),s/veh	41.4	14.4	14.7	0.0	184.7	200.0	471.9	0.0	29.4	30.8	0.0	18.0
LnGrp LOS	D	B	B		F	F	F		C	C		B
Approach Vol, veh/h		1537			2905			1285			122	
Approach Delay, s/veh		15.3			192.4			337.9			23.6	
Approach LOS		B			F			F			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.4		23.6		41.4		23.6
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		36.4		18.6		36.4		18.6
Max Q Clear Time (g_c+I1), s		38.4		17.5		38.4		20.6
Green Ext Time (p_c), s		0.0		0.6		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	174.3
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	314	1685	0	0	432	632	84	0	312	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	341	1832	0	0	470	652	91	0	253			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	363	2755	0	0	1881	799	347	0	310			
Arrive On Green	0.40	1.00	0.00	0.00	0.49	0.49	0.19	0.00	0.19			
Sat Flow, veh/h	1810	3800	0	0	3800	1615	1810	0	1615			
Grp Volume(v), veh/h	341	1832	0	0	470	652	91	0	253			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1810	0	1615			
Q Serve(g_s), s	21.7	0.0	0.0	0.0	8.6	41.0	5.1	0.0	18.0			
Cycle Q Clear(g_c), s	21.7	0.0	0.0	0.0	8.6	41.0	5.1	0.0	18.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	363	2755	0	0	1881	799	347	0	310			
V/C Ratio(X)	0.94	0.66	0.00	0.00	0.25	0.82	0.26	0.00	0.82			
Avail Cap(c_a), veh/h	550	2755	0	0	1881	799	347	0	310			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.78	0.78	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.2	0.0	0.0	0.0	17.5	25.7	41.3	0.0	46.5			
Incr Delay (d2), s/veh	12.3	1.0	0.0	0.0	0.3	9.0	1.8	0.0	20.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	12.0	0.4	0.0	0.0	4.6	20.3	2.8	0.0	9.8			
LnGrp Delay(d),s/veh	47.4	1.0	0.0	0.0	17.8	34.7	43.1	0.0	67.3			
LnGrp LOS	D	A			B	C	D		E			
Approach Vol, veh/h		2173			1122			344				
Approach Delay, s/veh		8.3			27.6			60.9				
Approach LOS		A			C			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		92.0			27.6	64.4		28.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		87.0			36.5	47.0		23.0
Max Q Clear Time (g_c+I1), s		2.0			23.7	43.0		20.0
Green Ext Time (p_c), s		24.3			0.4	3.5		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	19.2
HCM 2010 LOS	B

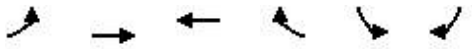
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	220	2103	256	115	2554	118	59	245	23	109	128	130
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	232	2214	0	121	2688	116	62	258	3	115	135	84
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	158	2404	681	119	2280	646	445	461	5	166	174	287
Arrive On Green	0.09	0.42	0.00	0.07	0.40	0.40	0.25	0.25	0.25	0.09	0.09	0.09
Sat Flow, veh/h	1810	5700	1615	1810	5700	1615	1810	1874	22	1810	1900	1592
Grp Volume(v), veh/h	232	2214	0	121	2688	116	62	0	261	115	135	84
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1896	1810	1900	1592
Q Serve(g_s), s	10.5	44.1	0.0	7.9	48.0	5.6	3.2	0.0	14.4	7.4	8.3	5.5
Cycle Q Clear(g_c), s	10.5	44.1	0.0	7.9	48.0	5.6	3.2	0.0	14.4	7.4	8.3	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	158	2404	681	119	2280	646	445	0	466	166	174	287
V/C Ratio(X)	1.47	0.92	0.00	1.02	1.18	0.18	0.14	0.00	0.56	0.69	0.78	0.29
Avail Cap(c_a), veh/h	158	2404	681	119	2280	646	445	0	466	445	467	533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	32.8	0.0	56.0	36.0	23.3	35.3	0.0	39.6	52.9	53.3	42.7
Incr Delay (d2), s/veh	240.5	7.3	0.0	86.7	85.3	0.0	0.7	0.0	4.8	1.9	2.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.8	24.6	0.0	6.8	43.1	2.5	1.7	0.0	8.2	3.8	4.5	2.4
LnGrp Delay(d),s/veh	295.3	40.1	0.0	142.9	121.3	23.3	36.0	0.0	44.4	54.8	56.1	42.9
LnGrp LOS	F	D		F	F	C	D		D	D	E	D
Approach Vol, veh/h		2446			2925			323			334	
Approach Delay, s/veh		64.3			118.3			42.8			52.3	
Approach LOS		E			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	56.1		16.5	15.0	53.5		35.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	7.9	32.1		29.5	10.5	29.5		29.5
Max Q Clear Time (g_c+I1), s	9.9	46.1		10.3	12.5	50.0		16.4
Green Ext Time (p_c), s	0.0	0.0		0.7	0.0	0.0		0.9

Intersection Summary			
HCM 2010 Ctrl Delay		88.7	
HCM 2010 LOS		F	

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	220	1733	2822	227	175	93
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	242	1904	3101	239	192	46
Adj No. of Lanes	1	2	3	1	2	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	645	3514	2978	826	814	939
Arrive On Green	0.36	0.92	0.52	0.52	0.22	0.22
Sat Flow, veh/h	1810	3800	5700	1580	3619	1615
Grp Volume(v), veh/h	242	1904	3101	239	192	46
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1580	1810	1615
Q Serve(g_s), s	11.9	9.1	62.7	10.2	5.2	0.0
Cycle Q Clear(g_c), s	11.9	9.1	62.7	10.2	5.2	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	645	3514	2978	826	814	939
V/C Ratio(X)	0.38	0.54	1.04	0.29	0.24	0.05
Avail Cap(c_a), veh/h	645	3514	2978	826	814	939
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	28.7	0.7	28.6	16.1	38.1	10.8
Incr Delay (d2), s/veh	0.1	0.6	19.8	0.1	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	4.8	38.3	4.5	2.7	1.5
LnGrp Delay(d),s/veh	28.8	1.3	48.5	16.2	38.7	10.9
LnGrp LOS	C	A	F	B	D	B
Approach Vol, veh/h		2146	3340		238	
Approach Delay, s/veh		4.4	46.2		33.4	
Approach LOS		A	D		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		116.6		32.5	48.4	68.2		
Change Period (Y+Rc), s		5.5		5.5	5.5	* 5.5		
Max Green Setting (Gmax), s		82.0		27.0	14.8	* 63		
Max Q Clear Time (g_c+I1), s		11.1		7.2	13.9	64.7		
Green Ext Time (p_c), s		14.3		0.4	0.1	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	30.0
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	62	1936	1021	39	9	44
Conflicting Peds, #/hr	0	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	69	2151	1134	43	10	49

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1134	0	-	0	2347	567
Stage 1	-	-	-	-	1134	-
Stage 2	-	-	-	-	1213	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	623	-	-	-	*128	472
Stage 1	-	-	-	-	*273	-
Stage 2	-	-	-	-	*272	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	623	-	-	-	*128	472
Mov Cap-2 Maneuver	-	-	-	-	*128	-
Stage 1	-	-	-	-	*273	-
Stage 2	-	-	-	-	*272	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	18.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	623	-	-	-	324
HCM Lane V/C Ratio	0.111	-	-	-	0.182
HCM Control Delay (s)	11.5	0	-	-	18.6
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	0.7

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	151	1682	271	32	2493	126	211	91	24	94	95	121
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		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	162	1809	0	34	2681	133	227	98	23	101	102	95
Adj No. of Lanes	1	2	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1479	4393	1867	47	1902	93	170	952	216	85	1252	1845
Arrive On Green	0.82	1.00	0.00	0.03	0.35	0.35	0.05	0.32	0.32	0.05	0.33	0.33
Sat Flow, veh/h	1810	3800	1615	1810	5390	263	3619	2997	681	1810	3800	1593
Grp Volume(v), veh/h	162	1809	0	34	1878	936	227	61	60	101	102	95
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1854	1810	1900	1778	1810	1900	1593
Q Serve(g_s), s	1.5	0.0	0.0	1.6	30.0	30.0	4.0	1.9	2.0	4.0	1.6	0.4
Cycle Q Clear(g_c), s	1.5	0.0	0.0	1.6	30.0	30.0	4.0	1.9	2.0	4.0	1.6	0.4
Prop In Lane	1.00		1.00	1.00		0.14	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	1479	4393	1867	47	1341	654	170	604	565	85	1252	1845
V/C Ratio(X)	0.11	0.41	0.00	0.72	1.40	1.43	1.33	0.10	0.11	1.19	0.08	0.05
Avail Cap(c_a), veh/h	1479	4393	1867	85	1341	654	170	604	565	85	1252	1845
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)	0.35	0.35	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	1.6	0.0	0.0	41.1	27.5	27.5	40.5	20.4	20.5	40.5	19.6	6.8
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.7	180.6	194.6	184.2	0.3	0.4	156.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.1	0.0	0.8	49.3	50.6	6.3	1.1	1.0	5.7	0.8	0.8
LnGrp Delay(d),s/veh	1.6	0.1	0.0	41.8	208.1	222.1	224.7	20.8	20.9	196.5	19.8	6.8
LnGrp LOS	A	A		D	F	F	F	C	C	F	B	A
Approach Vol, veh/h		1971			2848			348			298	
Approach Delay, s/veh		0.2			210.7			153.8			75.5	
Approach LOS		A			F			F			E	

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	6.7	105.3	8.5	33.5	76.5	35.5	9.5	32.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.0	30.0	4.0	27.0	4.0	* 30	4.0	* 27
Max Q Clear Time (g_c+I1), s	3.6	2.0	6.0	3.6	3.5	32.0	6.0	4.0
Green Ext Time (p_c), s	0.0	10.7	0.0	0.6	0.0	0.0	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	123.8
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	84	1821	23	7	937	2	133	0	20	0	2	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	88	1917	24	7	986	2	140	0	21	0	2	21
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	790	671	13	685	1	520	7	64	0	643	547
Arrive On Green	0.06	0.42	0.42	0.01	0.36	0.36	0.34	0.00	0.34	0.00	0.34	0.34
Sat Flow, veh/h	1810	1900	1615	1810	1895	4	1230	22	188	0	1900	1615
Grp Volume(v), veh/h	88	1917	24	7	0	988	161	0	0	0	2	21
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1899	1440	0	0	0	1900	1615
Q Serve(g_s), s	3.1	27.0	0.6	0.3	0.0	23.5	5.0	0.0	0.0	0.0	0.0	0.6
Cycle Q Clear(g_c), s	3.1	27.0	0.6	0.3	0.0	23.5	5.3	0.0	0.0	0.0	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.00	0.87		0.13	0.00		1.00
Lane Grp Cap(c), veh/h	111	790	671	13	0	687	591	0	0	0	643	547
V/C Ratio(X)	0.79	2.43	0.04	0.53	0.00	1.44	0.27	0.00	0.00	0.00	0.00	0.04
Avail Cap(c_a), veh/h	111	790	671	111	0	687	591	0	0	0	643	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	19.0	11.3	32.2	0.0	20.8	16.0	0.0	0.0	0.0	14.2	14.4
Incr Delay (d2), s/veh	28.7	645.9	0.0	11.7	0.0	205.7	1.1	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	155.8	0.3	0.2	0.0	51.4	2.3	0.0	0.0	0.0	0.0	0.3
LnGrp Delay(d),s/veh	58.8	664.9	11.3	43.8	0.0	226.5	17.1	0.0	0.0	0.0	14.2	14.5
LnGrp LOS	E	F	B	D		F	B				B	B
Approach Vol, veh/h		2029			995			161			23	
Approach Delay, s/veh		630.8			225.2			17.1			14.5	
Approach LOS		F			F			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		27.5	5.0	32.5		27.5	8.5	29.0
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	23.5		22.0	4.0	23.5
Max Q Clear Time (g_c+I1), s		7.3	2.3	29.0		2.6	5.1	25.5
Green Ext Time (p_c), s		0.5	0.0	0.0		0.6	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	469.8
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	1011	509	14	1795	147	883	601	15	72	393	67
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	152	1099	476	15	1951	151	960	653	14	78	427	57
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	103	2563	1088	25	2200	168	695	1469	31	100	821	109
Arrive On Green	0.06	0.67	0.67	0.01	0.63	0.63	0.19	0.40	0.40	0.06	0.25	0.25
Sat Flow, veh/h	1810	3800	1613	1810	3487	266	3619	3705	79	1810	3286	436
Grp Volume(v), veh/h	152	1099	476	15	1051	1051	960	335	332	78	246	238
Grp Sat Flow(s),veh/h/ln	1810	1900	1613	1810	1900	1853	1810	1900	1884	1810	1900	1822
Q Serve(g_s), s	5.7	13.2	15.2	0.8	45.7	48.4	19.2	12.9	12.9	4.3	11.1	11.3
Cycle Q Clear(g_c), s	5.7	13.2	15.2	0.8	45.7	48.4	19.2	12.9	12.9	4.3	11.1	11.3
Prop In Lane	1.00		1.00	1.00		0.14	1.00		0.04	1.00		0.24
Lane Grp Cap(c), veh/h	103	2563	1088	25	1199	1169	695	754	747	100	475	455
V/C Ratio(X)	1.47	0.43	0.44	0.61	0.88	0.90	1.38	0.44	0.44	0.78	0.52	0.52
Avail Cap(c_a), veh/h	103	2563	1088	72	1199	1169	695	754	747	121	475	455
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)	0.09	0.09	0.09	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	7.5	9.4	49.1	15.2	15.7	40.4	22.1	22.1	46.6	32.3	32.4
Incr Delay (d2), s/veh	217.9	0.0	0.1	8.7	9.2	11.0	179.7	1.7	1.7	18.3	4.0	4.2
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	9.1	6.9	6.7	0.5	26.7	27.8	26.9	7.1	7.1	2.6	6.3	6.2
LnGrp Delay(d),s/veh	265.1	7.5	9.5	57.7	24.4	26.7	220.1	23.8	23.8	64.9	36.3	36.6
LnGrp LOS	F	A	A	E	C	C	F	C	C	E	D	D
Approach Vol, veh/h		1727			2117			1627			562	
Approach Delay, s/veh		30.7			25.8			139.6			40.4	
Approach LOS		C			C			F			D	

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	5.9	73.9	24.7	30.5	10.2	69.6	10.0	45.2
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	31.8	19.2	* 25	5.7	30.1	6.7	37.5
Max Q Clear Time (g_c+I1), s	2.8	17.2	21.2	13.3	7.7	50.4	6.3	14.9
Green Ext Time (p_c), s	0.0	12.3	0.0	1.3	0.0	0.0	0.0	4.4

Intersection Summary	
HCM 2010 Ctrl Delay	59.3
HCM 2010 LOS	E

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	54	85	35	130	312	82	877	56	165	484	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.95	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	9	59	47	38	141	178	89	953	46	179	526	14
Adj No. of Lanes	1	1	1	1	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	16	259	220	52	296	249	115	1211	487	459	1982	832
Arrive On Green	0.01	0.14	0.14	0.03	0.16	0.16	0.06	0.32	0.32	0.25	0.52	0.52
Sat Flow, veh/h	1810	1900	1615	1810	1900	1599	1810	3800	1529	1810	3800	1594
Grp Volume(v), veh/h	9	59	47	38	141	178	89	953	46	179	526	14
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1599	1810	1900	1529	1810	1900	1594
Q Serve(g_s), s	0.4	2.2	2.1	1.7	5.4	8.5	3.9	18.2	1.3	6.6	6.1	0.3
Cycle Q Clear(g_c), s	0.4	2.2	2.1	1.7	5.4	8.5	3.9	18.2	1.3	6.6	6.1	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	16	259	220	52	296	249	115	1211	487	459	1982	832
V/C Ratio(X)	0.55	0.23	0.21	0.74	0.48	0.71	0.77	0.79	0.09	0.39	0.27	0.02
Avail Cap(c_a), veh/h	90	589	501	118	618	520	190	1211	487	459	1982	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	39.5	30.8	30.7	38.6	30.8	32.1	36.9	24.8	11.5	24.7	10.6	9.2
Incr Delay (d2), s/veh	10.2	0.2	0.2	7.4	0.4	1.4	4.2	5.2	0.4	0.2	0.3	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	0.2	1.2	0.9	0.9	2.9	3.8	2.1	10.4	0.6	3.3	3.3	0.2
LnGrp Delay(d),s/veh	49.7	30.9	30.9	45.9	31.2	33.5	41.1	30.0	11.9	24.9	10.9	9.3
LnGrp LOS	D	C	C	D	C	C	D	C	B	C	B	A
Approach Vol, veh/h		115			357			1088			719	
Approach Delay, s/veh		32.4			33.9			30.1			14.3	
Approach LOS		C			C			C			B	

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	25.8	31.0	6.8	16.4	9.6	47.2	5.2	18.0
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.5	* 26	5.2	24.8	8.4	21.6	4.0	26.0
Max Q Clear Time (g_c+I1), s	19.6	20.2	3.7	4.2	5.9	8.1	2.4	10.5
Green Ext Time (p_c), s	0.0	2.0	0.0	1.3	0.0	1.9	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	25.9
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	4	110	723	3	67	528
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	0	-	65	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	116	761	3	71	556

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1458	761	0	0	761	0
Stage 1	761	-	-	-	-	-
Stage 2	697	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	144	409	-	-	860	-
Stage 1	465	-	-	-	-	-
Stage 2	498	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	132	409	-	-	860	-
Mov Cap-2 Maneuver	132	-	-	-	-	-
Stage 1	465	-	-	-	-	-
Stage 2	457	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.8	0	1.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	132	409	860	-
HCM Lane V/C Ratio	-	-	0.032	0.283	0.082	-
HCM Control Delay (s)	-	-	33.2	17.2	9.6	-
HCM Lane LOS	-	-	D	C	A	-
HCM 95th %tile Q(veh)	-	-	0.1	1.1	0.3	-

Intersection	
Intersection Delay, s/veh	46.2
Intersection LOS	E

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Vol, veh/h	0	340	473	0	304	212	0	271	307
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	362	503	0	323	226	0	288	327
Number of Lanes	0	1	1	0	1	0	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	47.5	66.9	26
HCM LOS	E	F	D

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	59%	0%	0%	0%	100%
Vol Right, %	41%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	516	340	473	271	307
LT Vol	0	340	0	271	0
Through Vol	304	0	0	0	307
RT Vol	212	0	473	0	0
Lane Flow Rate	549	362	503	288	327
Geometry Grp	4	7	7	7	7
Degree of Util (X)	1	0.809	0.957	0.658	0.7
Departure Headway (Hd)	7.128	8.049	6.849	8.22	7.719
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	511	452	533	441	470
Service Time	5.152	5.763	4.564	5.939	5.438
HCM Lane V/C Ratio	1.074	0.801	0.944	0.653	0.696
HCM Control Delay	66.9	36.9	55.1	25.4	26.6
HCM Lane LOS	F	E	F	D	D
HCM 95th-tile Q	13.7	7.5	12.4	4.6	5.4



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	101	96	465	201	104	543
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	125	119	574	248	128	670
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	186	166	768	653	491	1406
Arrive On Green	0.10	0.10	0.40	0.40	0.27	0.74
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	125	119	574	248	128	670
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	4.7	5.0	18.1	7.6	3.9	9.9
Cycle Q Clear(g_c), s	4.7	5.0	18.1	7.6	3.9	9.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	186	166	768	653	491	1406
V/C Ratio(X)	0.67	0.72	0.75	0.38	0.26	0.48
Avail Cap(c_a), veh/h	439	392	768	653	491	1406
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	30.2	30.4	17.8	14.7	20.0	3.7
Incr Delay (d2), s/veh	1.6	2.1	6.6	1.7	1.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	2.3	10.8	3.7	2.1	5.5
LnGrp Delay(d),s/veh	31.8	32.5	24.4	16.4	21.3	4.8
LnGrp LOS	C	C	C	B	C	A
Approach Vol, veh/h	244		822			798
Approach Delay, s/veh	32.2		22.0			7.5
Approach LOS	C		C			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.5	33.8				57.3		12.7
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	19.0	18.5				42.0		17.0
Max Q Clear Time (g_c+I1), s	5.9	20.1				11.9		7.0
Green Ext Time (p_c), s	0.1	0.0				5.4		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	17.1
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	1	625	3	5	620
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	0	-	0	140	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1	880	4	7	873

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1767	440	0	0	880	0
Stage 1	880	-	-	-	-	-
Stage 2	887	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	84	570	-	-	777	-
Stage 1	371	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	83	570	-	-	777	-
Mov Cap-2 Maneuver	270	-	-	-	-	-
Stage 1	371	-	-	-	-	-
Stage 2	402	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	570	777	-
HCM Lane V/C Ratio	-	-	-	0.002	0.009	-
HCM Control Delay (s)	-	-	0	11.3	9.7	-
HCM Lane LOS	-	-	A	B	A	-
HCM 95th %tile Q(veh)	-	-	-	0	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	28	76	4	40	310	538	1	55	11	404	104	47
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	37	101	2	53	413	650	1	73	15	539	139	62
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	47	143	121	409	522	444	2	618	525	297	946	804
Arrive On Green	0.03	0.08	0.08	0.23	0.28	0.28	0.00	0.32	0.32	0.16	0.50	0.50
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Grp Volume(v), veh/h	37	101	2	53	413	650	1	73	15	539	139	62
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	2.0	5.2	0.1	2.3	20.1	27.5	0.1	2.7	0.6	16.4	4.0	1.5
Cycle Q Clear(g_c), s	2.0	5.2	0.1	2.3	20.1	27.5	0.1	2.7	0.6	16.4	4.0	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	47	143	121	409	523	444	2	618	525	297	946	804
V/C Ratio(X)	0.79	0.71	0.02	0.13	0.79	1.46	0.50	0.12	0.03	1.82	0.15	0.08
Avail Cap(c_a), veh/h	100	551	468	409	523	444	81	618	525	297	946	804
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	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	45.2	34.0	30.9	33.6	36.3	49.9	23.7	23.0	41.8	13.6	7.4
Incr Delay (d2), s/veh	10.4	2.4	0.0	0.0	0.7	209.7	58.7	0.4	0.1	379.9	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.8	0.0	1.2	10.7	38.2	0.1	1.5	0.3	39.5	2.2	0.7
LnGrp Delay(d),s/veh	58.8	47.6	34.0	30.9	34.3	246.0	108.6	24.1	23.1	421.7	13.9	7.5
LnGrp LOS	E	D	C	C	C	F	F	C	C	F	B	A
Approach Vol, veh/h		140			1116			89			740	
Approach Delay, s/veh		50.4			157.4			24.9			310.4	
Approach LOS		D			F			C			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	21.9	38.0	27.1	13.0	4.6	55.3	7.1	33.0
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	14.5	* 33	4.0	29.0	4.5	42.5	5.5	27.5
Max Q Clear Time (g_c+I1), s	19.4	4.7	4.3	7.2	2.1	6.0	4.0	29.5
Green Ext Time (p_c), s	0.0	0.2	0.0	0.3	0.0	1.2	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	198.9
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	7.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	62	0	2	139	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	66	0	2	148	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	298	1	0	0	2	0
Stage 1	1	-	-	-	-	-
Stage 2	297	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	698	1090	-	-	1634	-
Stage 1	1028	-	-	-	-	-
Stage 2	758	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	635	1090	-	-	1634	-
Mov Cap-2 Maneuver	653	-	-	-	-	-
Stage 1	1028	-	-	-	-	-
Stage 2	689	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	7.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	1090	1634	-
HCM Lane V/C Ratio	-	-	-	0.061	0.09	-
HCM Control Delay (s)	-	-	0	8.5	7.4	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.2	0.3	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1561	30	0	781	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1951	38	0	976	0	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1989	0	2946	1970
Stage 1	-	-	-	-	1970	-
Stage 2	-	-	-	-	976	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	-	-	17	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	339	-
Platoon blocked, %	-	-	2	-		2
Mov Cap-1 Maneuver	-	-	-	-	17	-
Mov Cap-2 Maneuver	-	-	-	-	17	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	339	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	-	0	-
HCM Lane LOS	-	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection	
Int Delay, s/veh	9.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	97	45	116	0	10	0	119	6	7	3	1	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	0	200	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	118	55	141	0	12	0	145	7	9	4	1	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	347	341	35	439	375	7	70	0	0	7	0	0
Stage 1	43	43	-	298	298	-	-	-	-	-	-	-
Stage 2	304	298	-	141	77	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	611	584	1044	532	559	1081	1544	-	-	1627	-	-
Stage 1	976	863	-	715	671	-	-	-	-	-	-	-
Stage 2	710	671	-	867	835	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	557	528	1044	395	505	1081	1544	-	-	1627	-	-
Mov Cap-2 Maneuver	592	570	-	497	561	-	-	-	-	-	-	-
Stage 1	884	861	-	648	608	-	-	-	-	-	-	-
Stage 2	630	608	-	700	833	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	11.6	6.8	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1544	-	-	729	561	1627	-	-
HCM Lane V/C Ratio	0.094	-	-	0.432	0.022	0.002	-	-
HCM Control Delay (s)	7.6	-	-	13.6	11.6	7.2	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	2.2	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	14
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	96	19	0	0	2	72	258	0	15	109	13
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	113	22	0	0	2	85	304	0	18	128	15
Number of Lanes	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	3
HCM Control Delay	12.6	14.2	12.2
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	109	13	96	19	2	72	258	221	87	40
LT Vol	15	0	0	96	0	2	0	0	221	0	0
Through Vol	0	109	0	0	19	0	72	0	0	87	0
RT Vol	0	0	13	0	0	0	0	258	0	0	40
Lane Flow Rate	18	128	15	113	22	2	85	304	260	102	47
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.039	0.263	0.028	0.245	0.045	0.005	0.159	0.512	0.52	0.19	0.078
Departure Headway (Hd)	7.905	7.397	6.687	7.816	7.316	7.384	6.882	6.18	7.298	6.692	6.084
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	455	489	538	462	492	488	524	586	497	531	592
Service Time	5.611	5.103	4.393	5.523	5.023	5.084	4.582	3.88	4.998	4.492	3.784
HCM Lane V/C Ratio	0.04	0.262	0.028	0.245	0.045	0.004	0.162	0.519	0.523	0.192	0.079
HCM Control Delay	10.9	12.7	9.6	13	10.4	10.1	10.9	15.2	17.6	11.1	9.3
HCM Lane LOS	B	B	A	B	B	B	B	C	C	B	A
HCM 95th-tile Q	0.1	1	0.1	1	0.1	0	0.6	2.9	3	0.7	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	16	199	295	174	806	10	1251	116	217	5	112	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	22	273	392	238	1104	11	1714	159	265	7	153	13
Adj No. of Lanes	1	1	1	1	2	1	2	1	1	1	2	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	33	446	670	172	1183	484	653	881	748	13	964	81
Arrive On Green	0.02	0.31	0.31	0.09	0.31	0.31	0.18	0.46	0.46	0.01	0.28	0.28
Sat Flow, veh/h	1810	1900	1615	1810	3800	1556	3619	1900	1615	1810	3442	288
Grp Volume(v), veh/h	22	273	392	238	1104	11	1714	159	265	7	83	83
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1556	1810	1900	1615	1810	1900	1830
Q Serve(g_s), s	1.2	12.2	4.5	9.5	28.2	0.5	18.1	4.9	10.5	0.4	3.3	3.4
Cycle Q Clear(g_c), s	1.2	12.2	4.5	9.5	28.2	0.5	18.1	4.9	10.5	0.4	3.3	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	33	446	670	172	1183	484	653	881	748	13	532	512
V/C Ratio(X)	0.66	0.61	0.58	1.38	0.93	0.02	2.62	0.18	0.35	0.55	0.16	0.16
Avail Cap(c_a), veh/h	72	494	711	172	1197	490	653	881	748	72	532	512
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.53	0.53	0.53	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	30.5	7.6	45.3	33.4	23.9	41.0	15.7	17.2	49.5	27.1	27.1
Incr Delay (d2), s/veh	0.8	0.1	0.1	204.9	12.8	0.0	733.0	0.2	0.7	12.8	0.6	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	0.6	6.4	4.1	14.5	16.8	0.2	75.5	2.6	4.8	0.2	1.8	1.8
LnGrp Delay(d),s/veh	49.3	30.6	7.7	250.1	46.3	23.9	774.0	15.9	17.9	62.3	27.7	27.8
LnGrp LOS	D	C	A	F	D	C	F	B	B	E	C	C
Approach Vol, veh/h		687			1353			2138			173	
Approach Delay, s/veh		18.1			81.9			623.9			29.2	
Approach LOS		B			F			F			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	5.2	51.8	14.0	28.9	23.6	33.5	6.3	36.6
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	40.5	9.5	26.0	16.5	* 28	4.0	31.5
Max Q Clear Time (g_c+I1), s	2.4	12.5	11.5	14.2	20.1	5.4	3.2	30.2
Green Ext Time (p_c), s	0.0	5.5	0.0	5.3	0.0	0.4	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	336.1
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	21	212	68	31	22	260	1432	85	12	422	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	26	200	83	38	25	317	1746	102	15	515	25
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	27	289	246	107	373	317	109	1804	104	26	1661	80
Arrive On Green	0.02	0.15	0.15	0.06	0.20	0.20	0.06	0.51	0.51	0.01	0.46	0.46
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3553	206	1810	3595	174
Grp Volume(v), veh/h	16	26	200	83	38	25	317	926	922	15	272	268
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1859	1810	1900	1869
Q Serve(g_s), s	0.7	0.9	9.0	3.4	1.2	0.9	4.5	35.1	36.3	0.6	6.7	6.8
Cycle Q Clear(g_c), s	0.7	0.9	9.0	3.4	1.2	0.9	4.5	35.1	36.3	0.6	6.7	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.09
Lane Grp Cap(c), veh/h	27	289	246	107	373	317	109	965	944	26	878	864
V/C Ratio(X)	0.58	0.09	0.81	0.78	0.10	0.08	2.92	0.96	0.98	0.58	0.31	0.31
Avail Cap(c_a), veh/h	97	608	517	109	621	528	109	965	944	97	878	864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	36.7	27.3	30.8	34.8	24.7	24.6	35.3	17.7	18.0	36.7	12.7	12.7
Incr Delay (d2), s/veh	7.2	0.0	2.5	26.2	0.0	0.0	888.4	20.8	24.3	5.5	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.5	4.1	2.5	0.6	0.4	29.0	23.8	24.8	0.3	3.6	3.7
LnGrp Delay(d),s/veh	43.9	27.4	33.3	61.0	24.8	24.6	923.6	38.5	42.3	42.2	13.3	13.4
LnGrp LOS	D	C	C	E	C	C	F	D	D	D	B	B
Approach Vol, veh/h		242			146			2165			555	
Approach Delay, s/veh		33.3			45.3			169.7			14.1	
Approach LOS		C			D			F			B	

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	5.6	43.6	8.9	16.9	9.0	40.2	5.6	20.2
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	22.5	4.5	24.0	4.5	22.0	4.0	24.5
Max Q Clear Time (g_c+I1), s	2.6	38.3	5.4	11.0	6.5	8.8	2.7	3.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	8.2	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	125.5
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	793	768	176	12	385	42	157	307	30	15	78	374
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	844	817	170	13	410	43	167	327	28	16	83	331
Adj No. of Lanes	1	1	1	1	2	0	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1381	2097	1782	22	1156	121	152	1425	606	52	640	544
Arrive On Green	0.76	1.00	1.00	0.01	0.34	0.34	0.04	0.37	0.37	0.01	0.34	0.34
Sat Flow, veh/h	1810	1900	1615	1810	3380	352	3619	3800	1615	3619	1900	1615
Grp Volume(v), veh/h	844	817	170	13	229	224	167	327	28	16	83	331
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1832	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	19.7	0.0	0.0	0.7	8.6	8.7	4.0	5.6	1.0	0.4	2.9	16.2
Cycle Q Clear(g_c), s	19.7	0.0	0.0	0.7	8.6	8.7	4.0	5.6	1.0	0.4	2.9	16.2
Prop In Lane	1.00		1.00	1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1381	2097	1782	22	650	627	152	1425	606	52	640	544
V/C Ratio(X)	0.61	0.39	0.10	0.59	0.35	0.36	1.10	0.23	0.05	0.30	0.13	0.61
Avail Cap(c_a), veh/h	1381	2097	1782	76	650	627	152	1425	606	152	640	544
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	5.0	0.0	0.0	46.7	23.4	23.4	45.5	20.3	18.9	46.3	21.8	26.3
Incr Delay (d2), s/veh	0.6	0.5	0.1	8.9	1.5	1.6	100.9	0.4	0.1	1.2	0.4	5.0
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	9.8	0.3	0.1	0.4	4.7	4.7	4.1	3.0	0.5	0.2	1.6	7.9
LnGrp Delay(d),s/veh	5.6	0.5	0.1	55.6	24.9	25.0	146.4	20.7	19.0	47.5	22.3	31.3
LnGrp LOS	A	A	A	E	C	C	F	C	B	D	C	C
Approach Vol, veh/h		1831			466			522			430	
Approach Delay, s/veh		2.8			25.8			60.8			30.1	
Approach LOS		A			C			E			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	5.7	112.3	9.5	37.5	80.0	38.0	5.9	41.1
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	35.0	4.0	* 32	6.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	2.7	2.0	6.0	18.2	21.7	10.7	2.4	7.6
Green Ext Time (p_c), s	0.0	5.6	0.0	1.3	0.0	1.4	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	19.1
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	138	586	205	146	1164	113	379	1184	145	169	842	213
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		0.99	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	153	651	211	162	1293	117	421	1316	149	188	936	227
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	1	2	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	102	944	306	1544	3957	357	238	1382	156	170	855	358
Arrive On Green	0.06	0.34	0.34	0.85	1.00	1.00	0.13	0.28	0.28	0.09	0.22	0.22
Sat Flow, veh/h	1810	2747	890	1810	3431	309	1810	5026	569	1810	3800	1590
Grp Volume(v), veh/h	153	450	412	162	714	696	421	995	470	188	936	227
Grp Sat Flow(s),veh/h/ln	1810	1900	1737	1810	1900	1841	1810	1900	1795	1810	1900	1590
Q Serve(g_s), s	4.5	16.3	16.3	1.2	0.0	0.0	10.5	20.6	20.6	7.5	18.0	18.0
Cycle Q Clear(g_c), s	4.5	16.3	16.3	1.2	0.0	0.0	10.5	20.6	20.6	7.5	18.0	18.0
Prop In Lane	1.00		0.51	1.00		0.17	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	102	653	597	1544	2191	2122	238	1045	494	170	855	358
V/C Ratio(X)	1.50	0.69	0.69	0.10	0.33	0.33	1.77	0.95	0.95	1.11	1.09	0.63
Avail Cap(c_a), veh/h	102	653	597	1544	2191	2122	238	1045	494	170	855	358
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	37.8	22.6	22.6	0.9	0.0	0.0	34.8	28.5	28.5	36.2	31.0	104.2
Incr Delay (d2), s/veh	270.6	5.9	6.4	0.0	0.4	0.4	364.3	18.5	30.2	101.1	59.9	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	9.6	8.8	0.5	0.2	0.2	29.2	13.5	14.3	8.5	16.5	0.8
LnGrp Delay(d),s/veh	308.4	28.4	29.0	1.0	0.4	0.4	399.0	46.9	58.7	137.3	90.9	112.5
LnGrp LOS	F	C	C	A	A	A	F	D	E	F	F	F
Approach Vol, veh/h		1015			1572			1886			1351	
Approach Delay, s/veh		70.9			0.5			128.5			101.0	
Approach LOS		E			A			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	35.1	33.0	16.0	23.5	9.0	99.1	12.0	27.5
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	* 28	10.5	* 18	4.5	27.0	7.5	21.0
Max Q Clear Time (g_c+I1), s	13.2	18.3	12.5	20.0	6.5	2.0	9.5	22.6
Green Ext Time (p_c), s	0.1	2.3	0.0	0.0	0.0	6.8	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	77.5
HCM 2010 LOS	E

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	232	135	265	238	265	93	1229	364	131	977	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	55	255	132	291	262	191	102	1351	375	144	1074	41
Adj No. of Lanes	0	1	1	0	2	1	1	3	0	1	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	62	289	301	343	360	300	148	1583	438	143	2001	76
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.08	0.37	0.37	0.08	0.37	0.37
Sat Flow, veh/h	334	1549	1612	1810	1900	1584	1810	4284	1185	1810	5452	208
Grp Volume(v), veh/h	310	0	132	291	262	191	102	1198	528	144	748	367
Grp Sat Flow(s),veh/h/ln	1883	0	1612	1810	1900	1584	1810	1900	1669	1810	1900	1860
Q Serve(g_s), s	19.2	0.0	8.7	18.6	15.6	13.3	6.6	34.8	35.0	9.5	18.6	18.7
Cycle Q Clear(g_c), s	19.2	0.0	8.7	18.6	15.6	13.3	6.6	34.8	35.0	9.5	18.6	18.7
Prop In Lane	0.18		1.00	1.00		1.00	1.00		0.71	1.00		0.11
Lane Grp Cap(c), veh/h	352	0	301	343	360	300	148	1404	616	143	1394	683
V/C Ratio(X)	0.88	0.00	0.44	0.85	0.73	0.64	0.69	0.85	0.86	1.01	0.54	0.54
Avail Cap(c_a), veh/h	471	0	403	452	475	396	148	1404	616	143	1394	683
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.5	0.0	43.2	47.0	45.7	44.8	53.6	34.8	34.9	55.3	29.9	30.0
Incr Delay (d2), s/veh	11.6	0.0	0.4	8.9	2.3	0.8	23.3	6.8	14.3	76.6	1.5	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	0.0	3.9	10.1	8.4	5.9	4.2	19.6	18.6	7.8	10.1	10.1
LnGrp Delay(d),s/veh	59.1	0.0	43.6	55.9	48.0	45.6	76.9	41.6	49.2	131.8	31.4	33.0
LnGrp LOS	E		D	E	D	D	E	D	D	F	C	C
Approach Vol, veh/h		442			744			1828			1259	
Approach Delay, s/veh		54.5			50.5			45.8			43.4	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	49.8		27.9	14.3	49.5		28.3
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	9.5	29.5		30.0	9.8	29.2		30.0
Max Q Clear Time (g_c+I1), s	11.5	37.0		21.2	8.6	20.7		20.6
Green Ext Time (p_c), s	0.0	0.0		1.1	0.0	6.8		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	46.8
HCM 2010 LOS	D

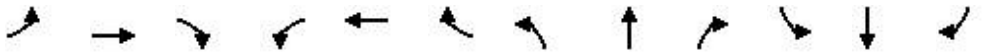
Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1561	593	1019	679	0	0	0	990	0	0	276
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	0	1900	1900	1900	1900	0	0	0	1900	0	0	1900
Adj Flow Rate, veh/h	0	1643	616	1073	715	0	0	0	0	0	0	169
Adj No. of Lanes	0	2	1	1	2	0	0	0	1	0	0	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2229	947	461	3452	0	0	0	0	0	0	0
Arrive On Green	0.00	0.59	0.59	0.25	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3800	1615	1810	3800	0		0			0	
Grp Volume(v), veh/h	0	1643	616	1073	715	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0						
Q Serve(g_s), s	0.0	18.9	15.3	15.3	1.3	0.0						
Cycle Q Clear(g_c), s	0.0	18.9	15.3	15.3	1.3	0.0						
Prop In Lane	0.00		1.00	1.00		0.00						
Lane Grp Cap(c), veh/h	0	2229	947	461	3452	0						
V/C Ratio(X)	0.00	0.74	0.65	2.33	0.21	0.00						
Avail Cap(c_a), veh/h	0	2229	947	461	3452	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	9.0	8.3	22.3	0.3	0.0						
Incr Delay (d2), s/veh	0.0	2.2	3.5	603.2	0.1	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	10.3	15.2	84.9	0.7	0.0						
LnGrp Delay(d),s/veh	0.0	11.3	11.7	625.5	0.4	0.0						
LnGrp LOS		B	B	F	A							
Approach Vol, veh/h		2259			1788							
Approach Delay, s/veh		11.4			375.6							
Approach LOS		B			F							

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		
Phs Duration (G+Y+Rc), s	19.3	40.7				60.0		
Change Period (Y+Rc), s	4.0	5.5				5.5		
Max Green Setting (Gmax), s	15.3	19.2				38.5		
Max Q Clear Time (g_c+I1), s	17.3	20.9				3.3		
Green Ext Time (p_c), s	0.0	0.0				18.2		

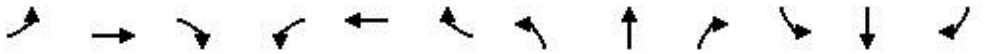
Intersection Summary	
HCM 2010 Ctrl Delay	172.3
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	721	105	524	202	0	0	0	0	785	2	419
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	767	112	557	215	0				835	2	369
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	950	404	309	1742	0				827	2	740
Arrive On Green	0.00	0.25	0.25	0.29	0.77	0.00				0.46	0.46	0.46
Sat Flow, veh/h	0	3800	1615	1810	3800	0				1805	4	1615
Grp Volume(v), veh/h	0	767	112	557	215	0				837	0	369
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1615
Q Serve(g_s), s	0.0	22.8	6.7	20.5	1.8	0.0				55.0	0.0	19.2
Cycle Q Clear(g_c), s	0.0	22.8	6.7	20.5	1.8	0.0				55.0	0.0	19.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	950	404	309	1742	0				829	0	740
V/C Ratio(X)	0.00	0.81	0.28	1.80	0.12	0.00				1.01	0.00	0.50
Avail Cap(c_a), veh/h	0	950	404	309	1742	0				829	0	740
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.85	0.85	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	42.3	36.3	42.9	7.8	0.0				32.5	0.0	22.8
Incr Delay (d2), s/veh	0.0	7.3	1.7	371.6	0.1	0.0				33.5	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	12.9	3.2	42.1	0.9	0.0				35.1	0.0	8.6
LnGrp Delay(d),s/veh	0.0	49.6	38.0	414.5	8.0	0.0				66.0	0.0	23.3
LnGrp LOS		D	D	F	A					F		C
Approach Vol, veh/h		879			772						1206	
Approach Delay, s/veh		48.1			301.3						53.0	
Approach LOS		D			F						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	25.0	35.0		60.0		60.0		
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0		
Max Green Setting (Gmax), s	20.5	30.0		55.0		55.0		
Max Q Clear Time (g_c+I1), s	22.5	24.8		57.0		3.8		
Green Ext Time (p_c), s	0.0	2.1		0.0		4.5		

Intersection Summary	
HCM 2010 Ctrl Delay	118.6
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	27	2111	414	0	2463	94	142	62	29	114	1	66
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		0.98	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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	2176	423	0	2539	88	146	64	30	118	1	53
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	1	1	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	1738	325	0	2045	70	469	350	164	437	9	455
Arrive On Green	0.56	0.56	0.56	0.00	0.56	0.56	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	117	3103	580	0	3652	126	1371	1225	574	1323	30	1590
Grp Volume(v), veh/h	28	1300	1300	0	1314	1314	146	0	94	118	0	54
Grp Sat Flow(s),veh/h/ln	117	1900	1783	0	1900	1878	1371	0	1799	1323	0	1619
Q Serve(g_s), s	0.0	36.4	36.4	0.0	36.4	36.4	5.7	0.0	2.6	4.8	0.0	1.6
Cycle Q Clear(g_c), s	36.4	36.4	36.4	0.0	36.4	36.4	7.3	0.0	2.6	7.4	0.0	1.6
Prop In Lane	1.00		0.33	0.00		0.07	1.00		0.32	1.00		0.98
Lane Grp Cap(c), veh/h	111	1064	999	0	1064	1052	469	0	515	437	0	463
V/C Ratio(X)	0.25	1.22	1.30	0.00	1.23	1.25	0.31	0.00	0.18	0.27	0.00	0.12
Avail Cap(c_a), veh/h	111	1064	999	0	1064	1052	469	0	515	437	0	463
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	14.3	14.3	0.0	14.3	14.3	19.8	0.0	17.5	20.2	0.0	17.1
Incr Delay (d2), s/veh	5.4	108.2	143.0	0.0	113.8	120.1	1.7	0.0	0.8	1.5	0.0	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	50.6	57.1	0.0	52.2	53.5	2.4	0.0	1.4	1.9	0.0	0.8
LnGrp Delay(d),s/veh	37.9	122.5	157.3	0.0	128.1	134.4	21.6	0.0	18.3	21.8	0.0	17.6
LnGrp LOS	D	F	F		F	F	C		B	C		B
Approach Vol, veh/h		2627			2627			240			172	
Approach Delay, s/veh		138.8			131.2			20.3			20.5	
Approach LOS		F			F			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.4		23.6		41.4		23.6
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		36.4		18.6		36.4		18.6
Max Q Clear Time (g_c+I1), s		38.4		9.4		38.4		9.3
Green Ext Time (p_c), s		0.0		0.6		0.0		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	126.7
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	530	975	0	0	675	1452	51	1	191	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	596	1096	0	0	758	1606	57	1	106			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	550	2755	0	0	1488	632	341	6	310			
Arrive On Green	0.61	1.00	0.00	0.00	0.39	0.39	0.19	0.19	0.19			
Sat Flow, veh/h	1810	3800	0	0	3800	1614	1780	31	1615			
Grp Volume(v), veh/h	596	1096	0	0	758	1606	58	0	106			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1614	1811	0	1615			
Q Serve(g_s), s	36.5	0.0	0.0	0.0	18.2	47.0	3.2	0.0	6.8			
Cycle Q Clear(g_c), s	36.5	0.0	0.0	0.0	18.2	47.0	3.2	0.0	6.8			
Prop In Lane	1.00		0.00	0.00		1.00	0.98		1.00			
Lane Grp Cap(c), veh/h	550	2755	0	0	1488	632	347	0	310			
V/C Ratio(X)	1.08	0.40	0.00	0.00	0.51	2.54	0.17	0.00	0.34			
Avail Cap(c_a), veh/h	550	2755	0	0	1488	632	347	0	310			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.49	0.49	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	23.5	0.0	0.0	0.0	27.7	36.5	40.5	0.0	42.0			
Incr Delay (d2), s/veh	52.2	0.2	0.0	0.0	1.2	698.1	1.0	0.0	3.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	25.7	0.1	0.0	0.0	9.7	143.5	1.7	0.0	3.3			
LnGrp Delay(d),s/veh	75.7	0.2	0.0	0.0	29.0	734.6	41.5	0.0	45.0			
LnGrp LOS	F	A			C	F	D		D			
Approach Vol, veh/h		1692			2364			164				
Approach Delay, s/veh		26.8			508.3			43.7				
Approach LOS		C			F			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		92.0			40.0	52.0		28.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		87.0			36.5	47.0		23.0
Max Q Clear Time (g_c+I1), s		2.0			38.5	49.0		8.8
Green Ext Time (p_c), s		35.2			0.0	0.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	297.2
HCM 2010 LOS	F

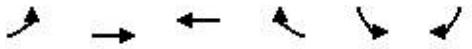
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	128	2418	25	28	2122	106	404	105	200	136	22	221
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	132	2493	0	29	2188	78	338	217	152	156	0	121
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	158	2689	762	37	2307	640	445	256	179	315	0	282
Arrive On Green	0.09	0.47	0.00	0.02	0.40	0.40	0.25	0.25	0.25	0.09	0.00	0.09
Sat Flow, veh/h	1810	5700	1615	1810	5700	1581	1810	1041	729	3619	0	1615
Grp Volume(v), veh/h	132	2493	0	29	2188	78	338	0	369	156	0	121
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1581	1810	0	1770	1810	0	1615
Q Serve(g_s), s	8.6	49.3	0.0	1.9	44.5	3.7	20.8	0.0	23.8	4.9	0.0	8.0
Cycle Q Clear(g_c), s	8.6	49.3	0.0	1.9	44.5	3.7	20.8	0.0	23.8	4.9	0.0	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	158	2689	762	37	2307	640	445	0	435	315	0	282
V/C Ratio(X)	0.83	0.93	0.00	0.79	0.95	0.12	0.76	0.00	0.85	0.49	0.00	0.43
Avail Cap(c_a), veh/h	158	2689	762	119	2307	640	445	0	435	890	0	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.9	29.8	0.0	58.5	34.5	22.4	42.0	0.0	43.1	52.3	0.0	44.2
Incr Delay (d2), s/veh	28.8	7.0	0.0	13.2	9.3	0.0	11.6	0.0	18.2	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	27.4	0.0	1.1	25.3	1.6	11.9	0.0	13.9	2.5	0.0	3.6
LnGrp Delay(d),s/veh	82.7	36.8	0.0	71.7	43.8	22.4	53.5	0.0	61.3	52.7	0.0	44.6
LnGrp LOS	F	D		E	D	C	D		E	D		D
Approach Vol, veh/h		2625			2295			707			277	
Approach Delay, s/veh		39.1			43.4			57.6			49.2	
Approach LOS		D			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.9	62.1		16.0	15.0	54.1		35.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	7.9	32.1		29.5	10.5	29.5		29.5
Max Q Clear Time (g_c+I1), s	3.9	51.3		10.0	10.6	46.5		25.8
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	0.0		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	43.5
HCM 2010 LOS	D

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	119	2778	1808	253	491	152
Number	5	2	6	16	7	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	123	2864	1864	253	506	98
Adj No. of Lanes	1	2	3	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	214	2610	2978	844	814	555
Arrive On Green	0.12	0.69	0.52	0.52	0.22	0.22
Sat Flow, veh/h	1810	3800	5700	1615	3619	1615
Grp Volume(v), veh/h	123	2864	1864	253	506	98
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1615	1810	1615
Q Serve(g_s), s	7.7	82.4	27.8	10.6	15.1	0.0
Cycle Q Clear(g_c), s	7.7	82.4	27.8	10.6	15.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	214	2610	2978	844	814	555
V/C Ratio(X)	0.57	1.10	0.63	0.30	0.62	0.18
Avail Cap(c_a), veh/h	223	2610	2978	844	814	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.37	0.37	1.00	1.00
Uniform Delay (d), s/veh	50.0	18.8	20.3	16.2	41.9	27.5
Incr Delay (d2), s/veh	2.0	50.6	0.4	0.3	3.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	60.7	14.6	4.8	7.9	3.3
LnGrp Delay(d),s/veh	52.0	69.4	20.7	16.6	45.4	28.2
LnGrp LOS	D	F	C	B	D	C
Approach Vol, veh/h		2987	2117		604	
Approach Delay, s/veh		68.7	20.2		42.7	
Approach LOS		E	C		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		87.9		32.5	19.7	68.2		
Change Period (Y+Rc), s		5.5		5.5	5.5	* 5.5		
Max Green Setting (Gmax), s		82.0		27.0	14.8	* 63		
Max Q Clear Time (g_c+I1), s		84.4		17.1	9.7	29.8		
Green Ext Time (p_c), s		0.0		0.9	4.3	11.4		

Intersection Summary	
HCM 2010 Ctrl Delay	47.9
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	50.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	30	1136	2057	18	15	70
Conflicting Peds, #/hr	0	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	33	1235	2236	20	16	76

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2236	0	-	0	2919	1118
Stage 1	-	-	-	-	2236	-
Stage 2	-	-	-	-	683	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	235	-	-	-	*~ 8	205
Stage 1	-	-	-	-	*69	-
Stage 2	-	-	-	-	*586	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	235	-	-	-	*~ 4	205
Mov Cap-2 Maneuver	-	-	-	-	*~ 4	-
Stage 1	-	-	-	-	*69	-
Stage 2	-	-	-	-	*324	-

Approach	EB	WB	SB
HCM Control Delay, s	5.3	0	$ 1902.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	235	-	-	-	21
HCM Lane V/C Ratio	0.139	-	-	-	4.4
HCM Control Delay (s)	22.8	4.8	-		$ 1902.8
HCM Lane LOS	C	A	-	-	F
HCM 95th %tile Q(veh)	0.5	-	-	-	11.8

Notes

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



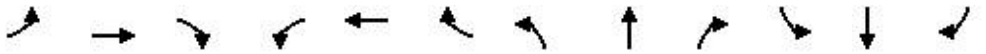
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	209	3115	489	16	1448	78	268	108	26	200	214	224
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.99
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	227	3386	0	17	1574	81	291	117	23	217	233	165
Adj No. of Lanes	1	2	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	85	2936	1248	28	3981	205	170	985	189	85	1252	601
Arrive On Green	0.05	0.77	0.00	0.02	0.74	0.74	0.05	0.32	0.32	0.05	0.33	0.33
Sat Flow, veh/h	1810	3800	1615	1810	5371	276	3619	3101	594	1810	3800	1595
Grp Volume(v), veh/h	227	3386	0	17	1114	541	291	71	69	217	233	165
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1847	1810	1900	1795	1810	1900	1595
Q Serve(g_s), s	4.0	65.7	0.0	0.8	9.1	9.1	4.0	2.2	2.3	4.0	3.7	6.1
Cycle Q Clear(g_c), s	4.0	65.7	0.0	0.8	9.1	9.1	4.0	2.2	2.3	4.0	3.7	6.1
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	85	2936	1248	28	2816	1369	170	604	570	85	1252	601
V/C Ratio(X)	2.67	1.15	0.00	0.60	0.40	0.40	1.71	0.12	0.12	2.55	0.19	0.27
Avail Cap(c_a), veh/h	85	2936	1248	85	2816	1369	170	604	570	85	1252	601
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)	0.09	0.09	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.5	9.7	0.0	41.6	4.0	4.0	40.5	20.6	20.6	40.5	20.4	18.4
Incr Delay (d2), s/veh	752.6	69.4	0.0	0.7	0.0	0.1	342.6	0.4	0.4	730.0	0.3	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.8	61.3	0.0	0.4	4.7	4.5	10.1	1.2	1.2	19.3	2.0	2.9
LnGrp Delay(d),s/veh	793.1	79.0	0.0	42.3	4.1	4.1	383.1	20.9	21.0	770.5	20.7	19.6
LnGrp LOS	F	F		D	A	A	F	C	C	F	C	B
Approach Vol, veh/h		3613			1672			431			615	
Approach Delay, s/veh		123.9			4.5			265.5			284.9	
Approach LOS		F			A			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	5.8	72.2	8.5	33.5	8.5	69.5	9.5	32.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	1.3	30.0	4.0	27.0	4.0	30.0	4.0	* 27
Max Q Clear Time (g_c+I1), s	12.8	67.7	6.0	8.1	6.0	11.1	6.0	4.3
Green Ext Time (p_c), s	0.0	0.0	0.0	1.3	0.0	18.5	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	117.6
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	24	953	52	22	1787	6	79	5	15	8	5	93
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	27	1083	59	25	2031	7	90	6	17	9	6	106
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	43	690	586	40	684	2	500	39	78	430	266	608
Arrive On Green	0.02	0.36	0.36	0.02	0.36	0.36	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1810	1900	1615	1810	1892	7	1064	104	207	906	708	1615
Grp Volume(v), veh/h	27	1083	59	25	0	2038	113	0	0	15	0	106
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1899	1374	0	0	1614	0	1615
Q Serve(g_s), s	1.0	23.6	1.6	0.9	0.0	23.5	3.0	0.0	0.0	0.0	0.0	2.8
Cycle Q Clear(g_c), s	1.0	23.6	1.6	0.9	0.0	23.5	3.5	0.0	0.0	0.3	0.0	2.8
Prop In Lane	1.00		1.00	1.00		0.00	0.80		0.15	0.60		1.00
Lane Grp Cap(c), veh/h	43	690	586	40	0	687	616	0	0	696	0	608
V/C Ratio(X)	0.63	1.57	0.10	0.62	0.00	2.97	0.18	0.00	0.00	0.02	0.00	0.17
Avail Cap(c_a), veh/h	111	690	586	111	0	687	616	0	0	696	0	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.4	20.7	13.7	31.5	0.0	20.8	13.7	0.0	0.0	12.7	0.0	13.5
Incr Delay (d2), s/veh	5.5	263.7	0.0	5.6	0.0	889.8	0.7	0.0	0.0	0.1	0.0	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	0.5	62.8	0.7	0.5	0.0	181.9	1.5	0.0	0.0	0.2	0.0	1.4
LnGrp Delay(d),s/veh	36.9	284.5	13.7	37.1	0.0	910.6	14.3	0.0	0.0	12.8	0.0	14.2
LnGrp LOS	D	F	B	D		F	B			B		B
Approach Vol, veh/h		1169			2063			113			121	
Approach Delay, s/veh		265.1			900.0			14.3			14.0	
Approach LOS		F			F			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		30.0	6.0	29.1		30.0	6.0	29.0
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	23.5		22.0	4.0	23.5
Max Q Clear Time (g_c+I1), s		5.5	2.9	25.6		4.8	3.0	25.5
Green Ext Time (p_c), s		0.6	0.0	0.0		0.6	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	626.0
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	129	1804	1171	20	884	112	593	660	23	162	777	64
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	137	1919	1231	21	940	113	631	702	20	172	827	61
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	2739	1164	33	2256	271	462	1176	33	175	971	72
Arrive On Green	0.06	0.72	0.72	0.02	0.68	0.68	0.26	0.64	0.64	0.10	0.28	0.28
Sat Flow, veh/h	1810	3800	1615	1810	3329	400	3619	3675	105	1810	3497	258
Grp Volume(v), veh/h	137	1919	1231	21	536	517	631	363	359	172	449	439
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1829	1810	1900	1879	1810	1900	1854
Q Serve(g_s), s	5.5	25.6	64.9	1.0	11.4	11.4	11.5	10.0	10.0	8.5	20.1	20.1
Cycle Q Clear(g_c), s	5.5	25.6	64.9	1.0	11.4	11.4	11.5	10.0	10.0	8.5	20.1	20.1
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.06	1.00		0.14
Lane Grp Cap(c), veh/h	111	2739	1164	33	1288	1240	462	608	601	175	528	515
V/C Ratio(X)	1.24	0.70	1.06	0.64	0.42	0.42	1.36	0.60	0.60	0.98	0.85	0.85
Avail Cap(c_a), veh/h	111	2739	1164	80	1288	1240	462	608	601	175	528	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.88	0.88	0.88	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.3	7.1	39.7	43.9	6.5	6.5	33.5	12.8	12.8	40.6	30.7	30.7
Incr Delay (d2), s/veh	114.6	0.1	28.3	7.5	1.0	1.0	176.0	3.8	3.8	62.8	15.8	16.1
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	6.3	13.1	9.1	0.6	6.3	6.1	17.0	5.7	5.6	7.3	12.8	12.5
LnGrp Delay(d),s/veh	156.9	7.2	68.0	51.3	7.5	7.5	209.5	16.6	16.7	103.4	46.5	46.9
LnGrp LOS	F	A	F	D	A	A	F	B	B	F	D	D
Approach Vol, veh/h		3287			1074			1353			1060	
Approach Delay, s/veh		36.2			8.4			106.6			55.9	
Approach LOS		D			A			F			E	

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	6.1	71.4	17.0	30.5	10.0	67.5	13.2	34.3
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	29.5	11.5	* 25	5.5	28.0	8.7	27.8
Max Q Clear Time (g_c+I1), s	13.0	66.9	13.5	22.1	7.5	13.4	10.5	12.0
Green Ext Time (p_c), s	0.0	0.0	0.0	1.1	0.0	12.8	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	48.9
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	32	190	257	27	129	195	102	751	66	385	1034	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.96	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	34	202	159	29	137	110	109	799	52	410	1100	23
Adj No. of Lanes	1	1	1	1	2	0	1	2	1	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	81	255	217	41	227	168	138	1068	437	594	2069	879
Arrive On Green	0.04	0.13	0.13	0.02	0.11	0.11	0.08	0.28	0.28	0.44	0.72	0.72
Sat Flow, veh/h	1810	1900	1615	1810	2020	1493	1810	3800	1555	1810	3800	1615
Grp Volume(v), veh/h	34	202	159	29	128	119	109	799	52	410	1100	23
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1613	1810	1900	1555	1810	1900	1615
Q Serve(g_s), s	1.6	9.3	6.7	1.4	5.8	6.4	5.3	17.2	2.2	16.4	11.7	0.2
Cycle Q Clear(g_c), s	1.6	9.3	6.7	1.4	5.8	6.4	5.3	17.2	2.2	16.4	11.7	0.2
Prop In Lane	1.00		1.00	1.00		0.93	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	81	255	217	41	214	181	138	1068	437	594	2069	879
V/C Ratio(X)	0.42	0.79	0.73	0.70	0.60	0.66	0.79	0.75	0.12	0.69	0.53	0.03
Avail Cap(c_a), veh/h	81	528	449	101	549	466	183	1068	437	594	2069	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	41.9	37.7	23.0	43.7	38.0	38.3	40.9	29.4	24.1	21.6	7.3	2.5
Incr Delay (d2), s/veh	1.3	2.1	1.8	7.7	1.0	1.5	11.2	4.8	0.6	0.3	0.1	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	0.9	5.0	3.1	0.8	3.1	2.9	3.1	9.7	1.0	8.2	6.0	0.1
LnGrp Delay(d),s/veh	43.1	39.9	24.8	51.4	39.0	39.8	52.1	34.2	24.6	21.9	7.4	2.5
LnGrp LOS	D	D	C	D	D	D	D	C	C	C	A	A
Approach Vol, veh/h		395			276			960			1533	
Approach Delay, s/veh		34.1			40.6			35.7			11.2	
Approach LOS		C			D			D			B	

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	35.1	30.8	6.6	17.6	11.4	54.5	8.5	15.6
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	14.7	* 25	5.0	25.0	9.1	30.9	4.0	26.0
Max Q Clear Time (g_c+I1), s	19.4	19.2	3.4	11.3	7.3	13.7	3.6	8.4
Green Ext Time (p_c), s	0.0	1.8	0.0	0.8	0.0	5.0	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	24.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	2	74	699	9	147	1142
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	0	-	65	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	80	752	10	158	1228

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2296	752	0	0	752	0
Stage 1	752	-	-	-	-	-
Stage 2	1544	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	43	413	-	-	867	-
Stage 1	469	-	-	-	-	-
Stage 2	196	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	35	413	-	-	867	-
Mov Cap-2 Maneuver	35	-	-	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	160	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.4	0	1.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	35	413	867	-
HCM Lane V/C Ratio	-	-	0.061	0.193	0.182	-
HCM Control Delay (s)	-	-	114.5	15.8	10.1	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.7	0.7	-

Intersection	
Intersection Delay, s/veh	58.5
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Vol, veh/h	0	236	318	0	432	347	0	615	555
Peak Hour Factor	0.92	0.86	0.86	0.92	0.86	0.86	0.92	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	274	370	0	502	403	0	715	645
Number of Lanes	0	1	1	0	1	0	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	25.6	65.7	69.3
HCM LOS	D	F	F

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	55%	0%	0%	0%	100%
Vol Right, %	45%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	779	236	318	615	555
LT Vol	0	236	0	615	0
Through Vol	432	0	0	0	555
RT Vol	347	0	318	0	0
Lane Flow Rate	906	274	370	715	645
Geometry Grp	4	7	7	7	7
Degree of Util (X)	1	0.632	0.729	1	1
Departure Headway (Hd)	6.848	8.297	7.097	7.861	7.36
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	534	439	514	465	497
Service Time	4.907	5.997	4.797	5.637	5.137
HCM Lane V/C Ratio	1.697	0.624	0.72	1.538	1.298
HCM Control Delay	65.7	24.2	26.6	70.4	68
HCM Lane LOS	F	C	D	F	F
HCM 95th-tile Q	14	4.2	6	13	13.5



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	230	126	689	108	84	726
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	284	135	851	133	104	896
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	320	286	836	710	382	1332
Arrive On Green	0.18	0.18	0.44	0.44	0.21	0.70
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	284	135	851	133	104	896
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	13.8	6.8	39.6	4.5	4.3	24.0
Cycle Q Clear(g_c), s	13.8	6.8	39.6	4.5	4.3	24.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	320	286	836	710	382	1332
V/C Ratio(X)	0.89	0.47	1.02	0.19	0.27	0.67
Avail Cap(c_a), veh/h	342	305	836	710	382	1332
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	36.2	33.3	25.2	15.4	29.7	7.6
Incr Delay (d2), s/veh	21.5	0.5	35.8	0.6	1.8	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	3.0	29.0	2.1	2.4	13.5
LnGrp Delay(d),s/veh	57.7	33.7	61.0	16.0	31.5	10.3
LnGrp LOS	E	C	F	B	C	B
Approach Vol, veh/h	419		984			1000
Approach Delay, s/veh	50.0		54.9			12.5
Approach LOS	D		D			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.5	45.1				68.6		21.4
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	19.0	38.5				62.0		17.0
Max Q Clear Time (g_c+I1), s	6.3	41.6				26.0		15.8
Green Ext Time (p_c), s	0.1	0.0				9.2		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	36.4
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	1	3	801	0	0	983
Conflicting Peds, #/hr	0	0	0	3	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	140	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	4	1128	0	0	1385

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2513	564	0	0	1128	0
Stage 1	1128	-	-	-	-	-
Stage 2	1385	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	27	474	-	-	627	-
Stage 1	275	-	-	-	-	-
Stage 2	234	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	27	474	-	-	627	-
Mov Cap-2 Maneuver	168	-	-	-	-	-
Stage 1	275	-	-	-	-	-
Stage 2	233	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	168	474	627	-
HCM Lane V/C Ratio	-	-	0.008	0.009	-	-
HCM Control Delay (s)	-	-	26.6	12.7	0	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	52	316	6	19	93	579	0	88	36	636	250	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	74	451	9	27	133	827	0	126	47	909	357	46
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	529	449	36	467	397	2	550	461	445	1088	925
Arrive On Green	0.05	0.28	0.28	0.02	0.25	0.25	0.00	0.29	0.29	0.25	0.57	0.57
Sat Flow, veh/h	1810	1900	1612	1810	1900	1615	1810	1900	1593	1810	1900	1615
Grp Volume(v), veh/h	74	451	9	27	133	827	0	126	47	909	357	46
Grp Sat Flow(s),veh/h/ln	1810	1900	1612	1810	1900	1615	1810	1900	1593	1810	1900	1615
Q Serve(g_s), s	4.8	27.0	0.5	1.8	6.8	29.5	0.0	6.1	2.6	29.5	11.9	1.5
Cycle Q Clear(g_c), s	4.8	27.0	0.5	1.8	6.8	29.5	0.0	6.1	2.6	29.5	11.9	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	95	529	449	36	467	397	2	550	461	445	1088	925
V/C Ratio(X)	0.78	0.85	0.02	0.75	0.28	2.08	0.00	0.23	0.10	2.04	0.33	0.05
Avail Cap(c_a), veh/h	113	529	449	113	467	397	60	550	461	445	1088	925
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	0.09	0.09	0.09	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.2	41.0	31.4	58.5	36.7	45.3	0.0	32.4	31.2	45.3	13.5	11.3
Incr Delay (d2), s/veh	20.6	12.2	0.0	1.1	0.0	488.1	0.0	1.0	0.4	477.3	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	15.9	0.2	0.9	3.6	67.0	0.0	3.3	1.2	73.7	6.4	0.7
LnGrp Delay(d),s/veh	76.8	53.1	31.4	59.6	36.7	533.4	0.0	33.4	31.7	522.6	14.3	11.4
LnGrp LOS	E	D	C	E	D	F		C	C	F	B	B
Approach Vol, veh/h		534			987			173			1312	
Approach Delay, s/veh		56.0			453.5			32.9			366.4	
Approach LOS		E			F			C			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	34.0	40.2	6.9	38.9	0.0	74.2	10.8	35.0
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	29.5	33.5	7.5	29.5	4.0	59.0	7.5	29.5
Max Q Clear Time (g_c+I1), s	31.5	8.1	3.8	29.0	0.0	13.9	6.8	31.5
Green Ext Time (p_c), s	0.0	1.6	0.0	0.3	0.0	1.7	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	320.7
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	7.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	120	2	9	244	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	160	3	12	325	15

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	674	9	0	0	15	0
Stage 1	9	-	-	-	-	-
Stage 2	665	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	423	1079	-	-	1616	-
Stage 1	1019	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	338	1079	-	-	1616	-
Mov Cap-2 Maneuver	389	-	-	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	411	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	7.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	1079	1616	-
HCM Lane V/C Ratio	-	-	-	0.148	0.201	-
HCM Control Delay (s)	-	-	0	8.9	7.8	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.5	0.8	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	966	18	0	1677	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1062	20	0	1843	0	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1081	0	2914	1071
Stage 1	-	-	-	-	1071	-
Stage 2	-	-	-	-	1843	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	*411	-	*17	*274
Stage 1	-	-	-	-	*259	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	*411	-	*17	*274
Mov Cap-2 Maneuver	-	-	-	-	*17	-
Stage 1	-	-	-	-	*259	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	18.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	274	-	-	* 411	-
HCM Lane V/C Ratio	0.02	-	-	-	-
HCM Control Delay (s)	18.4	-	-	0	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Notes

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

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	54	33	101	0	23	0	152	5	0	3	6	122
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	0	200	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	78	48	146	0	33	0	220	7	0	4	9	177

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	570	554	97	651	642	7	186	0	0	7	0	0
Stage 1	106	106	-	448	448	-	-	-	-	-	-	-
Stage 2	464	448	-	203	194	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	435	443	965	384	395	1081	1401	-	-	1627	-	-
Stage 1	905	811	-	594	576	-	-	-	-	-	-	-
Stage 2	582	576	-	804	744	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	359	373	965	263	332	1081	1401	-	-	1627	-	-
Mov Cap-2 Maneuver	426	453	-	368	422	-	-	-	-	-	-	-
Stage 1	763	809	-	501	486	-	-	-	-	-	-	-
Stage 2	457	486	-	640	742	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.3	14.3	7.8	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1401	-	-	618	422	1627	-	-
HCM Lane V/C Ratio	0.157	-	-	0.441	0.079	0.003	-	-
HCM Control Delay (s)	8	-	-	15.3	14.3	7.2	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	2.2	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	48	54	11	0	4	31	72	0	7	56	4
Peak Hour Factor	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89	0.92	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	54	61	12	0	4	35	81	0	8	63	4
Number of Lanes	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	3
HCM Control Delay	10	9.3	9.7
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	83%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	17%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	56	4	48	65	4	31	72	241	81	115
LT Vol	7	0	0	48	0	4	0	0	241	0	0
Through Vol	0	56	0	0	54	0	31	0	0	81	0
RT Vol	0	0	4	0	11	0	0	72	0	0	115
Lane Flow Rate	8	63	4	54	73	4	35	81	271	91	129
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.015	0.111	0.007	0.102	0.125	0.009	0.062	0.127	0.445	0.137	0.169
Departure Headway (Hd)	6.834	6.331	5.626	6.801	6.183	6.863	6.363	5.663	6.037	5.535	4.832
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	525	568	638	529	582	524	565	636	601	652	747
Service Time	4.553	4.05	3.345	4.514	3.896	4.574	4.074	3.374	3.737	3.235	2.532
HCM Lane V/C Ratio	0.015	0.111	0.006	0.102	0.125	0.008	0.062	0.127	0.451	0.14	0.173
HCM Control Delay	9.7	9.8	8.4	10.3	9.8	9.6	9.5	9.2	13.5	9.1	8.5
HCM Lane LOS	A	A	A	B	A	A	A	A	B	A	A
HCM 95th-tile Q	0	0.4	0	0.3	0.4	0	0.2	0.4	2.3	0.5	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	796	1222	219	451	50	652	163	202	124	254	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.99	1.00		1.00	1.00		0.49
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	33	1206	1782	332	683	53	988	247	221	188	385	36
Adj No. of Lanes	1	1	1	1	2	1	2	1	1	1	2	0
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	42	420	618	354	1495	632	618	515	437	264	769	69
Arrive On Green	0.02	0.22	0.22	0.20	0.39	0.39	0.17	0.27	0.27	0.15	0.25	0.25
Sat Flow, veh/h	1810	1900	1548	1810	3800	1607	3619	1900	1612	1810	3128	281
Grp Volume(v), veh/h	33	1206	1782	332	683	53	988	247	221	188	228	193
Grp Sat Flow(s),veh/h/ln	1810	1900	1548	1810	1900	1607	1810	1900	1612	1810	1900	1509
Q Serve(g_s), s	2.2	26.5	19.9	21.7	15.9	1.5	20.5	13.1	8.6	11.9	12.3	13.3
Cycle Q Clear(g_c), s	2.2	26.5	19.9	21.7	15.9	1.5	20.5	13.1	8.6	11.9	12.3	13.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	42	420	618	354	1495	632	618	515	437	264	467	371
V/C Ratio(X)	0.78	2.87	2.88	0.94	0.46	0.08	1.60	0.48	0.51	0.71	0.49	0.52
Avail Cap(c_a), veh/h	83	420	618	354	1495	632	618	515	437	264	467	371
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)	0.09	0.09	0.09	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.3	46.7	14.4	47.5	26.9	8.8	49.8	36.7	14.1	48.9	38.8	39.1
Incr Delay (d2), s/veh	1.1	844.0	848.5	31.6	0.1	0.0	269.8	0.3	0.4	7.5	3.6	5.2
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	112.2	154.0	13.9	8.4	0.7	33.4	6.9	3.9	6.5	6.9	6.1
LnGrp Delay(d),s/veh	59.4	890.8	863.0	79.1	27.0	8.9	319.6	37.0	14.5	56.4	42.4	44.3
LnGrp LOS	E	F	F	E	C	A	F	D	B	E	D	D
Approach Vol, veh/h		3021			1068			1456			609	
Approach Delay, s/veh		865.3			42.3			225.3			47.3	
Approach LOS		F			D			F			D	

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	22.0	38.0	28.0	32.0	25.0	35.0	7.3	52.7
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	17.5	32.5	23.5	26.5	20.5	29.5	5.5	44.5
Max Q Clear Time (g_c+I1), s	13.9	15.1	23.7	28.5	22.5	15.3	4.2	17.9
Green Ext Time (p_c), s	1.1	1.0	0.0	0.0	0.0	1.2	0.0	22.8

Intersection Summary	
HCM 2010 Ctrl Delay	490.1
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	28	54	412	126	35	16	105	821	91	55	1432	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	40	77	468	180	50	4	150	1173	126	79	2046	75
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	279	319	271	97	127	108	109	1538	165	102	1648	60
Arrive On Green	0.15	0.17	0.17	0.05	0.07	0.07	0.06	0.46	0.46	0.06	0.45	0.45
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3374	362	1810	3644	133
Grp Volume(v), veh/h	40	77	468	180	50	4	150	660	639	79	1061	1061
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1835	1810	1900	1877
Q Serve(g_s), s	1.4	2.6	9.7	4.0	1.9	0.1	4.5	21.7	21.8	3.2	33.9	33.9
Cycle Q Clear(g_c), s	1.4	2.6	9.7	4.0	1.9	0.1	4.5	21.7	21.8	3.2	33.9	33.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.20	1.00		0.07
Lane Grp Cap(c), veh/h	279	319	271	97	127	108	109	866	837	102	859	849
V/C Ratio(X)	0.14	0.24	1.73	1.87	0.39	0.04	1.38	0.76	0.76	0.78	1.23	1.25
Avail Cap(c_a), veh/h	279	608	517	97	608	517	109	866	837	109	859	849
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	27.4	27.1	18.4	35.5	33.5	20.8	35.3	17.0	17.0	34.9	20.5	20.5
Incr Delay (d2), s/veh	0.1	0.1	340.0	426.1	0.7	0.1	218.8	6.3	6.6	2.7	106.4	113.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.4	29.9	13.4	1.0	0.1	8.8	12.9	12.5	1.7	43.0	44.1
LnGrp Delay(d),s/veh	27.5	27.2	358.3	461.6	34.3	20.8	254.1	23.3	23.6	37.6	126.9	133.8
LnGrp LOS	C	C	F	F	C	C	F	C	C	D	F	F
Approach Vol, veh/h		585			234			1449			2200	
Approach Delay, s/veh		292.1			362.7			47.3			127.0	
Approach LOS		F			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	8.7	39.7	8.5	18.1	9.0	39.4	16.1	10.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.5	22.5	4.0	24.0	4.5	22.5	4.0	24.0
Max Q Clear Time (g_c+I1), s	15.2	23.8	6.0	11.7	6.5	35.9	3.4	3.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.1

Intersection Summary		
HCM 2010 Ctrl Delay		135.1
HCM 2010 LOS		F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	507	370	138	23	750	11	188	305	16	59	398	936
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	658	481	179	30	974	14	244	396	21	77	517	1211
Adj No. of Lanes	1	1	1	1	2	0	2	2	1	2	2	0
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1381	2076	1765	42	1278	18	152	1341	570	132	640	544
Arrive On Green	0.76	1.00	1.00	0.02	0.34	0.34	0.04	0.35	0.35	0.04	0.34	0.34
Sat Flow, veh/h	1810	1900	1615	1810	3736	54	3619	3800	1615	3619	1900	1615
Grp Volume(v), veh/h	658	481	179	30	495	493	244	396	21	77	517	1211
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1890	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	12.9	0.0	0.0	1.6	22.0	22.0	4.0	7.2	0.8	2.0	23.6	32.0
Cycle Q Clear(g_c), s	12.9	0.0	0.0	1.6	22.0	22.0	4.0	7.2	0.8	2.0	23.6	32.0
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1381	2076	1765	42	650	646	152	1341	570	132	640	544
V/C Ratio(X)	0.48	0.23	0.10	0.72	0.76	0.76	1.60	0.30	0.04	0.58	0.81	2.23
Avail Cap(c_a), veh/h	1381	2076	1765	99	650	646	152	1341	570	152	640	544
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	4.2	0.0	0.0	46.1	27.8	27.8	45.5	22.2	20.2	45.0	28.7	31.5
Incr Delay (d2), s/veh	0.1	0.3	0.1	8.4	8.2	8.3	299.0	0.6	0.1	1.7	10.5	557.7
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	6.3	0.2	0.1	0.9	13.0	13.0	8.3	3.8	0.4	1.0	14.2	98.5
LnGrp Delay(d),s/veh	4.3	0.3	0.1	54.5	36.0	36.1	344.5	22.8	20.3	46.7	39.2	589.2
LnGrp LOS	A	A	A	D	D	D	F	C	C	D	D	F
Approach Vol, veh/h		1318			1018			661			1805	
Approach Delay, s/veh		2.2			36.6			141.5			408.5	
Approach LOS		A			D			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	6.7	111.3	9.5	37.5	80.0	38.0	8.0	39.0
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	5.2	33.8	4.0	* 32	6.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	11.6	2.0	6.0	34.0	14.9	24.0	4.0	9.2
Green Ext Time (p_c), s	0.0	3.0	0.0	0.0	0.0	2.5	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	181.4
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	226	1080	391	102	568	141	274	1140	136	197	1458	84
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	231	1102	378	104	580	135	280	1163	128	201	1488	75
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	911	307	1431	3249	754	174	1381	152	188	1021	434
Arrive On Green	0.05	0.33	0.33	0.79	1.00	1.00	0.10	0.27	0.27	0.10	0.27	0.27
Sat Flow, veh/h	1810	2718	917	1810	2984	693	1810	5046	555	1810	3800	1615
Grp Volume(v), veh/h	231	765	715	104	369	346	280	876	415	201	1488	75
Grp Sat Flow(s),veh/h/ln	1810	1900	1735	1810	1900	1777	1810	1900	1801	1810	1900	1615
Q Serve(g_s), s	4.0	26.8	26.8	1.0	0.0	0.0	7.7	17.4	17.4	8.3	21.5	5.2
Cycle Q Clear(g_c), s	4.0	26.8	26.8	1.0	0.0	0.0	7.7	17.4	17.4	8.3	21.5	5.2
Prop In Lane	1.00		0.53	1.00		0.39	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	90	637	581	1431	2068	1934	174	1040	493	188	1021	434
V/C Ratio(X)	2.55	1.20	1.23	0.07	0.18	0.18	1.61	0.84	0.84	1.07	1.46	0.17
Avail Cap(c_a), veh/h	90	637	581	1431	2068	1934	174	1040	493	188	1021	434
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	38.0	26.6	26.6	1.9	0.0	0.0	36.2	27.4	27.4	35.8	29.2	73.3
Incr Delay (d2), s/veh	730.2	105.2	118.2	0.0	0.2	0.2	298.5	8.2	15.9	85.7	211.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.3	32.6	31.8	0.5	0.1	0.1	18.3	10.3	10.8	8.6	41.2	2.4
LnGrp Delay(d),s/veh	768.2	131.8	144.8	1.9	0.2	0.2	334.6	35.7	43.3	121.5	240.4	74.2
LnGrp LOS	F	F	F	A	A	A	F	D	D	F	F	E
Approach Vol, veh/h		1711			819			1571			1764	
Approach Delay, s/veh		223.2			0.4			91.0			219.8	
Approach LOS		F			A			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	30.1	32.3	13.2	27.0	8.5	93.9	12.8	27.4
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	* 27	7.7	* 22	4.0	26.8	8.3	20.9
Max Q Clear Time (g_c+I1), s	13.0	28.8	9.7	23.5	6.0	2.0	10.3	19.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.8	0.0	1.0

Intersection Summary		
HCM 2010 Ctrl Delay		155.6
HCM 2010 LOS		F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	62	166	67	238	121	134	60	1361	209	211	1247	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	73	195	50	280	142	99	71	1601	232	248	1467	65
Adj No. of Lanes	0	1	1	0	2	1	1	3	0	1	3	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	84	225	266	331	347	288	148	1937	280	143	2143	95
Arrive On Green	0.16	0.16	0.16	0.18	0.18	0.18	0.08	0.40	0.40	0.08	0.40	0.40
Sat Flow, veh/h	511	1364	1612	1810	1900	1579	1810	4862	702	1810	5414	240
Grp Volume(v), veh/h	268	0	50	280	142	99	71	1250	583	248	1030	502
Grp Sat Flow(s),veh/h/ln	1874	0	1612	1810	1900	1579	1810	1900	1765	1810	1900	1854
Q Serve(g_s), s	16.7	0.0	3.2	18.0	7.9	6.6	4.5	35.4	35.6	9.5	26.9	27.0
Cycle Q Clear(g_c), s	16.7	0.0	3.2	18.0	7.9	6.6	4.5	35.4	35.6	9.5	26.9	27.0
Prop In Lane	0.27		1.00	1.00		1.00	1.00		0.40	1.00		0.13
Lane Grp Cap(c), veh/h	309	0	266	331	347	288	148	1514	703	143	1504	734
V/C Ratio(X)	0.87	0.00	0.19	0.85	0.41	0.34	0.48	0.83	0.83	1.73	0.68	0.68
Avail Cap(c_a), veh/h	469	0	403	452	475	395	148	1514	703	143	1504	734
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	0.0	43.2	47.4	43.3	42.8	52.7	32.4	32.4	55.3	30.0	30.0
Incr Delay (d2), s/veh	7.2	0.0	0.1	8.1	0.3	0.3	10.8	5.3	10.9	356.5	2.6	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	0.0	1.4	9.7	4.2	2.9	2.7	19.7	19.5	18.9	14.7	14.9
LnGrp Delay(d),s/veh	56.0	0.0	43.3	55.5	43.6	43.0	63.4	37.7	43.4	411.7	32.6	35.2
LnGrp LOS	E		D	E	D	D	E	D	D	F	C	D
Approach Vol, veh/h		318			521			1904			1780	
Approach Delay, s/veh		54.0			49.9			40.4			86.2	
Approach LOS		D			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	53.3		25.3	14.3	53.0		27.4
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	9.5	29.5		30.0	9.8	29.2		30.0
Max Q Clear Time (g_c+I1), s	11.5	37.6		18.7	6.5	29.0		20.0
Green Ext Time (p_c), s	0.0	0.0		0.9	0.0	0.2		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	60.4
HCM 2010 LOS	E

Notes

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

APPENDIX 6.2:

OPENING YEAR CUMULATIVE (2020) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	579	124	580	2468	0	0	0	1130	0	0	537
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5	4.0	5.5				5.6			4.0
Lane Util. Factor		*1.00	1.00	1.00	*1.00				1.00			1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	1.00	1.00	1.00				1.00			1.00
Flt Protected		1.00	1.00	1.00	1.00				1.00			1.00
Satd. Flow (prot)		3800	1900	1900	3800				1900			1900
Flt Permitted		1.00	1.00	1.00	1.00				1.00			1.00
Satd. Flow (perm)		3800	1900	1900	3800				1900			1900
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	609	131	611	2598	0	0	0	1189	0	0	565
RTOR Reduction (vph)	0	0	89	0	0	0	0	0	440	0	0	94
Lane Group Flow (vph)	0	609	42	611	2598	0	0	0	749	0	0	471
Confl. Bikes (#/hr)									2			2
Turn Type		NA	Perm	Prot	NA				Prot			Prot
Protected Phases		2		1	6				3			7
Permitted Phases			2									
Actuated Green, G (s)		19.2	19.2	15.3	38.5				10.4			12.0
Effective Green, g (s)		19.2	19.2	15.3	38.5				10.4			12.0
Actuated g/C Ratio		0.32	0.32	0.26	0.64				0.17			0.20
Clearance Time (s)		5.5	5.5	4.0	5.5				5.6			4.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0				2.0			2.0
Lane Grp Cap (vph)		1216	608	484	2438				329			380
v/s Ratio Prot		0.16		c0.32	c0.68				c0.39			0.25
v/s Ratio Perm			0.02									
v/c Ratio		0.50	0.07	1.26	1.07				2.28			1.24
Uniform Delay, d1		16.5	14.2	22.4	10.8				24.8			24.0
Progression Factor		1.00	1.00	1.00	1.00				1.00			1.00
Incremental Delay, d2		1.5	0.2	133.9	38.7				584.4			127.9
Delay (s)		18.0	14.4	156.2	49.4				609.2			151.9
Level of Service		B	B	F	D				F			F
Approach Delay (s)		17.4			69.8			609.2			151.9	
Approach LOS		B			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	183.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	109.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	524	43	248	288	0	0	0	0	1541	2	386
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	557	41	264	306	0				1639	2	347
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	950	404	302	1742	0				828	1	740
Arrive On Green	0.00	0.25	0.25	0.33	0.92	0.00				0.46	0.46	0.46
Sat Flow, veh/h	0	3800	1615	1810	3800	0				1807	2	1615
Grp Volume(v), veh/h	0	557	41	264	306	0				1641	0	347
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1615
Q Serve(g_s), s	0.0	15.5	2.3	16.5	1.0	0.0				55.0	0.0	17.8
Cycle Q Clear(g_c), s	0.0	15.5	2.3	16.5	1.0	0.0				55.0	0.0	17.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	950	404	302	1742	0				829	0	740
V/C Ratio(X)	0.00	0.59	0.10	0.88	0.18	0.00				1.98	0.00	0.47
Avail Cap(c_a), veh/h	0	950	404	309	1742	0				829	0	740
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.97	0.97	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	39.5	34.6	38.8	2.7	0.0				32.5	0.0	22.4
Incr Delay (d2), s/veh	0.0	2.6	0.5	21.6	0.2	0.0				444.7	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	8.5	1.1	10.0	0.5	0.0				129.9	0.0	8.0
LnGrp Delay(d),s/veh	0.0	42.2	35.1	60.4	3.0	0.0				477.2	0.0	22.9
LnGrp LOS		D	D	E	A					F		C
Approach Vol, veh/h		598			570						1988	
Approach Delay, s/veh		41.7			29.6						397.9	
Approach LOS		D			C						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	25.0	35.0		60.0		60.0		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	20.5	* 30		55.0		55.0		
Max Q Clear Time (g_c+I1), s	18.5	17.5		57.0		3.0		
Green Ext Time (p_c), s	0.4	1.9		0.0		1.4		

Intersection Summary	
HCM 2010 Ctrl Delay	263.9
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	39	1569	101	0	2688	247	878	345	36	52	0	73
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		0.99	1.00		0.99
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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	40	1601	97	0	2743	208	896	352	37	53	0	69
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	1	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	1987	120	0	1956	146	454	483	51	210	0	456
Arrive On Green	0.56	0.56	0.56	0.00	0.56	0.56	0.29	0.29	0.29	0.29	0.00	0.29
Sat Flow, veh/h	85	3549	214	0	3493	261	1353	1688	177	1010	0	1593
Grp Volume(v), veh/h	40	853	845	0	1476	1476	896	0	389	53	0	69
Grp Sat Flow(s),veh/h/ln	85	1900	1862	0	1900	1854	1353	0	1866	1010	0	1593
Q Serve(g_s), s	0.0	23.3	23.8	0.0	36.4	36.4	16.5	0.0	12.2	3.2	0.0	2.1
Cycle Q Clear(g_c), s	36.4	23.3	23.8	0.0	36.4	36.4	18.6	0.0	12.2	15.5	0.0	2.1
Prop In Lane	1.00		0.11	0.00		0.14	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	111	1064	1043	0	1064	1038	454	0	534	210	0	456
V/C Ratio(X)	0.36	0.80	0.81	0.00	1.39	1.42	1.97	0.00	0.73	0.25	0.00	0.15
Avail Cap(c_a), veh/h	111	1064	1043	0	1064	1038	454	0	534	210	0	456
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	11.4	11.5	0.0	14.3	14.3	26.3	0.0	20.9	27.9	0.0	17.3
Incr Delay (d2), s/veh	8.9	6.4	6.8	0.0	179.9	195.2	445.6	0.0	8.5	2.9	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	14.0	14.0	0.0	71.8	74.5	64.3	0.0	7.5	1.1	0.0	1.0
LnGrp Delay(d),s/veh	41.4	17.8	18.4	0.0	194.2	209.5	471.9	0.0	29.4	30.8	0.0	18.0
LnGrp LOS	D	B	B		F	F	F		C	C		B
Approach Vol, veh/h		1738			2951			1285			122	
Approach Delay, s/veh		18.6			201.9			337.9			23.6	
Approach LOS		B			F			F			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.4		23.6		41.4		23.6
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		36.4		18.6		36.4		18.6
Max Q Clear Time (g_c+I1), s		38.4		17.5		38.4		20.6
Green Ext Time (p_c), s		0.0		0.6		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	174.7
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	314	1750	0	0	450	646	84	0	393	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	341	1902	0	0	489	667	91	0	341			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	363	2755	0	0	1881	799	347	0	310			
Arrive On Green	0.40	1.00	0.00	0.00	0.49	0.49	0.19	0.00	0.19			
Sat Flow, veh/h	1810	3800	0	0	3800	1615	1810	0	1615			
Grp Volume(v), veh/h	341	1902	0	0	489	667	91	0	341			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1810	0	1615			
Q Serve(g_s), s	21.7	0.0	0.0	0.0	9.0	42.6	5.1	0.0	23.0			
Cycle Q Clear(g_c), s	21.7	0.0	0.0	0.0	9.0	42.6	5.1	0.0	23.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	363	2755	0	0	1881	799	347	0	310			
V/C Ratio(X)	0.94	0.69	0.00	0.00	0.26	0.83	0.26	0.00	1.10			
Avail Cap(c_a), veh/h	550	2755	0	0	1881	799	347	0	310			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.78	0.78	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.2	0.0	0.0	0.0	17.6	26.1	41.3	0.0	48.5			
Incr Delay (d2), s/veh	12.3	1.1	0.0	0.0	0.3	10.0	1.8	0.0	81.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	12.0	0.4	0.0	0.0	4.8	21.1	2.8	0.0	17.2			
LnGrp Delay(d),s/veh	47.4	1.1	0.0	0.0	17.9	36.1	43.1	0.0	129.7			
LnGrp LOS	D	A			B	D	D		F			
Approach Vol, veh/h		2243			1156			432				
Approach Delay, s/veh		8.2			28.4			111.5				
Approach LOS		A			C			F				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		92.0			27.6	64.4		28.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		87.0			36.5	47.0		23.0
Max Q Clear Time (g_c+I1), s		2.0			23.7	44.6		25.0
Green Ext Time (p_c), s		26.7			0.4	2.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	25.9
HCM 2010 LOS	C

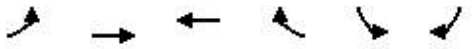
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	220	2300	256	115	2599	118	59	245	23	109	128	130
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	232	2421	0	121	2736	116	62	258	3	115	135	84
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	158	2404	681	119	2280	646	445	461	5	166	174	287
Arrive On Green	0.09	0.42	0.00	0.07	0.40	0.40	0.25	0.25	0.25	0.09	0.09	0.09
Sat Flow, veh/h	1810	5700	1615	1810	5700	1615	1810	1874	22	1810	1900	1592
Grp Volume(v), veh/h	232	2421	0	121	2736	116	62	0	261	115	135	84
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1896	1810	1900	1592
Q Serve(g_s), s	10.5	50.6	0.0	7.9	48.0	5.6	3.2	0.0	14.4	7.4	8.3	5.5
Cycle Q Clear(g_c), s	10.5	50.6	0.0	7.9	48.0	5.6	3.2	0.0	14.4	7.4	8.3	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	158	2404	681	119	2280	646	445	0	466	166	174	287
V/C Ratio(X)	1.47	1.01	0.00	1.02	1.20	0.18	0.14	0.00	0.56	0.69	0.78	0.29
Avail Cap(c_a), veh/h	158	2404	681	119	2280	646	445	0	466	445	467	533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	34.7	0.0	56.0	36.0	23.3	35.3	0.0	39.6	52.9	53.3	42.7
Incr Delay (d2), s/veh	240.5	20.1	0.0	86.7	94.4	0.0	0.7	0.0	4.8	1.9	2.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.8	31.0	0.0	6.8	45.1	2.5	1.7	0.0	8.2	3.8	4.5	2.4
LnGrp Delay(d),s/veh	295.3	54.8	0.0	142.9	130.4	23.3	36.0	0.0	44.4	54.8	56.1	42.9
LnGrp LOS	F	F		F	F	C	D		D	D	E	D
Approach Vol, veh/h		2653			2973			323			334	
Approach Delay, s/veh		75.8			126.7			42.8			52.3	
Approach LOS		E			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.4	56.1		16.5	15.0	53.5		35.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	7.9	32.1		29.5	10.5	29.5		29.5
Max Q Clear Time (g_c+I1), s	9.9	52.6		10.3	12.5	50.0		16.4
Green Ext Time (p_c), s	0.0	0.0		0.7	0.0	0.0		0.9

Intersection Summary		
HCM 2010 Ctrl Delay		97.0
HCM 2010 LOS		F

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	220	1930	2867	227	175	93
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	242	2121	3151	239	192	46
Adj No. of Lanes	1	2	3	1	2	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	644	3513	2978	826	814	938
Arrive On Green	0.36	0.92	0.52	0.52	0.22	0.22
Sat Flow, veh/h	1810	3800	5700	1580	3619	1615
Grp Volume(v), veh/h	242	2121	3151	239	192	46
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1580	1810	1615
Q Serve(g_s), s	11.9	11.5	62.7	10.2	5.2	0.0
Cycle Q Clear(g_c), s	11.9	11.5	62.7	10.2	5.2	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	644	3513	2978	826	814	938
V/C Ratio(X)	0.38	0.60	1.06	0.29	0.24	0.05
Avail Cap(c_a), veh/h	644	3513	2978	826	814	938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	28.7	0.8	28.6	16.1	38.1	10.8
Incr Delay (d2), s/veh	0.1	0.8	27.1	0.1	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	6.0	40.3	4.5	2.7	1.5
LnGrp Delay(d),s/veh	28.9	1.6	55.7	16.2	38.7	10.9
LnGrp LOS	C	A	F	B	D	B
Approach Vol, veh/h		2363	3390		238	
Approach Delay, s/veh		4.3	52.9		33.4	
Approach LOS		A	D		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		116.6		32.5	48.4	68.2		
Change Period (Y+Rc), s		5.5		5.5	5.5	* 5.5		
Max Green Setting (Gmax), s		82.0		27.0	14.8	* 63		
Max Q Clear Time (g_c+I1), s		13.5		7.2	13.9	64.7		
Green Ext Time (p_c), s		18.3		0.4	0.1	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	33.0
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	62	2082	1053	39	9	44
Conflicting Peds, #/hr	0	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	69	2313	1170	43	10	49

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1170	0	-	0	2464	585
Stage 1	-	-	-	-	1170	-
Stage 2	-	-	-	-	1294	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	604	-	-	-	*143	459
Stage 1	-	-	-	-	*261	-
Stage 2	-	-	-	-	*199	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	604	-	-	-	*143	459
Mov Cap-2 Maneuver	-	-	-	-	*143	-
Stage 1	-	-	-	-	*261	-
Stage 2	-	-	-	-	*199	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	604	-	-	-	334
HCM Lane V/C Ratio	0.114	-	-	-	0.176
HCM Control Delay (s)	11.7	0	-	-	18.1
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	0.6

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	151	1879	271	32	2538	126	211	91	24	94	95	121
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		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	162	2020	0	34	2729	133	227	98	23	101	102	95
Adj No. of Lanes	1	2	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1478	4392	1867	47	1904	91	170	952	216	85	1252	1844
Arrive On Green	0.82	1.00	0.00	0.03	0.35	0.35	0.05	0.32	0.32	0.05	0.33	0.33
Sat Flow, veh/h	1810	3800	1615	1810	5395	259	3619	2997	681	1810	3800	1593
Grp Volume(v), veh/h	162	2020	0	34	1909	953	227	61	60	101	102	95
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1854	1810	1900	1778	1810	1900	1593
Q Serve(g_s), s	1.5	0.0	0.0	1.6	30.0	30.0	4.0	1.9	2.0	4.0	1.6	0.4
Cycle Q Clear(g_c), s	1.5	0.0	0.0	1.6	30.0	30.0	4.0	1.9	2.0	4.0	1.6	0.4
Prop In Lane	1.00		1.00	1.00		0.14	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	1478	4392	1867	47	1341	654	170	604	565	85	1252	1844
V/C Ratio(X)	0.11	0.46	0.00	0.72	1.42	1.46	1.33	0.10	0.11	1.19	0.08	0.05
Avail Cap(c_a), veh/h	1478	4392	1867	85	1341	654	170	604	565	85	1252	1844
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)	0.12	0.12	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	1.6	0.0	0.0	41.1	27.5	27.5	40.5	20.4	20.5	40.5	19.6	6.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	191.0	205.9	184.2	0.3	0.4	156.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	0.8	51.2	52.7	6.3	1.1	1.0	5.7	0.8	0.8
LnGrp Delay(d),s/veh	1.6	0.0	0.0	41.8	218.5	233.4	224.7	20.8	20.9	196.5	19.8	6.8
LnGrp LOS	A	A		D	F	F	F	C	C	F	B	A
Approach Vol, veh/h		2182			2896			348			298	
Approach Delay, s/veh		0.2			221.3			153.8			75.6	
Approach LOS		A			F			F			E	

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	6.7	105.3	8.5	33.5	76.5	35.5	9.5	32.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.0	30.0	4.0	27.0	4.0	* 30	4.0	* 27
Max Q Clear Time (g_c+I1), s	3.6	2.0	6.0	3.6	3.5	32.0	6.0	4.0
Green Ext Time (p_c), s	0.0	12.7	0.0	0.6	0.0	0.0	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	125.3
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	84	1967	23	10	969	2	133	0	36	0	2	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	88	2071	24	11	1020	2	140	0	38	0	2	21
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	783	665	20	685	1	475	12	105	0	643	547
Arrive On Green	0.06	0.41	0.41	0.01	0.36	0.36	0.34	0.00	0.34	0.00	0.34	0.34
Sat Flow, veh/h	1810	1900	1615	1810	1896	4	1112	36	311	0	1900	1615
Grp Volume(v), veh/h	88	2071	24	11	0	1022	178	0	0	0	2	21
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1899	1459	0	0	0	1900	1615
Q Serve(g_s), s	3.1	26.8	0.6	0.4	0.0	23.5	5.3	0.0	0.0	0.0	0.0	0.6
Cycle Q Clear(g_c), s	3.1	26.8	0.6	0.4	0.0	23.5	5.9	0.0	0.0	0.0	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.00	0.79		0.21	0.00		1.00
Lane Grp Cap(c), veh/h	111	783	665	20	0	687	593	0	0	0	643	547
V/C Ratio(X)	0.79	2.65	0.04	0.55	0.00	1.49	0.30	0.00	0.00	0.00	0.00	0.04
Avail Cap(c_a), veh/h	111	783	665	111	0	687	593	0	0	0	643	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	19.1	11.4	32.0	0.0	20.8	16.1	0.0	0.0	0.0	14.2	14.4
Incr Delay (d2), s/veh	28.7	744.2	0.0	8.4	0.0	227.5	1.3	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	175.7	0.3	0.2	0.0	55.6	2.6	0.0	0.0	0.0	0.0	0.3
LnGrp Delay(d),s/veh	58.8	763.3	11.4	40.4	0.0	248.2	17.4	0.0	0.0	0.0	14.2	14.5
LnGrp LOS	E	F	B	D		F	B				B	B
Approach Vol, veh/h		2183			1033			178			23	
Approach Delay, s/veh		726.7			246.0			17.4			14.5	
Approach LOS		F			F			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		27.5	5.2	32.3		27.5	8.5	29.0
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	23.5		22.0	4.0	23.5
Max Q Clear Time (g_c+I1), s		7.9	2.4	28.8		2.6	5.1	25.5
Green Ext Time (p_c), s		0.6	0.0	0.0		0.7	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	539.6
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	1011	706	56	1795	147	928	609	24	72	428	67
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	152	1099	690	61	1951	151	1009	662	24	78	465	57
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	103	2462	1045	72	2200	168	695	1444	52	100	831	101
Arrive On Green	0.06	0.65	0.65	0.04	0.63	0.63	0.19	0.40	0.40	0.06	0.25	0.25
Sat Flow, veh/h	1810	3800	1613	1810	3487	266	3619	3642	132	1810	3322	405
Grp Volume(v), veh/h	152	1099	690	61	1051	1051	1009	345	341	78	265	257
Grp Sat Flow(s),veh/h/ln	1810	1900	1613	1810	1900	1853	1810	1900	1874	1810	1900	1827
Q Serve(g_s), s	5.7	14.3	29.2	3.3	45.7	48.4	19.2	13.4	13.4	4.3	12.2	12.3
Cycle Q Clear(g_c), s	5.7	14.3	29.2	3.3	45.7	48.4	19.2	13.4	13.4	4.3	12.2	12.3
Prop In Lane	1.00		1.00	1.00		0.14	1.00		0.07	1.00		0.22
Lane Grp Cap(c), veh/h	103	2462	1045	72	1199	1169	695	754	743	100	475	457
V/C Ratio(X)	1.47	0.45	0.66	0.84	0.88	0.90	1.45	0.46	0.46	0.78	0.56	0.56
Avail Cap(c_a), veh/h	103	2462	1045	72	1199	1169	695	754	743	121	475	457
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)	0.09	0.09	0.09	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	8.7	13.3	47.7	15.2	15.7	40.4	22.2	22.3	46.6	32.7	32.7
Incr Delay (d2), s/veh	217.9	0.1	0.3	53.8	9.2	11.0	210.4	1.7	1.8	18.3	4.7	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	7.5	12.9	2.8	26.7	27.8	29.9	7.4	7.3	2.6	6.9	6.8
LnGrp Delay(d),s/veh	265.1	8.8	13.6	101.5	24.4	26.7	250.8	24.0	24.0	64.9	37.4	37.7
LnGrp LOS	F	A	B	F	C	C	F	C	C	E	D	D
Approach Vol, veh/h		1941			2163			1695			600	
Approach Delay, s/veh		30.6			27.7			159.0			41.1	
Approach LOS		C			C			F			D	

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	8.5	71.3	24.7	30.5	10.2	69.6	10.0	45.2
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	31.8	19.2	* 25	5.7	30.1	6.7	37.5
Max Q Clear Time (g_c+I1), s	15.3	31.2	21.2	14.3	7.7	50.4	6.3	15.4
Green Ext Time (p_c), s	0.0	0.6	0.0	1.4	0.0	0.0	0.0	4.6

Intersection Summary	
HCM 2010 Ctrl Delay	64.6
HCM 2010 LOS	E

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	54	85	45	130	312	82	938	58	165	757	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.95	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	9	59	47	49	141	178	89	1020	48	179	823	14
Adj No. of Lanes	1	1	1	1	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	16	248	211	62	296	249	115	1164	468	482	1982	832
Arrive On Green	0.01	0.13	0.13	0.03	0.16	0.16	0.06	0.31	0.31	0.27	0.52	0.52
Sat Flow, veh/h	1810	1900	1615	1810	1900	1599	1810	3800	1527	1810	3800	1594
Grp Volume(v), veh/h	9	59	47	49	141	178	89	1020	48	179	823	14
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1599	1810	1900	1527	1810	1900	1594
Q Serve(g_s), s	0.4	2.2	2.1	2.1	5.4	8.5	3.9	20.4	1.4	6.4	10.6	0.3
Cycle Q Clear(g_c), s	0.4	2.2	2.1	2.1	5.4	8.5	3.9	20.4	1.4	6.4	10.6	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	16	248	211	62	296	249	115	1164	468	482	1982	832
V/C Ratio(X)	0.55	0.24	0.22	0.79	0.48	0.71	0.77	0.88	0.10	0.37	0.42	0.02
Avail Cap(c_a), veh/h	90	589	501	118	618	520	190	1164	468	482	1982	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.59	0.59	0.59
Uniform Delay (d), s/veh	39.5	31.2	31.1	38.3	30.8	32.1	36.9	26.3	11.8	23.9	11.7	9.2
Incr Delay (d2), s/veh	10.2	0.2	0.2	7.9	0.4	1.4	4.2	9.4	0.4	0.1	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	0.2	1.2	0.9	1.2	2.9	3.8	2.1	12.1	0.6	3.2	5.6	0.2
LnGrp Delay(d),s/veh	49.7	31.4	31.3	46.2	31.2	33.5	41.1	35.7	12.2	24.0	12.1	9.3
LnGrp LOS	D	C	C	D	C	C	D	D	B	C	B	A
Approach Vol, veh/h		115			368			1157			1016	
Approach Delay, s/veh		32.8			34.3			35.1			14.1	
Approach LOS		C			C			D			B	

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	26.8	30.0	7.3	15.9	9.6	47.2	5.2	18.0
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	5.5	* 25	5.2	24.8	8.4	21.6	4.0	26.0
Max Q Clear Time (g_c+I1), s	8.4	22.4	4.1	4.2	5.9	12.6	2.4	10.5
Green Ext Time (p_c), s	0.0	1.0	0.0	1.3	0.0	2.6	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	26.9
HCM 2010 LOS	C

Notes

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

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	4	110	786	3	67	811
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	0	-	65	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	116	827	3	71	854

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1822	827	0	0	827	0
Stage 1	827	-	-	-	-	-
Stage 2	995	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	86	375	-	-	813	-
Stage 1	433	-	-	-	-	-
Stage 2	361	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	78	375	-	-	813	-
Mov Cap-2 Maneuver	78	-	-	-	-	-
Stage 1	433	-	-	-	-	-
Stage 2	329	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	78	375	813	-
HCM Lane V/C Ratio	-	-	0.054	0.309	0.087	-
HCM Control Delay (s)	-	-	53.8	18.8	9.8	-
HCM Lane LOS	-	-	F	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	1.3	0.3	-

Intersection	
Intersection Delay, s/veh	57.2
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Vol, veh/h	0	340	473	0	367	212	0	271	590
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	362	503	0	390	226	0	288	628
Number of Lanes	0	1	1	0	1	0	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	51.8	67	55.7
HCM LOS	F	F	F

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	63%	0%	0%	0%	100%
Vol Right, %	37%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	579	340	473	271	590
LT Vol	0	340	0	271	0
Through Vol	367	0	0	0	590
RT Vol	212	0	473	0	0
Lane Flow Rate	616	362	503	288	628
Geometry Grp	4	7	7	7	7
Degree of Util (X)	1	0.824	0.979	0.661	1
Departure Headway (Hd)	7.085	8.203	7.004	8.257	7.757
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	511	441	518	441	471
Service Time	5.182	5.926	4.726	5.957	5.457
HCM Lane V/C Ratio	1.205	0.821	0.971	0.653	1.333
HCM Control Delay	67	39.3	60.8	25.6	69.5
HCM Lane LOS	F	E	F	D	F
HCM 95th-tile Q	13.7	7.8	13.1	4.7	13.2



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	113	132	492	259	259	671
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	140	163	607	320	320	828
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	236	211	715	608	491	1353
Arrive On Green	0.13	0.13	0.38	0.38	0.27	0.71
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	140	163	607	320	320	828
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	5.1	6.8	20.5	10.8	11.0	15.6
Cycle Q Clear(g_c), s	5.1	6.8	20.5	10.8	11.0	15.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	236	211	715	608	491	1353
V/C Ratio(X)	0.59	0.77	0.85	0.53	0.65	0.61
Avail Cap(c_a), veh/h	439	392	715	608	491	1353
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	28.7	29.4	20.0	17.0	22.6	5.1
Incr Delay (d2), s/veh	0.9	2.3	12.0	3.2	6.6	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	3.2	13.0	5.3	6.3	8.8
LnGrp Delay(d),s/veh	29.6	31.7	32.0	20.2	29.1	7.2
LnGrp LOS	C	C	C	C	C	A
Approach Vol, veh/h	303		927			1148
Approach Delay, s/veh	30.7		27.9			13.3
Approach LOS	C		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.5	31.9				55.4		14.6
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	19.0	18.5				42.0		17.0
Max Q Clear Time (g_c+I1), s	13.0	22.5				17.6		8.8
Green Ext Time (p_c), s	0.2	0.0				6.6		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	21.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	8	9	742	35	44	739
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	10	807	38	48	803

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1725	422	0	0	845	0
Stage 1	826	-	-	-	-	-
Stage 2	899	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	90	586	-	-	800	-
Stage 1	395	-	-	-	-	-
Stage 2	401	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	85	586	-	-	800	-
Mov Cap-2 Maneuver	271	-	-	-	-	-
Stage 1	395	-	-	-	-	-
Stage 2	377	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	379	800	-
HCM Lane V/C Ratio	-	-	0.049	0.06	-
HCM Control Delay (s)	-	-	15	9.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.2	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	8	10	767	35	43	704
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	11	834	38	47	765

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1712	436	0	0	872	0
Stage 1	853	-	-	-	-	-
Stage 2	859	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	92	574	-	-	782	-
Stage 1	383	-	-	-	-	-
Stage 2	418	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	86	574	-	-	782	-
Mov Cap-2 Maneuver	273	-	-	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	393	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	385	782	-
HCM Lane V/C Ratio	-	-	0.051	0.06	-
HCM Control Delay (s)	-	-	14.9	9.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.2	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	11	10	753	53	45	648
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	0	-	0	140	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	15	14	1061	75	63	913

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2100	530	0	0	1061	0
Stage 1	1061	-	-	-	-	-
Stage 2	1039	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	51	499	-	-	664	-
Stage 1	298	-	-	-	-	-
Stage 2	344	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	46	499	-	-	664	-
Mov Cap-2 Maneuver	207	-	-	-	-	-
Stage 1	298	-	-	-	-	-
Stage 2	311	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.4	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	207	499	664	-
HCM Lane V/C Ratio	-	-	0.075	0.028	0.095	-
HCM Control Delay (s)	-	-	23.8	12.4	11	-
HCM Lane LOS	-	-	C	B	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	0.3	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	28	76	4	40	310	716	1	55	11	443	104	47
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	37	101	2	53	413	888	1	73	15	591	139	62
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	47	143	121	409	522	444	2	618	525	297	946	804
Arrive On Green	0.03	0.08	0.08	0.23	0.28	0.28	0.00	0.32	0.32	0.16	0.50	0.50
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Grp Volume(v), veh/h	37	101	2	53	413	888	1	73	15	591	139	62
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	2.0	5.2	0.1	2.3	20.1	27.5	0.1	2.7	0.6	16.4	4.0	1.5
Cycle Q Clear(g_c), s	2.0	5.2	0.1	2.3	20.1	27.5	0.1	2.7	0.6	16.4	4.0	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	47	143	121	409	523	444	2	618	525	297	946	804
V/C Ratio(X)	0.79	0.71	0.02	0.13	0.79	2.00	0.50	0.12	0.03	1.99	0.15	0.08
Avail Cap(c_a), veh/h	100	551	468	409	523	444	81	618	525	297	946	804
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	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	45.2	34.0	30.9	33.6	36.3	49.9	23.7	23.0	41.8	13.6	7.4
Incr Delay (d2), s/veh	10.4	2.4	0.0	0.0	0.7	450.5	58.7	0.4	0.1	457.5	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.8	0.0	1.2	10.7	67.8	0.1	1.5	0.3	45.9	2.2	0.7
LnGrp Delay(d),s/veh	58.8	47.6	34.0	30.9	34.3	486.7	108.6	24.1	23.1	499.3	13.9	7.5
LnGrp LOS	E	D	C	C	C	F	F	C	C	F	B	A
Approach Vol, veh/h		140			1354			89			792	
Approach Delay, s/veh		50.4			330.9			24.9			375.6	
Approach LOS		D			F			C			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	31.9	38.0	27.1	13.0	4.6	55.3	7.1	33.0
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	14.5	* 33	4.0	29.0	4.5	42.5	5.5	27.5
Max Q Clear Time (g_c+I1), s	19.4	4.7	4.3	7.2	2.1	6.0	4.0	29.5
Green Ext Time (p_c), s	0.0	0.2	0.0	0.3	0.0	1.3	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	317.8
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	7.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	62	0	2	139	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	66	0	2	148	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	298	1	0	0	2	0
Stage 1	1	-	-	-	-	-
Stage 2	297	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	698	1090	-	-	1634	-
Stage 1	1028	-	-	-	-	-
Stage 2	758	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	635	1090	-	-	1634	-
Mov Cap-2 Maneuver	653	-	-	-	-	-
Stage 1	1028	-	-	-	-	-
Stage 2	689	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	7.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	1090	1634	-
HCM Lane V/C Ratio	-	-	-	0.061	0.09	-
HCM Control Delay (s)	-	-	0	8.5	7.4	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.2	0.3	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1723	30	0	817	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2154	38	0	1021	0	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	2191	0	3194	2173
Stage 1	-	-	-	-	2173	-
Stage 2	-	-	-	-	1021	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	-	-	11	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	309	-
Platoon blocked, %	-	-	2	-		2
Mov Cap-1 Maneuver	-	-	-	-	11	-
Mov Cap-2 Maneuver	-	-	-	-	11	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	309	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	-	0	-
HCM Lane LOS	-	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection	
Int Delay, s/veh	16.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	97	45	329	0	10	0	167	6	7	3	1	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	0	200	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	118	55	401	0	12	0	204	7	9	4	1	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	464	458	35	686	492	7	70	0	0	7	0	0
Stage 1	43	43	-	415	415	-	-	-	-	-	-	-
Stage 2	421	415	-	271	77	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	512	502	1044	364	481	1081	1544	-	-	1627	-	-
Stage 1	976	863	-	619	596	-	-	-	-	-	-	-
Stage 2	614	596	-	739	835	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	451	435	1044	184	416	1081	1544	-	-	1627	-	-
Mov Cap-2 Maneuver	488	485	-	209	478	-	-	-	-	-	-	-
Stage 1	847	861	-	537	517	-	-	-	-	-	-	-
Stage 2	520	517	-	425	833	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.6	12.7	7.1	0.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1544	-	-	776	478	1627	-	-
HCM Lane V/C Ratio	0.132	-	-	0.74	0.026	0.002	-	-
HCM Control Delay (s)	7.7	-	-	21.6	12.7	7.2	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	6.7	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	7	1	0	0	16	6	159	0	0	14	3
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	8	1	0	0	17	7	173	0	0	15	3
Number of Lanes	0	0	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	9	9.1	8.5
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	88%	100%	0%	100%	0%
Vol Thru, %	82%	12%	0%	4%	0%	65%
Vol Right, %	18%	0%	0%	96%	0%	35%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	8	16	165	237	92
LT Vol	0	7	16	0	237	0
Through Vol	14	1	0	6	0	60
RT Vol	3	0	0	159	0	32
Lane Flow Rate	18	9	17	179	258	100
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.027	0.014	0.029	0.24	0.395	0.133
Departure Headway (Hd)	5.33	5.885	5.994	4.812	5.52	4.774
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	669	607	598	746	652	749
Service Time	3.386	3.933	3.724	2.542	3.261	2.515
HCM Lane V/C Ratio	0.027	0.015	0.028	0.24	0.396	0.134
HCM Control Delay	8.5	9	8.9	9.1	11.8	8.3
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	0.1	0	0.1	0.9	1.9	0.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	237	60	32
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	258	65	35
Number of Lanes	0	1	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.8
HCM LOS	B

Lane

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	188	54	10	169	13	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	204	59	11	184	14	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	263	0	439	234
Stage 1	-	-	-	-	234	-
Stage 2	-	-	-	-	205	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1313	-	579	810
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	834	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1313	-	574	810
Mov Cap-2 Maneuver	-	-	-	-	699	-
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	827	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	712	-	-	1313	-
HCM Lane V/C Ratio	0.023	-	-	0.008	-
HCM Control Delay (s)	10.2	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	171	19	16	175	4	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	186	21	17	190	4	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	207	0	421	196
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	225	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1376	-	593	850
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	817	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1376	-	586	850
Mov Cap-2 Maneuver	-	-	-	-	706	-
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	807	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	761	-	-	1376	-
HCM Lane V/C Ratio	0.01	-	-	0.013	-
HCM Control Delay (s)	9.8	-	-	7.7	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	127	47	16	180	11	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	138	51	17	196	12	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	189	0	394	164
Stage 1	-	-	-	-	164	-
Stage 2	-	-	-	-	230	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1397	-	615	886
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	813	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1397	-	608	886
Mov Cap-2 Maneuver	-	-	-	-	718	-
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	803	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	748	-	-	1397	-
HCM Lane V/C Ratio	0.02	-	-	0.012	-
HCM Control Delay (s)	9.9	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	99	29	0	0	2	120	258	0	15	112	13
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	116	34	0	0	2	141	304	0	18	132	15
Number of Lanes	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	3
HCM Control Delay	13.2	15.2	13
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	112	13	99	29	2	120	258	221	103	56
LT Vol	15	0	0	99	0	2	0	0	221	0	0
Through Vol	0	112	0	0	29	0	120	0	0	103	0
RT Vol	0	0	13	0	0	0	0	258	0	0	56
Lane Flow Rate	18	132	15	116	34	2	141	304	260	121	66
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.041	0.284	0.03	0.263	0.072	0.005	0.278	0.539	0.547	0.238	0.116
Departure Headway (Hd)	8.275	7.766	7.054	8.117	7.617	7.594	7.091	6.388	7.567	7.06	6.351
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	433	462	507	443	470	472	507	565	476	509	564
Service Time	6.027	5.518	4.806	5.865	5.365	5.335	4.833	4.129	5.309	4.802	4.093
HCM Lane V/C Ratio	0.042	0.286	0.03	0.262	0.072	0.004	0.278	0.538	0.546	0.238	0.117
HCM Control Delay	11.4	13.6	10	13.8	11	10.4	12.6	16.4	19.1	12	9.9
HCM Lane LOS	B	B	A	B	B	B	B	C	C	B	A
HCM 95th-tile Q	0.1	1.2	0.1	1	0.2	0	1.1	3.2	3.2	0.9	0.4

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	3	0	0	0	0	16
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	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	0	0	0	0	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	9	9	17	0	-	0
Stage 1	9	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1017	1079	1613	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1017	1079	1613	-	-	-
Mov Cap-2 Maneuver	967	-	-	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1613	-	967	-	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	0	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	16	199	334	174	806	10	1429	116	217	5	112	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	22	273	446	238	1104	11	1958	159	265	7	153	13
Adj No. of Lanes	1	1	1	1	2	1	2	1	1	1	2	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	33	446	670	172	1183	484	653	880	748	13	964	81
Arrive On Green	0.02	0.31	0.31	0.09	0.31	0.31	0.18	0.46	0.46	0.01	0.28	0.28
Sat Flow, veh/h	1810	1900	1615	1810	3800	1556	3619	1900	1615	1810	3442	288
Grp Volume(v), veh/h	22	273	446	238	1104	11	1958	159	265	7	83	83
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1556	1810	1900	1615	1810	1900	1830
Q Serve(g_s), s	1.2	12.2	5.5	9.5	28.2	0.5	18.0	4.9	10.5	0.4	3.3	3.4
Cycle Q Clear(g_c), s	1.2	12.2	5.5	9.5	28.2	0.5	18.0	4.9	10.5	0.4	3.3	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	33	446	670	172	1183	484	653	880	748	13	532	512
V/C Ratio(X)	0.66	0.61	0.67	1.38	0.93	0.02	3.00	0.18	0.35	0.55	0.16	0.16
Avail Cap(c_a), veh/h	72	494	711	172	1197	490	653	880	748	72	532	512
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.35	0.35	0.35	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	30.5	7.9	45.3	33.4	23.9	41.0	15.7	17.2	49.5	27.1	27.1
Incr Delay (d2), s/veh	0.8	0.1	0.2	204.9	12.8	0.0	901.0	0.2	0.5	12.8	0.6	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	0.6	6.4	4.8	14.5	16.8	0.2	90.7	2.6	4.8	0.2	1.8	1.8
LnGrp Delay(d),s/veh	49.3	30.6	8.1	250.1	46.2	23.9	941.9	15.9	17.7	62.3	27.7	27.8
LnGrp LOS	D	C	A	F	D	C	F	B	B	E	C	C
Approach Vol, veh/h		741			1353			2382			173	
Approach Delay, s/veh		17.6			81.9			777.3			29.2	
Approach LOS		B			F			F			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	5.2	51.8	14.0	29.0	23.5	33.5	6.3	36.6
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	40.5	9.5	26.0	16.5	* 28	4.0	31.5
Max Q Clear Time (g_c+I1), s	2.4	12.5	11.5	14.2	20.0	5.4	3.2	30.2
Green Ext Time (p_c), s	0.0	6.7	0.0	5.4	0.0	0.4	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	426.0
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	21	212	68	31	22	260	1610	85	12	461	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	26	200	83	38	25	317	1963	102	15	562	25
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	27	289	246	107	373	317	109	1817	93	26	1668	74
Arrive On Green	0.02	0.15	0.15	0.06	0.20	0.20	0.06	0.51	0.51	0.01	0.46	0.46
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3579	184	1810	3611	160
Grp Volume(v), veh/h	16	26	200	83	38	25	317	1033	1033	15	295	292
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1863	1810	1900	1871
Q Serve(g_s), s	0.7	0.9	9.0	3.4	1.2	0.9	4.5	38.1	38.1	0.6	7.4	7.4
Cycle Q Clear(g_c), s	0.7	0.9	9.0	3.4	1.2	0.9	4.5	38.1	38.1	0.6	7.4	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		0.09
Lane Grp Cap(c), veh/h	27	289	246	107	373	317	109	965	946	26	878	865
V/C Ratio(X)	0.58	0.09	0.81	0.78	0.10	0.08	2.92	1.07	1.09	0.58	0.34	0.34
Avail Cap(c_a), veh/h	97	608	517	109	621	528	109	965	946	97	878	865
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	36.7	27.3	30.8	34.8	24.7	24.6	35.3	18.5	18.5	36.7	12.9	12.9
Incr Delay (d2), s/veh	7.2	0.0	2.5	26.2	0.0	0.0	888.4	49.7	57.5	5.4	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.5	4.1	2.5	0.6	0.4	29.0	33.2	34.5	0.3	4.0	4.0
LnGrp Delay(d),s/veh	43.9	27.4	33.3	61.0	24.8	24.6	923.6	68.2	76.0	42.1	13.6	13.6
LnGrp LOS	D	C	C	E	C	C	F	F	F	D	B	B
Approach Vol, veh/h		242			146			2382			602	
Approach Delay, s/veh		33.3			45.3			185.4			14.3	
Approach LOS		C			D			F			B	

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	5.6	43.6	8.9	16.9	9.0	40.2	5.6	20.2
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	22.5	4.5	24.0	4.5	22.0	4.0	24.5
Max Q Clear Time (g_c+I1), s	2.6	40.1	5.4	11.0	6.5	9.4	2.7	3.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	8.9	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	137.9
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	955	768	176	12	385	42	157	323	30	15	81	410
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1016	817	170	13	410	43	167	344	28	16	86	369
Adj No. of Lanes	1	1	1	1	2	0	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1381	2097	1782	22	1156	121	152	1425	606	52	640	544
Arrive On Green	0.76	1.00	1.00	0.01	0.34	0.34	0.04	0.37	0.37	0.01	0.34	0.34
Sat Flow, veh/h	1810	1900	1615	1810	3380	352	3619	3800	1615	3619	1900	1615
Grp Volume(v), veh/h	1016	817	170	13	229	224	167	344	28	16	86	369
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1832	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	28.8	0.0	0.0	0.7	8.6	8.7	4.0	5.9	1.0	0.4	3.0	18.7
Cycle Q Clear(g_c), s	28.8	0.0	0.0	0.7	8.6	8.7	4.0	5.9	1.0	0.4	3.0	18.7
Prop In Lane	1.00		1.00	1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1381	2097	1782	22	650	627	152	1425	606	52	640	544
V/C Ratio(X)	0.74	0.39	0.10	0.59	0.35	0.36	1.10	0.24	0.05	0.30	0.13	0.68
Avail Cap(c_a), veh/h	1381	2097	1782	76	650	627	152	1425	606	152	640	544
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	6.1	0.0	0.0	46.7	23.4	23.4	45.5	20.4	18.9	46.3	21.9	27.1
Incr Delay (d2), s/veh	1.8	0.5	0.1	8.9	1.5	1.6	100.9	0.4	0.1	1.2	0.4	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.8	0.3	0.1	0.4	4.7	4.7	4.1	3.2	0.5	0.2	1.6	9.3
LnGrp Delay(d),s/veh	7.9	0.5	0.1	55.6	24.9	25.0	146.4	20.8	19.0	47.5	22.3	33.7
LnGrp LOS	A	A	A	E	C	C	F	C	B	D	C	C
Approach Vol, veh/h		2003			466			539			471	
Approach Delay, s/veh		4.2			25.8			59.6			32.1	
Approach LOS		A			C			E			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	5.7	112.3	9.5	37.5	80.0	38.0	5.9	41.1
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	35.0	4.0	* 32	6.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	12.7	2.0	6.0	20.7	30.8	10.7	2.4	7.9
Green Ext Time (p_c), s	0.0	6.4	0.0	1.3	0.0	1.4	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	19.5
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	143	589	205	146	1180	113	379	1184	145	169	842	239
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		0.99	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	159	654	211	162	1311	117	421	1316	149	188	936	256
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	1	2	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	102	945	305	1543	3961	352	238	1382	156	170	855	358
Arrive On Green	0.06	0.34	0.34	0.85	1.00	1.00	0.13	0.28	0.28	0.09	0.22	0.22
Sat Flow, veh/h	1810	2750	887	1810	3436	305	1810	5026	569	1810	3800	1590
Grp Volume(v), veh/h	159	452	413	162	723	705	421	995	470	188	936	256
Grp Sat Flow(s),veh/h/ln	1810	1900	1737	1810	1900	1841	1810	1900	1795	1810	1900	1590
Q Serve(g_s), s	4.5	16.4	16.4	1.2	0.0	0.0	10.5	20.6	20.6	7.5	18.0	18.0
Cycle Q Clear(g_c), s	4.5	16.4	16.4	1.2	0.0	0.0	10.5	20.6	20.6	7.5	18.0	18.0
Prop In Lane	1.00		0.51	1.00		0.17	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	102	653	597	1543	2191	2123	238	1045	494	170	855	358
V/C Ratio(X)	1.56	0.69	0.69	0.10	0.33	0.33	1.77	0.95	0.95	1.11	1.09	0.72
Avail Cap(c_a), veh/h	102	653	597	1543	2191	2123	238	1045	494	170	855	358
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	37.8	22.6	22.6	0.9	0.0	0.0	34.8	28.5	28.5	36.2	31.0	130.7
Incr Delay (d2), s/veh	295.1	5.9	6.5	0.0	0.4	0.4	364.3	18.5	30.2	101.1	59.9	11.6
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	10.6	9.6	8.9	0.5	0.2	0.2	29.2	13.5	14.3	8.5	16.5	1.2
LnGrp Delay(d),s/veh	332.8	28.5	29.1	1.0	0.4	0.4	399.0	46.9	58.7	137.3	90.9	142.4
LnGrp LOS	F	C	C	A	A	A	F	D	E	F	F	F
Approach Vol, veh/h		1024			1590			1886			1380	
Approach Delay, s/veh		76.0			0.5			128.5			106.8	
Approach LOS		E			A			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	35.1	33.0	16.0	23.5	9.0	99.1	12.0	27.5
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	* 28	10.5	* 18	4.5	27.0	7.5	21.0
Max Q Clear Time (g_c+I1), s	13.2	18.4	12.5	20.0	6.5	2.0	9.5	22.6
Green Ext Time (p_c), s	0.1	2.3	0.0	0.0	0.0	6.9	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	79.6
HCM 2010 LOS	E

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	53	232	142	265	238	265	125	1229	364	131	977	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	58	255	140	291	262	191	137	1351	375	144	1074	58
Adj No. of Lanes	0	1	1	0	2	1	1	3	0	1	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	66	289	304	343	360	300	148	1575	436	143	1956	106
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.08	0.37	0.37	0.08	0.37	0.37
Sat Flow, veh/h	349	1534	1612	1810	1900	1584	1810	4284	1185	1810	5356	289
Grp Volume(v), veh/h	313	0	140	291	262	191	137	1198	528	144	762	370
Grp Sat Flow(s),veh/h/ln	1883	0	1612	1810	1900	1584	1810	1900	1669	1810	1900	1845
Q Serve(g_s), s	19.4	0.0	9.3	18.6	15.6	13.3	9.0	34.9	35.1	9.5	19.1	19.1
Cycle Q Clear(g_c), s	19.4	0.0	9.3	18.6	15.6	13.3	9.0	34.9	35.1	9.5	19.1	19.1
Prop In Lane	0.19		1.00	1.00		1.00	1.00		0.71	1.00		0.16
Lane Grp Cap(c), veh/h	355	0	304	343	360	300	148	1398	614	143	1388	674
V/C Ratio(X)	0.88	0.00	0.46	0.85	0.73	0.64	0.93	0.86	0.86	1.01	0.55	0.55
Avail Cap(c_a), veh/h	471	0	403	452	475	396	148	1398	614	143	1388	674
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	0.0	43.3	47.0	45.7	44.8	54.7	35.0	35.1	55.3	30.2	30.2
Incr Delay (d2), s/veh	11.9	0.0	0.4	8.9	2.3	0.8	56.7	7.0	14.7	76.6	1.6	3.2
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	11.3	0.0	4.2	10.1	8.4	5.9	6.9	19.7	18.6	7.8	10.4	10.4
LnGrp Delay(d),s/veh	59.3	0.0	43.7	55.9	48.0	45.6	111.5	42.0	49.8	131.8	31.8	33.5
LnGrp LOS	E		D	E	D	D	F	D	D	F	C	C
Approach Vol, veh/h		453			744			1863			1276	
Approach Delay, s/veh		54.5			50.5			49.3			43.6	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	49.6		28.1	14.3	49.3		28.3
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	9.5	29.5		30.0	9.8	29.2		30.0
Max Q Clear Time (g_c+I1), s	11.5	37.1		21.4	11.0	21.1		20.6
Green Ext Time (p_c), s	0.0	0.0		1.1	0.0	6.5		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	48.4
HCM 2010 LOS	D

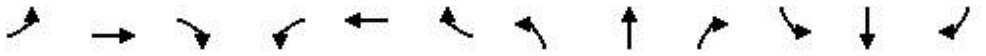
Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1561	593	1019	679	0	0	0	1042	0	0	276
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	0	1900	1900	1900	1900	0	0	0	1900	0	0	1900
Adj Flow Rate, veh/h	0	1643	616	1073	715	0	0	0	0	0	0	169
Adj No. of Lanes	0	2	1	1	2	0	0	0	1	0	0	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2229	947	461	3452	0	0	0	0	0	0	0
Arrive On Green	0.00	0.59	0.59	0.25	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3800	1615	1810	3800	0		0			0	
Grp Volume(v), veh/h	0	1643	616	1073	715	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0						
Q Serve(g_s), s	0.0	18.9	15.3	15.3	1.3	0.0						
Cycle Q Clear(g_c), s	0.0	18.9	15.3	15.3	1.3	0.0						
Prop In Lane	0.00		1.00	1.00		0.00						
Lane Grp Cap(c), veh/h	0	2229	947	461	3452	0						
V/C Ratio(X)	0.00	0.74	0.65	2.33	0.21	0.00						
Avail Cap(c_a), veh/h	0	2229	947	461	3452	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	9.0	8.3	22.3	0.3	0.0						
Incr Delay (d2), s/veh	0.0	2.2	3.5	603.2	0.1	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	10.3	15.2	84.9	0.7	0.0						
LnGrp Delay(d),s/veh	0.0	11.3	11.7	625.5	0.4	0.0						
LnGrp LOS		B	B	F	A							
Approach Vol, veh/h		2259			1788							
Approach Delay, s/veh		11.4			375.6							
Approach LOS		B			F							

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		
Phs Duration (G+Y+Rc), s	19.3	40.7				60.0		
Change Period (Y+Rc), s	4.0	5.5				5.5		
Max Green Setting (Gmax), s	15.3	19.2				38.5		
Max Q Clear Time (g_c+I1), s	17.3	20.9				3.3		
Green Ext Time (p_c), s	0.0	0.0				18.2		

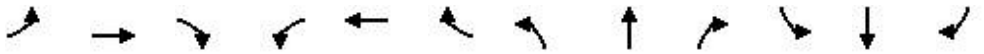
Intersection Summary	
HCM 2010 Ctrl Delay	172.3
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	721	105	611	202	0	0	0	0	802	2	419
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	767	112	650	215	0				853	2	369
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	950	404	309	1742	0				828	2	740
Arrive On Green	0.00	0.25	0.25	0.29	0.77	0.00				0.46	0.46	0.46
Sat Flow, veh/h	0	3800	1615	1810	3800	0				1805	4	1615
Grp Volume(v), veh/h	0	767	112	650	215	0				855	0	369
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1615
Q Serve(g_s), s	0.0	22.8	6.7	20.5	1.8	0.0				55.0	0.0	19.2
Cycle Q Clear(g_c), s	0.0	22.8	6.7	20.5	1.8	0.0				55.0	0.0	19.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	950	404	309	1742	0				829	0	740
V/C Ratio(X)	0.00	0.81	0.28	2.10	0.12	0.00				1.03	0.00	0.50
Avail Cap(c_a), veh/h	0	950	404	309	1742	0				829	0	740
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.79	0.79	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	42.3	36.3	42.9	7.8	0.0				32.5	0.0	22.8
Incr Delay (d2), s/veh	0.0	7.3	1.7	504.9	0.1	0.0				39.4	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	12.9	3.2	53.5	0.9	0.0				36.5	0.0	8.6
LnGrp Delay(d),s/veh	0.0	49.6	38.0	547.8	7.9	0.0				71.9	0.0	23.3
LnGrp LOS		D	D	F	A					F		C
Approach Vol, veh/h		879			865						1224	
Approach Delay, s/veh		48.1			413.6						57.3	
Approach LOS		D			F						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	25.0	35.0		60.0		60.0		
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0		
Max Green Setting (Gmax), s	20.5	30.0		55.0		55.0		
Max Q Clear Time (g_c+I1), s	22.5	24.8		57.0		3.8		
Green Ext Time (p_c), s	0.0	2.1		0.0		4.5		

Intersection Summary	
HCM 2010 Ctrl Delay	158.4
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	27	2163	414	0	2680	94	142	62	29	114	1	66
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		0.98	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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	2230	423	0	2763	88	146	64	30	118	1	53
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	1	1	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	1745	319	0	2052	65	469	350	164	437	9	455
Arrive On Green	0.56	0.56	0.56	0.00	0.56	0.56	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	94	3116	569	0	3663	116	1371	1225	574	1323	30	1590
Grp Volume(v), veh/h	28	1327	1327	0	1426	1426	146	0	94	118	0	54
Grp Sat Flow(s),veh/h/ln	94	1900	1785	0	1900	1880	1371	0	1799	1323	0	1619
Q Serve(g_s), s	0.0	36.4	36.4	0.0	36.4	36.4	5.7	0.0	2.6	4.8	0.0	1.6
Cycle Q Clear(g_c), s	36.4	36.4	36.4	0.0	36.4	36.4	7.3	0.0	2.6	7.4	0.0	1.6
Prop In Lane	1.00		0.32	0.00		0.06	1.00		0.32	1.00		0.98
Lane Grp Cap(c), veh/h	111	1064	1000	0	1064	1053	469	0	515	437	0	463
V/C Ratio(X)	0.25	1.25	1.33	0.00	1.34	1.35	0.31	0.00	0.18	0.27	0.00	0.12
Avail Cap(c_a), veh/h	111	1064	1000	0	1064	1053	469	0	515	437	0	463
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	14.3	14.3	0.0	14.3	14.3	19.8	0.0	17.5	20.2	0.0	17.1
Incr Delay (d2), s/veh	5.4	119.0	154.0	0.0	159.3	165.7	1.7	0.0	0.8	1.5	0.0	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	53.8	60.3	0.0	65.7	66.9	2.4	0.0	1.4	1.9	0.0	0.8
LnGrp Delay(d),s/veh	37.9	133.3	168.3	0.0	173.6	180.0	21.6	0.0	18.3	21.8	0.0	17.6
LnGrp LOS	D	F	F		F	F	C		B	C		B
Approach Vol, veh/h		2681			2851			240			172	
Approach Delay, s/veh		149.6			176.8			20.3			20.5	
Approach LOS		F			F			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.4		23.6		41.4		23.6
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		36.4		18.6		36.4		18.6
Max Q Clear Time (g_c+I1), s		38.4		9.4		38.4		9.3
Green Ext Time (p_c), s		0.0		0.6		0.0		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	153.7
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	530	992	0	0	762	1523	51	1	211	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	596	1115	0	0	856	1686	57	1	128			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	550	2755	0	0	1488	632	341	6	310			
Arrive On Green	0.61	1.00	0.00	0.00	0.39	0.39	0.19	0.19	0.19			
Sat Flow, veh/h	1810	3800	0	0	3800	1614	1780	31	1615			
Grp Volume(v), veh/h	596	1115	0	0	856	1686	58	0	128			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1614	1811	0	1615			
Q Serve(g_s), s	36.5	0.0	0.0	0.0	21.2	47.0	3.2	0.0	8.3			
Cycle Q Clear(g_c), s	36.5	0.0	0.0	0.0	21.2	47.0	3.2	0.0	8.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.98		1.00			
Lane Grp Cap(c), veh/h	550	2755	0	0	1488	632	347	0	310			
V/C Ratio(X)	1.08	0.40	0.00	0.00	0.58	2.67	0.17	0.00	0.41			
Avail Cap(c_a), veh/h	550	2755	0	0	1488	632	347	0	310			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.49	0.49	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	23.5	0.0	0.0	0.0	28.7	36.5	40.5	0.0	42.6			
Incr Delay (d2), s/veh	52.2	0.2	0.0	0.0	1.6	754.9	1.0	0.0	4.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	25.7	0.1	0.0	0.0	11.4	153.4	1.7	0.0	4.1			
LnGrp Delay(d),s/veh	75.7	0.2	0.0	0.0	30.3	791.4	41.5	0.0	46.6			
LnGrp LOS	F	A			C	F	D		D			
Approach Vol, veh/h		1711			2542			186				
Approach Delay, s/veh		26.5			535.1			45.0				
Approach LOS		C			F			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		92.0			40.0	52.0		28.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		87.0			36.5	47.0		23.0
Max Q Clear Time (g_c+I1), s		2.0			38.5	49.0		10.3
Green Ext Time (p_c), s		42.8			0.0	0.0		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	318.5
HCM 2010 LOS	F

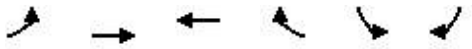
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	128	2470	25	28	2339	106	404	105	200	136	22	221
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	132	2546	0	29	2411	78	338	217	152	156	0	121
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	158	2689	762	37	2307	640	445	256	179	315	0	282
Arrive On Green	0.09	0.47	0.00	0.02	0.40	0.40	0.25	0.25	0.25	0.09	0.00	0.09
Sat Flow, veh/h	1810	5700	1615	1810	5700	1581	1810	1041	729	3619	0	1615
Grp Volume(v), veh/h	132	2546	0	29	2411	78	338	0	369	156	0	121
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1581	1810	0	1770	1810	0	1615
Q Serve(g_s), s	8.6	51.2	0.0	1.9	48.6	3.7	20.8	0.0	23.8	4.9	0.0	8.0
Cycle Q Clear(g_c), s	8.6	51.2	0.0	1.9	48.6	3.7	20.8	0.0	23.8	4.9	0.0	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.41	1.00		1.00
Lane Grp Cap(c), veh/h	158	2689	762	37	2307	640	445	0	435	315	0	282
V/C Ratio(X)	0.83	0.95	0.00	0.79	1.05	0.12	0.76	0.00	0.85	0.49	0.00	0.43
Avail Cap(c_a), veh/h	158	2689	762	119	2307	640	445	0	435	890	0	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.9	30.3	0.0	58.5	35.7	22.4	42.0	0.0	43.1	52.3	0.0	44.2
Incr Delay (d2), s/veh	28.8	8.7	0.0	13.2	31.9	0.0	11.6	0.0	18.2	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	28.8	0.0	1.1	32.2	1.6	11.9	0.0	13.9	2.5	0.0	3.6
LnGrp Delay(d),s/veh	82.7	39.0	0.0	71.7	67.6	22.4	53.5	0.0	61.3	52.7	0.0	44.6
LnGrp LOS	F	D		E	F	C	D		E	D		D
Approach Vol, veh/h		2678			2518			707			277	
Approach Delay, s/veh		41.1			66.3			57.6			49.2	
Approach LOS		D			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.9	62.1		16.0	15.0	54.1		35.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	7.9	32.1		29.5	10.5	29.5		29.5
Max Q Clear Time (g_c+I1), s	3.9	53.2		10.0	10.6	50.6		25.8
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	0.0		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	53.6
HCM 2010 LOS	D

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	119	2830	2025	253	491	152
Number	5	2	6	16	7	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	123	2918	2088	253	506	98
Adj No. of Lanes	1	2	3	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	204	2613	3016	855	814	545
Arrive On Green	0.11	0.69	0.53	0.53	0.22	0.22
Sat Flow, veh/h	1810	3800	5700	1615	3619	1615
Grp Volume(v), veh/h	123	2918	2088	253	506	98
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1615	1810	1615
Q Serve(g_s), s	7.8	82.5	32.7	10.5	15.1	0.0
Cycle Q Clear(g_c), s	7.8	82.5	32.7	10.5	15.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	204	2613	3016	855	814	545
V/C Ratio(X)	0.60	1.12	0.69	0.30	0.62	0.18
Avail Cap(c_a), veh/h	211	2613	3016	855	814	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.18	0.18	1.00	1.00
Uniform Delay (d), s/veh	50.7	18.7	21.0	15.8	41.9	28.0
Incr Delay (d2), s/veh	3.1	58.4	0.2	0.2	3.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	63.7	17.1	4.7	7.9	3.3
LnGrp Delay(d),s/veh	53.7	77.1	21.2	15.9	45.4	28.7
LnGrp LOS	D	F	C	B	D	C
Approach Vol, veh/h		3041	2341		604	
Approach Delay, s/veh		76.2	20.7		42.7	
Approach LOS		E	C		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		88.0		32.5	19.0	69.0		
Change Period (Y+Rc), s		5.5		5.5	5.5	* 5.5		
Max Green Setting (Gmax), s		82.0		27.0	14.0	* 64		
Max Q Clear Time (g_c+I1), s		84.5		17.1	9.8	34.7		
Green Ext Time (p_c), s		0.0		0.9	3.5	13.0		

Intersection Summary	
HCM 2010 Ctrl Delay	51.1
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	99.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	30	1173	2215	18	15	70
Conflicting Peds, #/hr	0	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	33	1275	2408	20	16	76

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2408	0	-	0	3111	1204
Stage 1	-	-	-	-	2408	-
Stage 2	-	-	-	-	703	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	201	-	-	-	*~ 4	179
Stage 1	-	-	-	-	*55	-
Stage 2	-	-	-	-	*562	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	201	-	-	-	*~ 2	179
Mov Cap-2 Maneuver	-	-	-	-	*~ 2	-
Stage 1	-	-	-	-	*55	-
Stage 2	-	-	-	-	*246	-

Approach	EB	WB	SB
HCM Control Delay, s	7.6	0	$ 3999.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	201	-	-	-	11
HCM Lane V/C Ratio	0.162	-	-	-	8.399
HCM Control Delay (s)	26.3	7.1	-		$ 3999.2
HCM Lane LOS	D	A	-	-	F
HCM 95th %tile Q(veh)	0.6	-	-	-	12.9

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	209	3167	489	16	1665	78	268	108	26	200	214	224
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		0.99	1.00		1.00	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	227	3442	0	17	1810	81	291	117	23	217	233	165
Adj No. of Lanes	1	2	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	85	2936	1248	28	4011	179	170	985	189	85	1252	601
Arrive On Green	0.05	0.77	0.00	0.02	0.74	0.74	0.05	0.32	0.32	0.05	0.33	0.33
Sat Flow, veh/h	1810	3800	1615	1810	5412	242	3619	3101	594	1810	3800	1595
Grp Volume(v), veh/h	227	3442	0	17	1270	621	291	71	69	217	233	165
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1854	1810	1900	1795	1810	1900	1595
Q Serve(g_s), s	4.0	65.7	0.0	0.8	11.0	11.1	4.0	2.2	2.3	4.0	3.7	6.1
Cycle Q Clear(g_c), s	4.0	65.7	0.0	0.8	11.0	11.1	4.0	2.2	2.3	4.0	3.7	6.1
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	85	2936	1248	28	2816	1374	170	604	570	85	1252	601
V/C Ratio(X)	2.67	1.17	0.00	0.60	0.45	0.45	1.71	0.12	0.12	2.55	0.19	0.27
Avail Cap(c_a), veh/h	85	2936	1248	85	2816	1374	170	604	570	85	1252	601
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)	0.09	0.09	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.5	9.7	0.0	41.6	4.3	4.3	40.5	20.6	20.6	40.5	20.4	18.4
Incr Delay (d2), s/veh	752.6	77.9	0.0	0.7	0.0	0.1	342.6	0.4	0.4	730.0	0.3	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.8	64.8	0.0	0.4	5.7	5.6	10.1	1.2	1.2	19.3	2.0	2.9
LnGrp Delay(d),s/veh	793.1	87.6	0.0	42.3	4.3	4.4	383.1	20.9	21.0	770.5	20.7	19.6
LnGrp LOS	F	F		D	A	A	F	C	C	F	C	B
Approach Vol, veh/h		3669			1908			431			615	
Approach Delay, s/veh		131.2			4.7			265.5			284.9	
Approach LOS		F			A			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	5.8	72.2	8.5	33.5	8.5	69.5	9.5	32.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.0	30.0	4.0	27.0	4.0	30.0	4.0	* 27
Max Q Clear Time (g_c+I1), s	2.8	67.7	6.0	8.1	6.0	13.1	6.0	4.3
Green Ext Time (p_c), s	0.0	0.0	0.0	1.3	0.0	16.7	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	117.8
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	24	990	52	39	1945	6	79	5	19	8	5	93
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	27	1125	59	44	2210	7	90	6	22	9	6	106
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	43	687	584	61	703	2	471	39	95	420	260	592
Arrive On Green	0.02	0.36	0.36	0.03	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1810	1900	1615	1810	1893	6	1020	107	258	904	709	1615
Grp Volume(v), veh/h	27	1125	59	44	0	2217	118	0	0	15	0	106
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1899	1385	0	0	1613	0	1615
Q Serve(g_s), s	1.0	23.5	1.6	1.6	0.0	24.1	3.0	0.0	0.0	0.0	0.0	2.9
Cycle Q Clear(g_c), s	1.0	23.5	1.6	1.6	0.0	24.1	3.6	0.0	0.0	0.3	0.0	2.9
Prop In Lane	1.00		1.00	1.00		0.00	0.76		0.19	0.60		1.00
Lane Grp Cap(c), veh/h	43	687	584	61	0	706	605	0	0	679	0	592
V/C Ratio(X)	0.63	1.64	0.10	0.72	0.00	3.14	0.20	0.00	0.00	0.02	0.00	0.18
Avail Cap(c_a), veh/h	111	687	584	111	0	706	605	0	0	679	0	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.4	20.7	13.8	31.1	0.0	20.4	14.1	0.0	0.0	13.2	0.0	14.0
Incr Delay (d2), s/veh	5.5	293.6	0.0	5.8	0.0	967.8	0.7	0.0	0.0	0.1	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	68.2	0.7	0.9	0.0	202.2	1.6	0.0	0.0	0.2	0.0	1.4
LnGrp Delay(d),s/veh	36.9	314.3	13.8	36.9	0.0	988.2	14.9	0.0	0.0	13.2	0.0	14.6
LnGrp LOS	D	F	B	D		F	B			B		B
Approach Vol, veh/h		1211			2261			118			121	
Approach Delay, s/veh		293.5			969.7			14.9			14.5	
Approach LOS		F			F			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.3	6.7	29.0		29.3	6.0	29.6
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	23.5		22.0	4.0	23.5
Max Q Clear Time (g_c+I1), s		5.6	3.6	25.5		4.9	3.0	26.1
Green Ext Time (p_c), s		0.6	0.0	0.0		0.6	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	687.5
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	129	1804	1223	29	884	112	810	698	66	162	786	64
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	137	1919	1286	31	940	113	862	743	66	172	836	61
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	2717	1155	43	2256	271	462	1099	98	175	972	71
Arrive On Green	0.06	0.71	0.71	0.02	0.68	0.68	0.21	0.53	0.53	0.10	0.28	0.28
Sat Flow, veh/h	1810	3800	1615	1810	3329	400	3619	3435	305	1810	3500	255
Grp Volume(v), veh/h	137	1919	1286	31	536	517	862	411	398	172	454	443
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1829	1810	1900	1840	1810	1900	1855
Q Serve(g_s), s	5.5	26.2	64.3	1.5	11.4	11.4	11.5	14.2	14.2	8.5	20.4	20.4
Cycle Q Clear(g_c), s	5.5	26.2	64.3	1.5	11.4	11.4	11.5	14.2	14.2	8.5	20.4	20.4
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.17	1.00		0.14
Lane Grp Cap(c), veh/h	111	2717	1155	43	1288	1240	462	608	589	175	528	515
V/C Ratio(X)	1.24	0.71	1.11	0.71	0.42	0.42	1.86	0.68	0.68	0.98	0.86	0.86
Avail Cap(c_a), veh/h	111	2717	1155	80	1288	1240	462	608	589	175	528	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.68	0.68	0.68	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.3	7.4	40.0	43.6	6.5	6.5	35.4	17.5	17.6	40.6	30.8	30.8
Incr Delay (d2), s/veh	114.6	0.1	52.6	7.9	1.0	1.0	394.5	4.1	4.2	62.8	16.6	16.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	13.4	16.9	0.9	6.3	6.1	31.0	7.9	7.7	7.3	13.1	12.9
LnGrp Delay(d),s/veh	156.9	7.5	92.5	51.5	7.5	7.5	429.9	21.7	21.8	103.4	47.4	47.8
LnGrp LOS	F	A	F	D	A	A	F	C	C	F	D	D
Approach Vol, veh/h		3342			1084			1671			1069	
Approach Delay, s/veh		46.4			8.8			232.3			56.6	
Approach LOS		D			A			F			E	

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	6.7	70.8	17.0	30.5	10.0	67.5	13.2	34.3
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	29.5	11.5	* 25	5.5	28.0	8.7	27.8
Max Q Clear Time (g_c+I1), s	13.5	66.3	13.5	22.4	7.5	13.4	10.5	16.2
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	12.9	0.0	4.0

Intersection Summary	
HCM 2010 Ctrl Delay	85.6
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	32	190	257	29	129	195	102	1050	76	385	1105	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.96	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	34	202	159	31	137	110	109	1117	63	410	1176	23
Adj No. of Lanes	1	1	1	1	2	0	1	2	1	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	83	255	217	43	227	168	138	1068	437	592	2065	877
Arrive On Green	0.05	0.13	0.13	0.02	0.11	0.11	0.08	0.28	0.28	0.44	0.72	0.72
Sat Flow, veh/h	1810	1900	1615	1810	2020	1493	1810	3800	1555	1810	3800	1615
Grp Volume(v), veh/h	34	202	159	31	128	119	109	1117	63	410	1176	23
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1613	1810	1900	1555	1810	1900	1615
Q Serve(g_s), s	1.6	9.3	6.7	1.5	5.8	6.4	5.3	25.3	2.7	16.5	13.1	0.2
Cycle Q Clear(g_c), s	1.6	9.3	6.7	1.5	5.8	6.4	5.3	25.3	2.7	16.5	13.1	0.2
Prop In Lane	1.00		1.00	1.00		0.93	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	83	255	217	43	214	181	138	1068	437	592	2065	877
V/C Ratio(X)	0.41	0.79	0.73	0.72	0.60	0.66	0.79	1.05	0.14	0.69	0.57	0.03
Avail Cap(c_a), veh/h	83	528	449	101	549	466	183	1068	437	592	2065	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	41.8	37.7	23.0	43.6	38.0	38.3	40.9	32.3	24.2	21.7	7.5	2.5
Incr Delay (d2), s/veh	1.2	2.1	1.8	7.9	1.0	1.5	11.2	40.2	0.7	0.3	0.1	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	0.8	5.0	3.1	0.9	3.1	2.9	3.1	19.2	1.3	8.2	6.7	0.1
LnGrp Delay(d),s/veh	43.0	39.9	24.8	51.5	39.0	39.8	52.1	72.6	24.9	22.0	7.6	2.5
LnGrp LOS	D	D	C	D	D	D	D	F	C	C	A	A
Approach Vol, veh/h		395			278			1289			1609	
Approach Delay, s/veh		34.1			40.7			68.5			11.2	
Approach LOS		C			D			E			B	

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	35.0	30.8	6.7	17.6	11.4	54.4	8.6	15.6
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	14.7	* 25	5.0	25.0	9.1	30.9	4.0	26.0
Max Q Clear Time (g_c+I1), s	19.5	27.3	3.5	11.3	7.3	15.1	3.6	8.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	5.2	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	36.7
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	2	74	1008	9	147	1215
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	0	-	65	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	80	1084	10	158	1306

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2707	1084	0	0	1084	0
Stage 1	1084	-	-	-	-	-
Stage 2	1623	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	24	266	-	-	651	-
Stage 1	327	-	-	-	-	-
Stage 2	179	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	18	266	-	-	651	-
Mov Cap-2 Maneuver	18	-	-	-	-	-
Stage 1	327	-	-	-	-	-
Stage 2	136	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.6	0	1.3
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	18	266	651	-
HCM Lane V/C Ratio	-	-	0.119	0.299	0.243	-
HCM Control Delay (s)	-	-	230.5	24.2	12.3	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	0.3	1.2	0.9	-

Intersection	
Intersection Delay, s/veh	59.6
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Vol, veh/h	0	236	318	0	741	347	0	615	628
Peak Hour Factor	0.92	0.86	0.86	0.92	0.86	0.86	0.92	0.86	0.86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	274	370	0	862	403	0	715	730
Number of Lanes	0	1	1	0	1	0	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	25.6	66	69.2
HCM LOS	D	F	F

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	68%	0%	0%	0%	100%
Vol Right, %	32%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1088	236	318	615	628
LT Vol	0	236	0	615	0
Through Vol	741	0	0	0	628
RT Vol	347	0	318	0	0
Lane Flow Rate	1265	274	370	715	730
Geometry Grp	4	7	7	7	7
Degree of Util (X)	1	0.632	0.729	1	1
Departure Headway (Hd)	6.946	8.297	7.097	7.888	7.388
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	531	439	514	465	497
Service Time	4.983	5.997	4.797	5.637	5.137
HCM Lane V/C Ratio	2.382	0.624	0.72	1.538	1.469
HCM Control Delay	66	24.2	26.6	70.4	68
HCM Lane LOS	F	C	D	F	F
HCM 95th-tile Q	13.9	4.2	6	13	13.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	290	300	824	121	127	756
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	358	370	1017	149	157	933
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	339	303	1069	908	716	1908
Arrive On Green	0.19	0.19	0.56	0.56	0.40	1.00
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	358	370	1017	149	157	933
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	22.5	22.5	60.5	5.3	6.9	0.0
Cycle Q Clear(g_c), s	22.5	22.5	60.5	5.3	6.9	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	339	303	1069	908	716	1908
V/C Ratio(X)	1.06	1.22	0.95	0.16	0.22	0.49
Avail Cap(c_a), veh/h	339	303	1069	908	716	1908
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	48.7	24.7	12.7	24.0	0.0
Incr Delay (d2), s/veh	64.1	125.8	18.1	0.4	0.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.3	20.6	36.7	2.5	3.6	0.5
LnGrp Delay(d),s/veh	112.9	174.6	42.8	13.0	24.7	0.9
LnGrp LOS	F	F	D	B	C	A
Approach Vol, veh/h	728		1166			1090
Approach Delay, s/veh	144.2		39.0			4.3
Approach LOS	F		D			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	54.0	73.0				127.0		28.0
Change Period (Y+Rc), s	5.5	* 5.5				5.5		5.5
Max Green Setting (Gmax), s	14.5	* 68				86.5		22.5
Max Q Clear Time (g_c+I1), s	8.9	62.5				2.0		24.5
Green Ext Time (p_c), s	2.2	2.3				4.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	52.0
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	38	47	898	9	10	1034
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	41	51	976	10	11	1124

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2127	493	0	0	986	0
Stage 1	981	-	-	-	-	-
Stage 2	1146	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	49	527	-	-	709	-
Stage 1	329	-	-	-	-	-
Stage 2	306	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	48	527	-	-	709	-
Mov Cap-2 Maneuver	214	-	-	-	-	-
Stage 1	329	-	-	-	-	-
Stage 2	301	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.8	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	319	709	-
HCM Lane V/C Ratio	-	-	0.29	0.015	-
HCM Control Delay (s)	-	-	20.8	10.2	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	1.2	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	39	45	861	10	10	1063
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	42	49	936	11	11	1155

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2118	473	0	0	947	0
Stage 1	941	-	-	-	-	-
Stage 2	1177	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	50	543	-	-	733	-
Stage 1	345	-	-	-	-	-
Stage 2	295	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	49	543	-	-	733	-
Mov Cap-2 Maneuver	214	-	-	-	-	-
Stage 1	345	-	-	-	-	-
Stage 2	291	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.9	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	317	733	-
HCM Lane V/C Ratio	-	-	0.288	0.015	-
HCM Control Delay (s)	-	-	20.9	10	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.2	0	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	55	46	832	13	10	1120
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	0	-	0	140	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	77	65	1172	18	14	1577

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2778	586	0	0	1172	0
Stage 1	1172	-	-	-	-	-
Stage 2	1606	-	-	-	-	-
Critical Hdwy	4.2	4.2	-	-	4.1	-
Critical Hdwy Stg 1	4.5	-	-	-	-	-
Critical Hdwy Stg 2	4.5	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	117	712	-	-	603	-
Stage 1	398	-	-	-	-	-
Stage 2	273	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	114	712	-	-	603	-
Mov Cap-2 Maneuver	230	-	-	-	-	-
Stage 1	398	-	-	-	-	-
Stage 2	267	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.3	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	230	712	603	-
HCM Lane V/C Ratio	-	-	0.337	0.091	0.023	-
HCM Control Delay (s)	-	-	28.4	10.6	11.1	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	1.4	0.3	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	52	316	6	19	93	623	0	88	36	827	250	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	74	451	9	27	133	890	0	126	47	1181	357	46
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	529	449	36	467	397	2	550	461	445	1088	925
Arrive On Green	0.05	0.28	0.28	0.02	0.25	0.25	0.00	0.29	0.29	0.25	0.57	0.57
Sat Flow, veh/h	1810	1900	1612	1810	1900	1615	1810	1900	1593	1810	1900	1615
Grp Volume(v), veh/h	74	451	9	27	133	890	0	126	47	1181	357	46
Grp Sat Flow(s),veh/h/ln	1810	1900	1612	1810	1900	1615	1810	1900	1593	1810	1900	1615
Q Serve(g_s), s	4.8	27.0	0.5	1.8	6.8	29.5	0.0	6.1	2.6	29.5	11.9	1.5
Cycle Q Clear(g_c), s	4.8	27.0	0.5	1.8	6.8	29.5	0.0	6.1	2.6	29.5	11.9	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	95	529	449	36	467	397	2	550	461	445	1088	925
V/C Ratio(X)	0.78	0.85	0.02	0.75	0.28	2.24	0.00	0.23	0.10	2.65	0.33	0.05
Avail Cap(c_a), veh/h	113	529	449	113	467	397	60	550	461	445	1088	925
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	0.09	0.09	0.09	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.2	41.0	31.4	58.5	36.7	45.3	0.0	32.4	31.2	45.3	13.5	11.3
Incr Delay (d2), s/veh	20.6	12.2	0.0	1.1	0.0	559.5	0.0	1.0	0.4	751.1	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	15.9	0.2	0.9	3.6	74.9	0.0	3.3	1.2	107.5	6.4	0.7
LnGrp Delay(d),s/veh	76.8	53.1	31.4	59.6	36.7	604.7	0.0	33.4	31.7	796.4	14.3	11.4
LnGrp LOS	E	D	C	E	D	F		C	C	F	B	B
Approach Vol, veh/h		534			1050			173			1584	
Approach Delay, s/veh		56.0			518.8			32.9			597.3	
Approach LOS		E			F			C			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	34.0	40.2	6.9	38.9	0.0	74.2	10.8	35.0
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	29.5	33.5	7.5	29.5	4.0	59.0	7.5	29.5
Max Q Clear Time (g_c+I1), s	31.5	8.1	3.8	29.0	0.0	13.9	6.8	31.5
Green Ext Time (p_c), s	0.0	1.6	0.0	0.3	0.0	1.7	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	456.9
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	7.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	120	2	9	244	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	160	3	12	325	15

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	674	9	0	0	15	0
Stage 1	9	-	-	-	-	-
Stage 2	665	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	423	1079	-	-	1616	-
Stage 1	1019	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	338	1079	-	-	1616	-
Mov Cap-2 Maneuver	389	-	-	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	411	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	7.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	1079	1616	-
HCM Lane V/C Ratio	-	-	-	0.148	0.201	-
HCM Control Delay (s)	-	-	0	8.9	7.8	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.5	0.8	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1006	18	0	1852	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1105	20	0	2035	0	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1125	0	3150	1115
Stage 1	-	-	-	-	1115	-
Stage 2	-	-	-	-	2035	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	408	-	*12	*274
Stage 1	-	-	-	-	*259	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	408	-	*12	*274
Mov Cap-2 Maneuver	-	-	-	-	*12	-
Stage 1	-	-	-	-	*259	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	18.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	274	-	-	408	-
HCM Lane V/C Ratio	0.02	-	-	-	-
HCM Control Delay (s)	18.4	-	-	0	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Notes

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

Intersection	
Int Delay, s/veh	12.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	54	33	157	0	23	0	386	5	0	3	6	122
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	0	200	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	66	40	191	0	28	0	471	6	0	4	7	149

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1051	1037	82	1153	1111	6	156	0	0	6	0	0
Stage 1	89	89	-	948	948	-	-	-	-	-	-	-
Stage 2	962	948	-	205	163	-	-	-	-	-	-	-
Critical Hdwy	6	6	6.2	6	6	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5	5	-	5	5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5	5	-	5	5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	285	269	983	250	246	1083	1436	-	-	1628	-	-
Stage 1	949	835	-	422	390	-	-	-	-	-	-	-
Stage 2	416	390	-	853	785	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	193	180	983	132	165	1083	1436	-	-	1628	-	-
Mov Cap-2 Maneuver	233	244	-	168	230	-	-	-	-	-	-	-
Stage 1	638	833	-	284	262	-	-	-	-	-	-	-
Stage 2	250	262	-	652	783	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.7	22.8	8.6	0.2
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1436	-	-	463	230	1628	-	-
HCM Lane V/C Ratio	0.328	-	-	0.643	0.122	0.002	-	-
HCM Control Delay (s)	8.7	-	-	25.7	22.8	7.2	-	-
HCM Lane LOS	A	-	-	D	C	A	-	-
HCM 95th %tile Q(veh)	1.4	-	-	4.4	0.4	0	-	-

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	33	7	0	0	4	1	291	0	0	67	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	36	8	0	0	4	1	316	0	0	73	18
Number of Lanes	0	0	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	9.3	10.5	9.5
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	82%	100%	0%	100%	0%
Vol Thru, %	80%	18%	0%	0%	0%	70%
Vol Right, %	20%	0%	0%	100%	0%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	84	40	4	292	141	23
LT Vol	0	33	4	0	141	0
Through Vol	67	7	0	1	0	16
RT Vol	17	0	0	291	0	7
Lane Flow Rate	91	43	4	317	153	25
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.14	0.07	0.007	0.407	0.254	0.036
Departure Headway (Hd)	5.518	5.824	5.817	4.612	5.972	5.253
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	644	611	614	778	598	676
Service Time	3.603	3.9	3.562	2.356	3.749	3.03
HCM Lane V/C Ratio	0.141	0.07	0.007	0.407	0.256	0.037
HCM Control Delay	9.5	9.3	8.6	10.5	10.8	8.2
HCM Lane LOS	A	A	A	B	B	A
HCM 95th-tile Q	0.5	0.2	0	2	1	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	141	16	7
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	153	17	8
Number of Lanes	0	1	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	10.4
HCM LOS	B

Lane

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	149	15	2	235	61	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	162	16	2	255	66	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	178	0	430	170
Stage 1	-	-	-	-	170	-
Stage 2	-	-	-	-	260	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1410	-	586	879
Stage 1	-	-	-	-	865	-
Stage 2	-	-	-	-	788	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1410	-	585	879
Mov Cap-2 Maneuver	-	-	-	-	702	-
Stage 1	-	-	-	-	865	-
Stage 2	-	-	-	-	787	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	722	-	-	1410	-
HCM Lane V/C Ratio	0.107	-	-	0.002	-
HCM Control Delay (s)	10.6	-	-	7.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	155	4	4	217	20	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	168	4	4	236	22	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	173	0	416	171
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	245	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1416	-	597	878
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	800	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1416	-	595	878
Mov Cap-2 Maneuver	-	-	-	-	710	-
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	798	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	778	-	-	1416	-
HCM Lane V/C Ratio	0.052	-	-	0.003	-
HCM Control Delay (s)	9.9	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	158	13	4	168	53	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	172	14	4	183	58	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	186	0	370	179
Stage 1	-	-	-	-	179	-
Stage 2	-	-	-	-	191	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1401	-	634	869
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	846	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1401	-	632	869
Mov Cap-2 Maneuver	-	-	-	-	738	-
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	844	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	766	-	-	1401	-
HCM Lane V/C Ratio	0.099	-	-	0.003	-
HCM Control Delay (s)	10.2	-	-	7.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	65	104	11	0	4	42	72	0	7	73	4
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	76	122	13	0	5	49	85	0	8	86	5
Number of Lanes	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	3
HCM Control Delay	11.3	10.1	10.7
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	90%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	10%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	73	4	65	115	4	42	72	241	85	119
LT Vol	7	0	0	65	0	4	0	0	241	0	0
Through Vol	0	73	0	0	104	0	42	0	0	85	0
RT Vol	0	0	4	0	11	0	0	72	0	0	119
Lane Flow Rate	8	86	5	76	135	5	49	85	284	100	140
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.017	0.163	0.008	0.151	0.245	0.01	0.094	0.144	0.509	0.166	0.205
Departure Headway (Hd)	7.344	6.839	6.133	7.09	6.523	7.336	6.834	6.132	6.469	5.966	5.261
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	486	523	581	505	549	487	523	583	556	601	680
Service Time	5.11	4.605	3.898	4.844	4.277	5.096	4.595	3.892	4.213	3.71	3.005
HCM Lane V/C Ratio	0.016	0.164	0.009	0.15	0.246	0.01	0.094	0.146	0.511	0.166	0.206
HCM Control Delay	10.2	10.9	8.9	11.1	11.4	10.2	10.3	9.9	15.8	9.9	9.4
HCM Lane LOS	B	B	A	B	B	B	B	A	C	A	A
HCM 95th-tile Q	0.1	0.6	0	0.5	1	0	0.3	0.5	2.9	0.6	0.8

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	17	0	0	0	0	4
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	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	18	0	0	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1026	1088	1631	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1026	1088	1631	-	-	-
Mov Cap-2 Maneuver	974	-	-	-	-	-
Stage 1	1026	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1631	-	974	-	-
HCM Lane V/C Ratio	-	-	0.019	-	-
HCM Control Delay (s)	0	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	796	1413	219	451	50	696	163	202	124	254	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.99	1.00		1.00	1.00		0.49
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	33	1206	2071	332	683	53	1055	247	221	188	385	36
Adj No. of Lanes	1	1	1	1	2	1	2	1	1	1	2	0
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	42	420	618	354	1495	632	618	515	437	264	769	69
Arrive On Green	0.02	0.22	0.22	0.20	0.39	0.39	0.17	0.27	0.27	0.15	0.25	0.25
Sat Flow, veh/h	1810	1900	1548	1810	3800	1607	3619	1900	1612	1810	3128	281
Grp Volume(v), veh/h	33	1206	2071	332	683	53	1055	247	221	188	228	193
Grp Sat Flow(s),veh/h/ln	1810	1900	1548	1810	1900	1607	1810	1900	1612	1810	1900	1509
Q Serve(g_s), s	2.2	26.5	19.9	21.7	15.9	1.5	20.5	13.1	8.6	11.9	12.3	13.3
Cycle Q Clear(g_c), s	2.2	26.5	19.9	21.7	15.9	1.5	20.5	13.1	8.6	11.9	12.3	13.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	42	420	618	354	1495	632	618	515	437	264	467	371
V/C Ratio(X)	0.78	2.87	3.35	0.94	0.46	0.08	1.71	0.48	0.51	0.71	0.49	0.52
Avail Cap(c_a), veh/h	83	420	618	354	1495	632	618	515	437	264	467	371
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)	0.09	0.09	0.09	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.3	46.7	14.4	47.5	26.9	8.8	49.8	36.7	14.1	48.9	38.8	39.1
Incr Delay (d2), s/veh	1.1	844.0	1059.0	31.6	0.1	0.0	318.5	0.3	0.4	7.5	3.6	5.2
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	112.2	190.1	13.9	8.4	0.7	37.6	6.9	3.9	6.5	6.9	6.1
LnGrp Delay(d),s/veh	59.4	890.8	1073.5	79.1	27.0	8.9	368.3	37.0	14.5	56.4	42.4	44.3
LnGrp LOS	E	F	F	E	C	A	F	D	B	E	D	D
Approach Vol, veh/h		3310			1068			1523			609	
Approach Delay, s/veh		996.8			42.3			263.2			47.3	
Approach LOS		F			D			F			D	

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	22.0	38.0	28.0	32.0	25.0	35.0	7.3	52.7
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	17.5	32.5	23.5	26.5	20.5	29.5	5.5	44.5
Max Q Clear Time (g_c+I1), s	13.9	15.1	23.7	28.5	22.5	15.3	4.2	17.9
Green Ext Time (p_c), s	1.2	1.0	0.0	0.0	0.0	1.2	0.0	26.0

Intersection Summary	
HCM 2010 Ctrl Delay	579.8
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	28	54	412	126	35	16	105	865	91	55	1623	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	40	77	468	180	50	4	150	1236	126	79	2319	75
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	279	319	271	97	127	108	109	1547	157	102	1656	53
Arrive On Green	0.15	0.17	0.17	0.05	0.07	0.07	0.06	0.46	0.46	0.06	0.45	0.45
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3393	345	1810	3661	118
Grp Volume(v), veh/h	40	77	468	180	50	4	150	690	672	79	1197	1197
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1838	1810	1900	1879
Q Serve(g_s), s	1.4	2.6	9.7	4.0	1.9	0.1	4.5	23.3	23.5	3.2	33.9	33.9
Cycle Q Clear(g_c), s	1.4	2.6	9.7	4.0	1.9	0.1	4.5	23.3	23.5	3.2	33.9	33.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		0.06
Lane Grp Cap(c), veh/h	279	319	271	97	127	108	109	866	838	102	859	850
V/C Ratio(X)	0.14	0.24	1.73	1.87	0.39	0.04	1.38	0.80	0.80	0.78	1.39	1.41
Avail Cap(c_a), veh/h	279	608	517	97	608	517	109	866	838	109	859	850
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	27.4	27.1	18.4	35.5	33.5	20.8	35.3	17.4	17.5	34.9	20.5	20.5
Incr Delay (d2), s/veh	0.1	0.1	340.0	426.1	0.7	0.1	218.8	7.5	7.9	2.7	177.5	184.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.4	29.9	13.4	1.0	0.1	8.8	13.9	13.6	1.7	60.0	61.0
LnGrp Delay(d),s/veh	27.5	27.2	358.3	461.6	34.3	20.8	254.1	25.0	25.4	37.6	198.1	205.0
LnGrp LOS	C	C	F	F	C	C	F	C	C	D	F	F
Approach Vol, veh/h		585			234			1512			2473	
Approach Delay, s/veh		292.1			362.7			47.9			196.3	
Approach LOS		F			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	8.7	39.7	8.5	18.1	9.0	39.4	16.1	10.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.5	22.5	4.0	24.0	4.5	22.5	4.0	24.0
Max Q Clear Time (g_c+I1), s	15.2	25.5	6.0	11.7	6.5	35.9	3.4	3.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	169.4
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	547	370	138	23	750	11	188	309	16	59	415	1111
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	710	481	179	30	974	14	244	401	21	77	539	1438
Adj No. of Lanes	1	1	1	1	2	0	2	2	1	2	2	0
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1381	2076	1765	42	1278	18	152	1341	570	132	640	544
Arrive On Green	0.76	1.00	1.00	0.02	0.34	0.34	0.04	0.35	0.35	0.04	0.34	0.34
Sat Flow, veh/h	1810	1900	1615	1810	3736	54	3619	3800	1615	3619	1900	1615
Grp Volume(v), veh/h	710	481	179	30	495	493	244	401	21	77	539	1438
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1890	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	14.5	0.0	0.0	1.6	22.0	22.0	4.0	7.3	0.8	2.0	25.0	32.0
Cycle Q Clear(g_c), s	14.5	0.0	0.0	1.6	22.0	22.0	4.0	7.3	0.8	2.0	25.0	32.0
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1381	2076	1765	42	650	646	152	1341	570	132	640	544
V/C Ratio(X)	0.51	0.23	0.10	0.72	0.76	0.76	1.60	0.30	0.04	0.58	0.84	2.64
Avail Cap(c_a), veh/h	1381	2076	1765	99	650	646	152	1341	570	152	640	544
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	4.4	0.0	0.0	46.1	27.8	27.8	45.5	22.2	20.2	45.0	29.2	31.5
Incr Delay (d2), s/veh	0.1	0.3	0.1	8.4	8.2	8.3	299.0	0.6	0.1	1.7	12.7	744.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.2	0.1	0.9	13.0	13.0	8.3	3.9	0.4	1.0	15.3	126.8
LnGrp Delay(d),s/veh	4.5	0.3	0.1	54.5	36.0	36.1	344.5	22.8	20.3	46.7	41.9	776.3
LnGrp LOS	A	A	A	D	D	D	F	C	C	D	D	F
Approach Vol, veh/h		1370			1018			666			2054	
Approach Delay, s/veh		2.5			36.6			140.6			556.2	
Approach LOS		A			D			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	6.7	111.3	9.5	37.5	80.0	38.0	8.0	39.0
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	5.2	33.8	4.0	* 32	6.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	3.6	2.0	6.0	34.0	16.5	24.0	4.0	9.3
Green Ext Time (p_c), s	0.0	3.2	0.0	0.0	0.0	2.5	0.0	1.9

Intersection Summary		
HCM 2010 Ctrl Delay		250.0
HCM 2010 LOS		F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



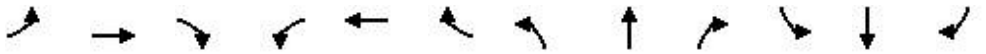
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	253	1097	391	102	572	141	274	1140	136	197	1458	90
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	258	1119	378	104	584	135	280	1163	128	201	1488	81
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	915	304	1431	3253	750	174	1381	152	188	1021	434
Arrive On Green	0.05	0.33	0.33	0.79	1.00	1.00	0.10	0.27	0.27	0.10	0.27	0.27
Sat Flow, veh/h	1810	2731	906	1810	2989	689	1810	5046	555	1810	3800	1615
Grp Volume(v), veh/h	258	773	724	104	371	348	280	876	415	201	1488	81
Grp Sat Flow(s),veh/h/ln	1810	1900	1737	1810	1900	1778	1810	1900	1801	1810	1900	1615
Q Serve(g_s), s	4.0	26.8	26.8	1.0	0.0	0.0	7.7	17.4	17.4	8.3	21.5	5.6
Cycle Q Clear(g_c), s	4.0	26.8	26.8	1.0	0.0	0.0	7.7	17.4	17.4	8.3	21.5	5.6
Prop In Lane	1.00		0.52	1.00		0.39	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	90	637	582	1431	2068	1935	174	1040	493	188	1021	434
V/C Ratio(X)	2.85	1.21	1.24	0.07	0.18	0.18	1.61	0.84	0.84	1.07	1.46	0.19
Avail Cap(c_a), veh/h	90	637	582	1431	2068	1935	174	1040	493	188	1021	434
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	38.0	26.6	26.6	1.9	0.0	0.0	36.2	27.4	27.4	35.8	29.2	73.6
Incr Delay (d2), s/veh	862.8	110.2	124.1	0.0	0.2	0.2	298.5	8.2	15.9	85.7	211.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.7	33.5	32.8	0.5	0.1	0.1	18.3	10.3	10.8	8.6	41.2	2.6
LnGrp Delay(d),s/veh	900.8	136.8	150.7	1.9	0.2	0.2	334.6	35.7	43.3	121.5	240.4	74.6
LnGrp LOS	F	F	F	A	A	A	F	D	D	F	F	E
Approach Vol, veh/h		1755			823			1571			1770	
Approach Delay, s/veh		254.9			0.4			91.0			219.3	
Approach LOS		F			A			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	30.1	32.3	13.2	27.0	8.5	93.9	12.8	27.4
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	* 27	7.7	* 22	4.0	26.8	8.3	20.9
Max Q Clear Time (g_c+I1), s	13.0	28.8	9.7	23.5	6.0	2.0	10.3	19.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.8	0.0	1.0

Intersection Summary		
HCM 2010 Ctrl Delay		165.4
HCM 2010 LOS		F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	79	166	100	238	121	134	67	1361	209	211	1247	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	87	182	94	262	133	47	74	1496	205	232	1370	63
Adj No. of Lanes	0	1	1	0	2	1	1	3	0	1	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	101	210	268	309	324	270	428	2003	274	143	1315	60
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.24	0.41	0.41	0.08	0.24	0.24
Sat Flow, veh/h	605	1265	1612	1810	1900	1583	1810	4899	670	1810	5404	248
Grp Volume(v), veh/h	269	0	94	262	133	47	74	1160	541	232	963	470
Grp Sat Flow(s),veh/h/ln	1870	0	1612	1810	1900	1583	1810	1900	1769	1810	1900	1852
Q Serve(g_s), s	16.8	0.0	6.2	16.8	7.5	3.0	3.9	31.2	31.2	9.5	29.2	29.2
Cycle Q Clear(g_c), s	16.8	0.0	6.2	16.8	7.5	3.0	3.9	31.2	31.2	9.5	29.2	29.2
Prop In Lane	0.32		1.00	1.00		1.00	1.00		0.38	1.00		0.13
Lane Grp Cap(c), veh/h	311	0	268	309	324	270	428	1554	723	143	925	451
V/C Ratio(X)	0.87	0.00	0.35	0.85	0.41	0.17	0.17	0.75	0.75	1.62	1.04	1.04
Avail Cap(c_a), veh/h	467	0	403	452	475	396	428	1554	723	143	925	451
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	0.0	44.3	48.3	44.4	42.5	36.5	30.2	30.2	55.3	45.4	45.4
Incr Delay (d2), s/veh	7.3	0.0	0.3	6.7	0.3	0.1	0.9	3.3	7.0	308.5	41.1	53.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	0.0	2.8	9.0	4.0	1.3	2.1	17.0	16.6	17.0	20.6	21.6
LnGrp Delay(d),s/veh	56.0	0.0	44.6	55.0	44.7	42.6	37.4	33.5	37.2	363.7	86.5	99.1
LnGrp LOS	E		D	D	D	D	D	C	D	F	F	F
Approach Vol, veh/h		363			442			1775			1665	
Approach Delay, s/veh		53.0			50.6			34.8			128.7	
Approach LOS		D			D			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	54.6		25.5	33.9	34.7		26.0
Change Period (Y+Rc), s	4.5	5.5		5.5	5.5	* 5.5		5.5
Max Green Setting (Gmax), s	9.5	29.5		30.0	9.8	* 29		30.0
Max Q Clear Time (g_c+I1), s	11.5	33.2		18.8	5.9	31.2		18.8
Green Ext Time (p_c), s	0.0	0.0		1.0	2.6	0.0		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	74.8
HCM 2010 LOS	E

Notes

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

APPENDIX 6.3:

OPENING YEAR CUMULATIVE (2020) WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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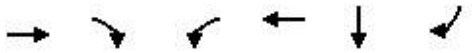


Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	609	131	611	2598	982	565
v/c Ratio	0.50	0.19	1.26	1.07	1.28	1.19
Control Delay	18.3	4.2	158.7	52.6	150.0	127.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	4.2	158.7	52.6	150.0	127.9
Queue Length 50th (ft)	87	0	~287	~536	~288	~218
Queue Length 95th (ft)	128	30	#460	#663	#498	#392
Internal Link Dist (ft)	658			955		
Turn Bay Length (ft)						
Base Capacity (vph)	1216	697	484	2438	769	474
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.19	1.26	1.07	1.28	1.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	557	46	245	306	1572	411
v/c Ratio	0.59	0.09	0.76	0.18	1.81	0.43
Control Delay	42.5	5.0	61.6	23.7	392.5	13.7
Queue Delay	61.3	0.0	0.8	0.0	0.5	0.0
Total Delay	103.8	5.0	62.4	23.7	393.0	13.7
Queue Length 50th (ft)	190	0	77	68	~1832	116
Queue Length 95th (ft)	247	19	#237	150	#2096	198
Internal Link Dist (ft)	844			267	1109	
Turn Bay Length (ft)		100	80			270
Base Capacity (vph)	950	523	324	1741	870	963
Starvation Cap Reductn	0	0	10	0	0	0
Spillback Cap Reductn	699	0	0	0	80	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.22	0.09	0.78	0.18	1.99	0.43

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	40	1503	2949	896	389	53	74
v/c Ratio	0.34	0.70	1.38	2.33	0.71	0.32	0.13
Control Delay	17.8	12.5	192.8	624.3	29.0	24.5	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	12.5	192.8	624.3	29.0	24.5	11.6
Queue Length 50th (ft)	8	192	~805	~596	134	16	12
Queue Length 95th (ft)	33	259	#938	#800	#235	46	38
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	117	2136	2139	385	548	167	560
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.70	1.38	2.33	0.71	0.32	0.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	341	1832	470	687	91	339
v/c Ratio	0.83	0.66	0.26	0.57	0.25	0.84
Control Delay	24.2	15.6	20.1	6.1	43.3	58.8
Queue Delay	0.4	49.2	0.0	0.0	0.0	0.0
Total Delay	24.6	64.7	20.1	6.1	43.3	58.8
Queue Length 50th (ft)	17	394	105	46	60	220
Queue Length 95th (ft)	18	m224	159	160	110	#375
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	577	2755	1819	1210	364	404
Starvation Cap Reductn	37	1567	0	0	0	0
Spillback Cap Reductn	0	0	6	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	1.54	0.26	0.57	0.25	0.84

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

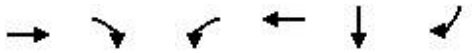


Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1643	624	1073	715	1042	291
v/c Ratio	1.35	0.69	2.22	0.29	1.43	0.50
Control Delay	186.2	9.8	573.7	5.1	217.8	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	186.2	9.8	573.7	5.1	217.8	8.0
Queue Length 50th (ft)	~403	48	~647	47	~369	10
Queue Length 95th (ft)	#519	144	#855	68	#584	66
Internal Link Dist (ft)	658			955		
Turn Bay Length (ft)						
Base Capacity (vph)	1216	909	484	2438	729	584
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.35	0.69	2.22	0.29	1.43	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	767	112	557	215	837	446
v/c Ratio	0.81	0.22	1.69	0.12	0.97	0.42
Control Delay	50.0	19.1	356.9	43.3	56.4	6.1
Queue Delay	0.1	0.0	0.9	0.0	0.0	0.0
Total Delay	50.1	19.1	357.8	43.3	56.4	6.1
Queue Length 50th (ft)	280	32	~659	85	613	42
Queue Length 95th (ft)	351	79	#885	125	#891	111
Internal Link Dist (ft)	844			267	1109	
Turn Bay Length (ft)		100	80			270
Base Capacity (vph)	950	519	330	1753	870	1059
Starvation Cap Reductn	0	0	25	0	0	0
Spillback Cap Reductn	4	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.22	1.83	0.12	0.96	0.42

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	2603	2636	146	94	118	69
v/c Ratio	0.24	1.21	1.24	0.38	0.17	0.31	0.13
Control Delay	13.6	118.3	129.2	22.1	17.7	21.0	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	118.3	129.2	22.1	17.7	21.0	17.6
Queue Length 50th (ft)	5	~648	~671	46	26	36	20
Queue Length 95th (ft)	22	#780	#804	93	58	77	46
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	117	2147	2132	387	547	378	545
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	1.21	1.24	0.38	0.17	0.31	0.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	596	1096	758	1631	58	215
v/c Ratio	1.03	0.40	0.51	1.60	0.16	0.44
Control Delay	84.5	8.6	29.2	297.3	41.9	17.3
Queue Delay	24.7	1.5	1.9	0.0	0.0	0.0
Total Delay	109.2	10.0	31.1	297.3	41.9	17.3
Queue Length 50th (ft)	247	149	220	~1587	38	43
Queue Length 95th (ft)	#293	m163	272	#1825	76	113
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	577	2755	1488	1018	364	484
Starvation Cap Reductn	44	1391	0	0	0	0
Spillback Cap Reductn	0	0	543	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.12	0.80	0.80	1.60	0.16	0.44

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 6.4:

OPENING YEAR CUMULATIVE (2020) WITH PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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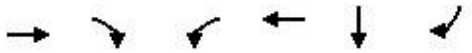


Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	609	131	611	2598	1189	565
v/c Ratio	0.50	0.19	1.26	1.07	1.55	1.19
Control Delay	18.3	4.2	158.7	52.6	269.1	127.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	4.2	158.7	52.6	269.1	127.9
Queue Length 50th (ft)	87	0	~287	~536	~455	~218
Queue Length 95th (ft)	128	30	#460	#663	#677	#392
Internal Link Dist (ft)	658			955		
Turn Bay Length (ft)						
Base Capacity (vph)	1216	697	484	2438	769	474
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.19	1.26	1.07	1.55	1.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	557	46	264	306	1641	411
v/c Ratio	0.59	0.09	0.81	0.18	1.89	0.43
Control Delay	42.5	5.0	66.7	23.9	427.2	14.1
Queue Delay	61.3	0.0	1.2	0.0	0.7	0.0
Total Delay	103.8	5.0	67.9	23.9	427.9	14.1
Queue Length 50th (ft)	190	0	83	69	~1943	121
Queue Length 95th (ft)	247	19	#277	151	#2208	202
Internal Link Dist (ft)	844			267	1109	
Turn Bay Length (ft)		100	80			270
Base Capacity (vph)	950	523	324	1741	870	959
Starvation Cap Reductn	0	0	9	0	0	0
Spillback Cap Reductn	699	0	0	0	99	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.22	0.09	0.84	0.18	2.13	0.43

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	40	1704	2995	896	389	53	74
v/c Ratio	0.34	0.80	1.40	2.33	0.71	0.32	0.13
Control Delay	17.8	14.9	202.4	624.3	29.0	24.5	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	14.9	202.4	624.3	29.0	24.5	11.6
Queue Length 50th (ft)	8	240	~825	~596	134	16	12
Queue Length 95th (ft)	33	324	#958	#800	#235	46	38
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	117	2135	2139	385	548	167	560
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.80	1.40	2.33	0.71	0.32	0.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	341	1902	489	702	91	427
v/c Ratio	0.83	0.69	0.27	0.58	0.25	1.06
Control Delay	24.5	16.3	20.2	6.5	43.3	101.9
Queue Delay	0.4	49.1	0.0	0.0	0.0	0.0
Total Delay	24.8	65.4	20.2	6.5	43.3	101.9
Queue Length 50th (ft)	18	409	110	53	60	~329
Queue Length 95th (ft)	19	m224	165	175	110	#534
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	577	2755	1819	1210	364	404
Starvation Cap Reductn	37	1567	0	0	0	0
Spillback Cap Reductn	0	0	13	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	1.60	0.27	0.58	0.25	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

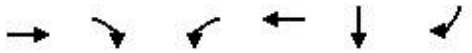


Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1643	624	1073	715	1097	291
v/c Ratio	1.35	0.69	2.22	0.29	1.50	0.50
Control Delay	186.2	9.8	573.7	5.1	251.3	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	186.2	9.8	573.7	5.1	251.3	8.0
Queue Length 50th (ft)	~403	48	~647	47	~413	10
Queue Length 95th (ft)	#519	144	#855	68	#631	66
Internal Link Dist (ft)	658			955		
Turn Bay Length (ft)						
Base Capacity (vph)	1216	909	484	2438	729	584
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.35	0.69	2.22	0.29	1.50	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	767	112	650	215	855	446
v/c Ratio	0.81	0.22	2.01	0.12	0.98	0.42
Control Delay	50.0	19.1	491.8	43.2	59.3	6.3
Queue Delay	0.1	0.0	0.9	0.0	0.0	0.0
Total Delay	50.1	19.1	492.7	43.2	59.3	6.3
Queue Length 50th (ft)	280	32	~813	85	637	46
Queue Length 95th (ft)	351	79	#1050	125	#920	115
Internal Link Dist (ft)	844			267	1109	
Turn Bay Length (ft)		100	80			270
Base Capacity (vph)	950	519	324	1741	870	1055
Starvation Cap Reductn	0	0	25	0	0	0
Spillback Cap Reductn	4	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.22	2.17	0.12	0.98	0.42

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	2657	2860	146	94	118	69
v/c Ratio	0.24	1.24	1.34	0.38	0.17	0.31	0.13
Control Delay	13.6	129.5	176.5	22.1	17.9	21.0	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	129.5	176.5	22.1	17.9	21.0	17.8
Queue Length 50th (ft)	5	~672	~769	46	27	36	20
Queue Length 95th (ft)	22	#804	#903	93	59	77	47
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	117	2147	2131	387	546	378	544
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	1.24	1.34	0.38	0.17	0.31	0.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	596	1115	856	1711	58	237
v/c Ratio	1.03	0.40	0.58	1.68	0.16	0.49
Control Delay	84.5	8.8	30.6	332.1	41.9	20.9
Queue Delay	24.7	1.6	4.7	0.0	0.0	0.0
Total Delay	109.2	10.4	35.3	332.1	41.9	20.9
Queue Length 50th (ft)	247	156	257	~1719	38	62
Queue Length 95th (ft)	#293	m164	314	#1955	76	139
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	577	2755	1488	1018	364	480
Starvation Cap Reductn	44	1390	0	0	0	0
Spillback Cap Reductn	0	0	548	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.12	0.82	0.91	1.68	0.16	0.49

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 6.5:

OPENING YEAR CUMULATIVE (2020) WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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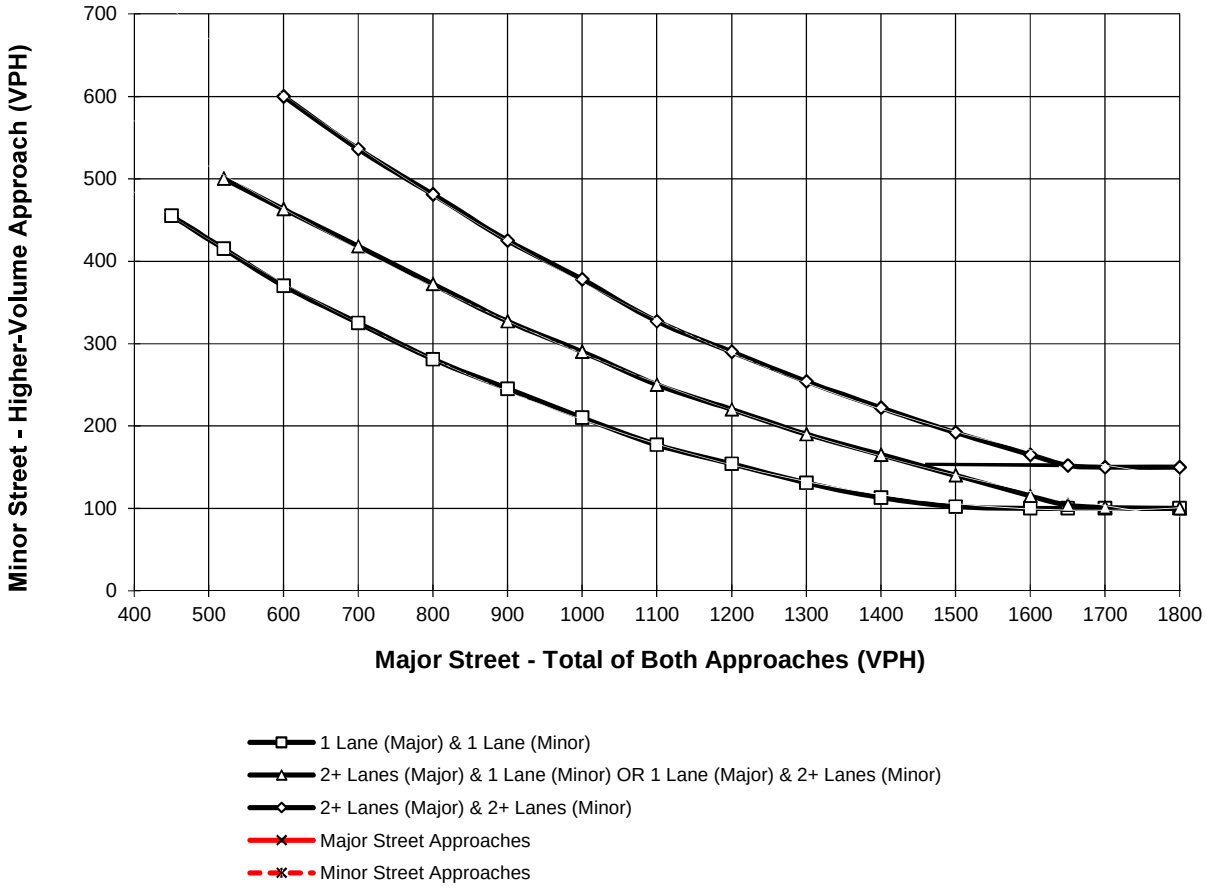
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2020 Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Krameria Avenue (North)** Total of Both Approaches (VPH) = **268**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Cosmos Street** High Volume Approach (VPH) = **132**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

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APPENDIX 6.6:

OPENING YEAR CUMULATIVE (2020) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM		TRAFFIC CONDITIONS		**2020 WP**
				CALC	CHS	DATE	07/12/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/12/15
Major Street:	**Heacock St**				Critical Approach Speed (Major)		50 mph
Minor Street:	**Driveway 1**				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **21,584** vpd Minor Street Future ADT = **281** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... √

or

In built up area of isolated community of < 10,000 population .....

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL: XX

CONDITION A - Minimum Vehicular Volume

Satisfied / Not Satisfied: XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **21,584**	1 **281**	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied / Not Satisfied: XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **21,584**	1 **281**	12,000	8,400 *	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied / Not Satisfied: XX

No one condition satisfied, but following conditions fulfilled 80% of more ..... **A** 17% **B** 33%

2 CONDITIONS 80%

2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM		TRAFFIC CONDITIONS		2020 WP
				CALC	CHS	DATE	07/12/15
Jurisdiction:	City of Moreno Valley			CHK	CHS	DATE	07/12/15
Major Street:	Heacock St				Critical Approach Speed (Major)		50 mph
Minor Street:	Driveway 2				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **21,563** vpd Minor Street Future ADT = **718** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... √

or

In built up area of isolated community of < 10,000 population .....

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL: XX

CONDITION A - Minimum Vehicular Volume

Satisfied / Not Satisfied: XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **21,563**	1 **718**	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied / Not Satisfied: XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1 **21,563**	1 **718**	12,000	8,400 *	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied / Not Satisfied: XX

No one condition satisfied, but following conditions fulfilled 80% of more .....

A	B	Vehicles Per Day on Major Street	Vehicles Per Day on Higher-Volume Minor Street Approach
43%	84%	2 CONDITIONS 80%	2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

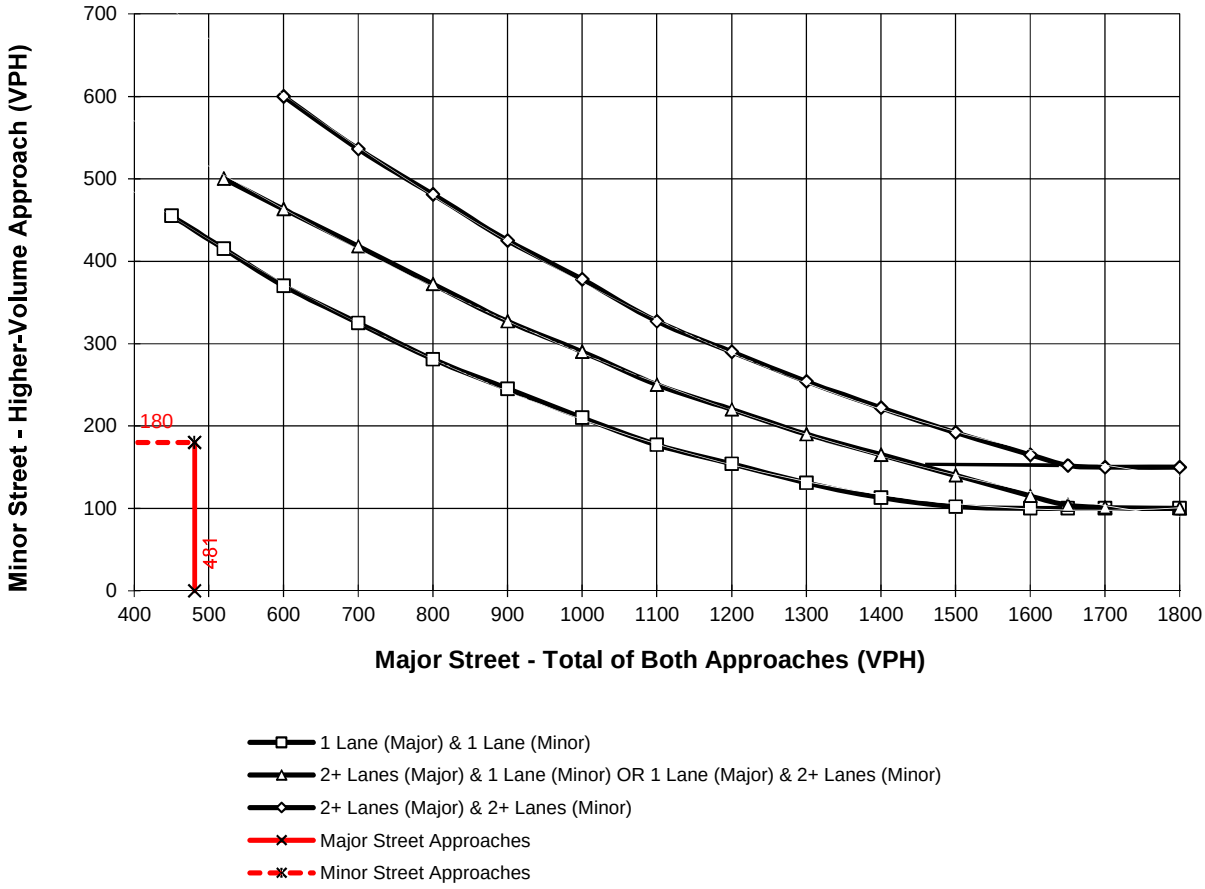
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2020 With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Krameria Avenue (North)** Total of Both Approaches (VPH) = **481**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Cosmos Street** High Volume Approach (VPH) = **180**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM		TRAFFIC CONDITIONS		2020 WP
				CALC	CHS	DATE	07/12/15
Jurisdiction:	City of Moreno Valley			CHK	CHS	DATE	07/12/15
Major Street:	Krameria Street				Critical Approach Speed (Major)		25 mph
Minor Street:	Cosmos Street				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **2,893** vpd Minor Street Future ADT = **3,164** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population ..... [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches)		Minimum Requirements EADT: Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	Urban	Rural	Urban	Rural
CONDITION A - Minimum Vehicular Volume				
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach: Major Street / Minor Street				
1 **2,893** / *1* **3,164**	8,000	5,600	2,400 *	1,680
2 + / *1*	9,600	6,720	2,400	1,680
2 + / *2* +	9,600	6,720	3,200	2,240
1 / *2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach: Major Street / Minor Street	Urban	Rural	Urban	Rural
1 **2,893** / *1* **3,164**	12,000	8,400	1,200 *	850
2 + / *1*	14,400	10,080	1,200	850
2 + / *2* +	14,400	10,080	1,600	1,120
1 / *2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ..... A: 36% B: 24%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM		TRAFFIC CONDITIONS		2020 WP
				CALC	CHS	DATE	07/12/15
Jurisdiction:	City of Moreno Valley			CHK	CHS	DATE	07/12/15
Major Street:	Krameria Street				Critical Approach Speed (Major)		25 mph
Minor Street:	Driveway 3				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **5,013** vpd Minor Street Future ADT = **456** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population ..... [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **5,013**	*1* **456**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2 +*	9,600	6,720	3,200	2,240
1	*2 +*	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **5,013**	*1* **456**	12,000	8,400	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2 +*	14,400	10,080	1,600	1,120
1	*2 +*	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more	**A** 19% **B** 38%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM				
				TRAFFIC CONDITIONS		**2020 WP**	
				CALC	CHS	DATE	07/12/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/12/15
Major Street:	**Krameria Street**			Critical Approach Speed (Major)		25	mph
Minor Street:	**Driveway 4**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **4,645** vpd Minor Street Future ADT = **194** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); …….. [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population …… [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **4,645**	*1* **194**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **4,645**	*1* **194**	12,000	8,400	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 8% **B** 16%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM				
				TRAFFIC CONDITIONS		**2020 WP**	
				CALC	CHS	DATE	07/12/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/12/15
Major Street:	**Krameria Street**			Critical Approach Speed (Major)		25	mph
Minor Street:	**Driveway 5**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **4,356** vpd Minor Street Future ADT = **447** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); …….. [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population …… [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **4,356**	*1* **447**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **4,356**	*1* **447**	12,000	8,400	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 19% **B** 36%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

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APPENDIX 6.7:

OPENING YEAR CUMULATIVE (2020) WITHOUT PROJECT CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6805	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	8
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.962

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1923	pc/h/ln
S	63.9	mph
D = v_p / S	30.1	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6203	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1736	pc/h/ln
S	66.7	mph
D = v_p / S	26.0	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3813	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	12
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.943

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1464	pc/h/ln
S	69.2	mph
D = v_p / S	21.2	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2842	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	7
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.966

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1066	pc/h/ln
S	70.0	mph
D = v_p / S	15.2	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3749	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	9
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.957

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1065	pc/h/ln
S	70.0	mph
D = v_p / S	15.2	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5378	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1505	pc/h/ln
S	68.9	mph
D = v_p / S	21.8	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5505	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	9
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.957

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2084	pc/h/ln
S	60.9	mph
D = v_p / S	34.2	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5096	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	8
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.962

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1920	pc/h/ln
S	64.0	mph
D = v_p / S	30.0	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6978	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1953	pc/h/ln
S	63.4	mph
D = v_p / S	30.8	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7416	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2066	pc/h/ln
S	61.3	mph
D = v_p / S	33.7	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5326	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	10
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.952

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2026	pc/h/ln
S	62.1	mph
D = v_p / S	32.6	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4882	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	9
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.957

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1848	pc/h/ln
S	65.1	mph
D = v_p / S	28.4	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4178	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	11
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.948

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1198	pc/h/ln
S	70.0	mph
D = v_p / S	17.1	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4173	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1168	pc/h/ln
S	70.0	mph
D = v_p / S	16.7	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4610	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	10
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.952

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1754	pc/h/ln
S	66.4	mph
D = v_p / S	26.4	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3481	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1299	pc/h/ln
S	69.9	mph
D = v_p / S	18.6	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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APPENDIX 6.8:

OPENING YEAR CUMULATIVE (2020) WITH PROJECT CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6972	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	9
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.957

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1980	pc/h/ln
S	62.9	mph
D = v_p / S	31.5	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6250	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1749	pc/h/ln
S	66.5	mph
D = v_p / S	26.3	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3859	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	12
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.943

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1482	pc/h/ln
S	69.1	mph
D = v_p / S	21.5	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	2858	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	7
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.966

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1072	pc/h/ln
S	70.0	mph
D = v_p / S	15.3	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3785	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	10
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.952

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1080	pc/h/ln
S	70.0	mph
D = v_p / S	15.4	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5388	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1508	pc/h/ln
S	68.9	mph
D = v_p / S	21.9	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5515	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	9
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.957

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2088	pc/h/ln
S	60.9	mph
D = v_p / S	34.3	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5158	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	8
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.962

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1944	pc/h/ln
S	63.6	mph
D = v_p / S	30.6	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7019	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1965	pc/h/ln
S	63.2	mph
D = v_p / S	31.1	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7427	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2069	pc/h/ln
S	61.2	mph
D = v_p / S	33.8	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5337	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	10
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.952

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2030	pc/h/ln
S	62.0	mph
D = v_p / S	32.7	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

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Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4956	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	9
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.957

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1876	pc/h/ln
S	64.7	mph
D = v_p / S	29.0	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4357	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	13
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.939

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1261	pc/h/ln
S	70.0	mph
D = v_p / S	18.0	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4222	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1182	pc/h/ln
S	70.0	mph
D = v_p / S	16.9	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4659	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	10
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.952

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1772	pc/h/ln
S	66.2	mph
D = v_p / S	26.8	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3496	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1305	pc/h/ln
S	69.9	mph
D = v_p / S	18.7	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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APPENDIX 6.9:

OPENING YEAR CUMULATIVE (2020) WITHOUT PROJECT CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off; L_{up} = 1000 ft; V_u = 445 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6360
Ramp Volume, V_R	819
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{down} = ft; V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6360	0.92	Level	8	0	0.962	1.00	7190
Ramp	819	0.92	Level	24	0	0.893	1.00	997
UpStream	445	0.92	Level	13	0	0.939	1.00	515
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3697 pc/h

V_3 or V_{av34} 1746 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7190	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	6193	Exhibit 13-8	9600	No
V_R	997	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3697	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 36.0 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.778 (Exhibit 13-12)

S_R = 48.2 mph (Exhibit 13-12)

S_0 = 73.9 mph (Exhibit 13-12)

S = 58.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6360
Ramp Volume, V_R	819
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1500 ft; V_D = 663 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6360	0.92	Level	8	0	0.962	1.00	7190
Ramp	819	0.92	Level	24	0	0.893	1.00	997
UpStream								
DownStream	663	0.92	Level	7	0	0.966	1.00	746

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3697 pc/h

V_3 or V_{av34} 1746 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7190	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	6193	Exhibit 13-8	9600	No
V_R	997	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3697	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 36.0 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.778 (Exhibit 13-12)

S_R = 48.2 mph (Exhibit 13-12)

S_0 = 73.9 mph (Exhibit 13-12)

S = 58.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2020 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	3813
Ramp Volume, V_R	1164
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1420 ft; V_D = 193 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3813	0.92	Level	12	0	0.943	1.00	4393
Ramp	1164	0.92	Level	26	0	0.885	1.00	1430
UpStream								
DownStream	193	0.92	Level	27	0	0.881	1.00	238

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.584 using Equation (Exhibit 13-7)

V_{12} = 3162 pc/h

V_3 or V_{av34} 1231 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4393	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2963	Exhibit 13-8	7200	No
V_R	1430	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3162	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 29.7 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.427 (Exhibit 13-12)

S_R = 58.1 mph (Exhibit 13-12)

S_0 = 75.9 mph (Exhibit 13-12)

S = 62.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2020 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 1164 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2648	
	Ramp Volume, V_R: 193	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2648	0.92	Level	5	0	0.976	1.00	2950
Ramp	193	0.92	Level	27	0	0.881	1.00	238
UpStream	1164	0.92	Level	26	0	0.885	1.00	1430
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 749.07 (Equation 13-6 or 13-7)

P_{FM} = 0.585 using Equation (Exhibit 13-6)

V_{12} = 1725 pc/h

V_3 or V_{av34} = 1225 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1725 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3188	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1963	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 19.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.325 (Exibit 13-11)

S_R = 60.9 mph (Exhibit 13-11)

S_0 = 67.4 mph (Exhibit 13-11)

S = 63.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2020 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1075 ft	Acceleration Lane Length, L_A: 0	L_{down} = ft
V_u = 64 veh/h	Deceleration Lane Length L_D	V_D = veh/h
	Freeway Volume, V_F: 3282	
	Ramp Volume, V_R: 466	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3282	0.92	Level	8	0	0.962	1.00	3710
Ramp	466	0.92	Level	20	0	0.909	1.00	557
UpStream	64	0.92	Level	30	0	0.870	1.00	80
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 2143 pc/h

V_3 or V_{av34} = 1567 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2143 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4267	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2700	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 26.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.379 (Exibit 13-11)

S_R = 59.4 mph (Exhibit 13-11)

S_0 = 66.2 mph (Exhibit 13-11)

S = 61.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2020 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 309 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4787	
	Ramp Volume, V_R: 718	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4787	0.92	Level	7	0	0.966	1.00	5385
Ramp	718	0.92	Level	18	0	0.917	1.00	851
UpStream	309	0.92	Level	18	0	0.917	1.00	366
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1419.10 (Equation 13-6 or 13-7)

P_{FM} = 0.584 using Equation (Exhibit 13-6)

V_{12} = 3146 pc/h

V_3 or V_{av34} = 2239 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3146 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6236	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3997	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 34.4 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.506 (Exibit 13-11)

S_R = 55.8 mph (Exhibit 13-11)

S_0 = 63.7 mph (Exhibit 13-11)

S = 58.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2020 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	5096
Ramp Volume, V_R	309
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1395 ft
V_D = 718 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5096	0.92	Level	8	0	0.962	1.00	5761
Ramp	309	0.92	Level	18	0	0.917	1.00	366
UpStream								
DownStream	718	0.92	Level	18	0	0.917	1.00	851

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.599 using Equation (Exhibit 13-7)
V_{12} = 3598 pc/h
V_3 or V_{av34} 2163 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5761	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5395	Exhibit 13-8	7200	No
V_R	366	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3598	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 32.7 (pc/mi/ln)
LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.331 (Exhibit 13-12)
S_R = 60.7 mph (Exhibit 13-12)
S_0 = 72.3 mph (Exhibit 13-12)
S = 64.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off; L_{up} = 1000 ft; V_u = 227 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6751
Ramp Volume, V_R	899
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{down} = ft; V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6751	0.92	Level	6	0	0.971	1.00	7558
Ramp	899	0.92	Level	11	0	0.948	1.00	1031
UpStream	227	0.92	Level	12	0	0.943	1.00	262
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3877 pc/h

V_3 or V_{av34} 1840 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7558	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	6527	Exhibit 13-8	9600	No
V_R	1031	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3877	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 37.6 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.781 (Exhibit 13-12)

S_R = 48.1 mph (Exhibit 13-12)

S_0 = 73.5 mph (Exhibit 13-12)

S = 57.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2020 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6751
Ramp Volume, V_R	899
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1500 ft
V_D = 1564 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6751	0.92	Level	6	0	0.971	1.00	7558
Ramp	899	0.92	Level	11	0	0.948	1.00	1031
UpStream								
DownStream	1564	0.92	Level	6	0	0.971	1.00	1751

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.436 using Equation (Exhibit 13-7)
V_{12} = 3877 pc/h
V_3 or V_{av34} 1840 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7558	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	6527	Exhibit 13-8	9600	No
V_R	1031	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3877	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 37.6 (pc/mi/ln)
LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.781 (Exhibit 13-12)
S_R = 48.1 mph (Exhibit 13-12)
S_0 = 73.5 mph (Exhibit 13-12)
S = 57.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2020 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	5326
Ramp Volume, V_R	869
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1420 ft; V_D = 425 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5326	0.92	Level	10	0	0.952	1.00	6079
Ramp	869	0.92	Level	20	0	0.909	1.00	1039
UpStream								
DownStream	425	0.92	Level	22	0	0.901	1.00	513

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.560 using Equation (Exhibit 13-7)

V_{12} = 3863 pc/h

V_3 or V_{av34} 2216 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6079	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5040	Exhibit 13-8	7200	No
V_R	1039	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3863	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 35.7 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.392 (Exhibit 13-12)

S_R = 59.0 mph (Exhibit 13-12)

S_0 = 72.0 mph (Exhibit 13-12)

S = 63.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2020 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 869 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4457	
	Ramp Volume, V_R: 425	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4457	0.92	Level	7	0	0.966	1.00	5014
Ramp	425	0.92	Level	22	0	0.901	1.00	513
UpStream	869	0.92	Level	20	0	0.909	1.00	1039
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1249.62 (Equation 13-6 or 13-7)

P_{FM} = 0.585 using Equation (Exhibit 13-6)

V_{12} = 2932 pc/h

V_3 or V_{av34} = 2082 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2932 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5527	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3445	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 30.5 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.420 (Exibit 13-11)

S_R = 58.2 mph (Exhibit 13-11)

S_0 = 64.3 mph (Exhibit 13-11)

S = 60.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2020 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1075 ft	Acceleration Lane Length, L_A: 0	L_{down} = ft
V_u = 374 veh/h	Deceleration Lane Length L_D	V_D = veh/h
	Freeway Volume, V_F: 3289	
	Ramp Volume, V_R: 889	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3289	0.92	Level	8	0	0.962	1.00	3718
Ramp	889	0.92	Level	23	0	0.897	1.00	1077
UpStream	374	0.92	Level	13	0	0.939	1.00	433
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 2147 pc/h

V_3 or V_{av34} = 1571 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2147 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4795	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3224	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 30.1 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.419 (Exibit 13-11)

S_R = 58.3 mph (Exhibit 13-11)

S_0 = 66.1 mph (Exhibit 13-11)

S = 60.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2020 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 208 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3273	
	Ramp Volume, V_R: 1337	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3273	0.92	Level	5	0	0.976	1.00	3647
Ramp	1337	0.92	Level	22	0	0.901	1.00	1613
UpStream	208	0.92	Level	15	0	0.930	1.00	243
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1210.24 (Equation 13-6 or 13-7)

P_{FM} = 0.586 using Equation (Exhibit 13-6)

V_{12} = 2137 pc/h

V_3 or V_{av34} = 1510 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2137 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5260	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3750	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 32.1 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.460 (Exibit 13-11)

S_R = 57.1 mph (Exhibit 13-11)

S_0 = 66.4 mph (Exhibit 13-11)

S = 59.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2020 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	3481
Ramp Volume, V_R	208
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1395 ft; V_D = 1337 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3481	0.92	Level	6	0	0.971	1.00	3897
Ramp	208	0.92	Level	15	0	0.930	1.00	243
UpStream								
DownStream	1337	0.92	Level	22	0	0.901	1.00	1613

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.651 using Equation (Exhibit 13-7)

V_{12} = 2623 pc/h

V_3 or V_{av34} 1274 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3897	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3654	Exhibit 13-8	7200	No
V_R	243	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2623	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 24.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.320 (Exhibit 13-12)

S_R = 61.0 mph (Exhibit 13-12)

S_0 = 75.7 mph (Exhibit 13-12)

S = 65.2 mph (Exhibit 13-13)

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APPENDIX 6.10:

OPENING YEAR CUMULATIVE (2020) WITH PROJECT CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off; L_{up} = 1000 ft; V_u = 445 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6527
Ramp Volume, V_R	940
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{down} = ft; V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6527	0.92	Level	9	0	0.957	1.00	7414
Ramp	940	0.92	Level	27	0	0.881	1.00	1160
UpStream	445	0.92	Level	13	0	0.939	1.00	515
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3887 pc/h

V_3 or V_{av34} 1763 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7414	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	6254	Exhibit 13-8	9600	No
V_R	1160	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3887	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 37.7 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.792 (Exhibit 13-12)

S_R = 47.8 mph (Exhibit 13-12)

S_0 = 73.8 mph (Exhibit 13-12)

S = 57.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6527
Ramp Volume, V_R	940
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1500 ft; V_D = 663 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6527	0.92	Level	9	0	0.957	1.00	7414
Ramp	940	0.92	Level	27	0	0.881	1.00	1160
UpStream								
DownStream	663	0.92	Level	7	0	0.966	1.00	746

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3887 pc/h

V_3 or V_{av34} 1763 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7414	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	6254	Exhibit 13-8	9600	No
V_R	1160	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3887	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 37.7 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.792 (Exhibit 13-12)

S_R = 47.8 mph (Exhibit 13-12)

S_0 = 73.8 mph (Exhibit 13-12)

S = 57.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2020 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	3859
Ramp Volume, V_R	1210
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1420 ft
V_D = 209 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3859	0.92	Level	12	0	0.943	1.00	4446
Ramp	1210	0.92	Level	26	0	0.885	1.00	1486
UpStream								
DownStream	209	0.92	Level	28	0	0.877	1.00	259

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.580 using Equation (Exhibit 13-7)
V_{12} = 3204 pc/h
V_3 or V_{av34} 1242 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4446	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2960	Exhibit 13-8	7200	No
V_R	1486	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3204	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 30.1 (pc/mi/ln)
LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.432 (Exhibit 13-12)
S_R = 57.9 mph (Exhibit 13-12)
S_0 = 75.8 mph (Exhibit 13-12)
S = 62.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2020 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 1210 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2649	
	Ramp Volume, V_R: 209	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2649	0.92	Level	5	0	0.976	1.00	2951
Ramp	209	0.92	Level	28	0	0.877	1.00	259
UpStream	1210	0.92	Level	26	0	0.885	1.00	1486
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 753.78 (Equation 13-6 or 13-7)

P_{FM} = 0.585 using Equation (Exhibit 13-6)

V_{12} = 1726 pc/h

V_3 or V_{av34} 1225 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1726 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3210	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1985	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 19.2 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.326 (Exibit 13-11)

S_R = 60.9 mph (Exhibit 13-11)

S_0 = 67.4 mph (Exhibit 13-11)

S = 63.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2020 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1075 ft
V_u = 64 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	0
Deceleration Lane Length L_D	
Freeway Volume, V_F	3292
Ramp Volume, V_R	493
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3292	0.92	Level	8	0	0.962	1.00	3721
Ramp	493	0.92	Level	22	0	0.901	1.00	595
UpStream	64	0.92	Level	30	0	0.870	1.00	80
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = 0.577 using Equation (Exhibit 13-6)
V_{12} = 2149 pc/h
V_3 or V_{av34} = 1572 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 2149 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4316	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2744	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 26.6 (pc/mi/ln)
LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.382 (Exibit 13-11)
S_R = 59.3 mph (Exhibit 13-11)
S_0 = 66.1 mph (Exhibit 13-11)
S = 61.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = using Equation (Exhibit 13-7)
V_{12} = pc/h
V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)
S_R = mph (Exhibit 13-12)
S_0 = mph (Exhibit 13-12)
S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2020 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 371 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4787	
	Ramp Volume, V_R: 728	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4787	0.92	Level	7	0	0.966	1.00	5385
Ramp	728	0.92	Level	18	0	0.917	1.00	863
UpStream	371	0.92	Level	19	0	0.913	1.00	442
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1421.67 (Equation 13-6 or 13-7)

P_{FM} = 0.584 using Equation (Exhibit 13-6)

V_{12} = 3145 pc/h

V_3 or V_{av34} = 2240 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3145 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6248	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4008	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 34.5 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.509 (Exibit 13-11)

S_R = 55.8 mph (Exhibit 13-11)

S_0 = 63.7 mph (Exhibit 13-11)

S = 58.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2020 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	5158
Ramp Volume, V_R	371
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1395 ft; V_D = 728 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5158	0.92	Level	8	0	0.962	1.00	5831
Ramp	371	0.92	Level	19	0	0.913	1.00	442
UpStream								
DownStream	728	0.92	Level	18	0	0.917	1.00	863

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.594 using Equation (Exhibit 13-7)

V_{12} = 3642 pc/h

V_3 or V_{av34} 2189 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5831	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5389	Exhibit 13-8	7200	No
V_R	442	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3642	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 33.1 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.338 (Exhibit 13-12)

S_R = 60.5 mph (Exhibit 13-12)

S_0 = 72.2 mph (Exhibit 13-12)

S = 64.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2020 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off

L_{up} = 1000 ft

V_u = 227 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6792
Ramp Volume, V_R	929
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6792	0.92	Level	6	0	0.971	1.00	7604
Ramp	929	0.92	Level	13	0	0.939	1.00	1075
UpStream	227	0.92	Level	12	0	0.943	1.00	262
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3922 pc/h

V_3 or V_{av34} 1841 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7604	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	6529	Exhibit 13-8	9600	No
V_R	1075	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3922	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 38.0 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.785 (Exhibit 13-12)

S_R = 48.0 mph (Exhibit 13-12)

S_0 = 73.5 mph (Exhibit 13-12)

S = 57.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2020 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6792
Ramp Volume, V_R	929
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1500 ft

V_D = 1564 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6792	0.92	Level	6	0	0.971	1.00	7604
Ramp	929	0.92	Level	13	0	0.939	1.00	1075
UpStream								
DownStream	1564	0.92	Level	6	0	0.971	1.00	1751

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3922 pc/h

V_3 or V_{av34} 1841 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7604	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	6529	Exhibit 13-8	9600	No
V_R	1075	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3922	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 38.0 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.785 (Exhibit 13-12)

S_R = 48.0 mph (Exhibit 13-12)

S_0 = 73.5 mph (Exhibit 13-12)

S = 57.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2020 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	5337
Ramp Volume, V_R	880
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1420 ft; V_D = 499 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5337	0.92	Level	10	0	0.952	1.00	6091
Ramp	880	0.92	Level	20	0	0.909	1.00	1052
UpStream								
DownStream	499	0.92	Level	24	0	0.893	1.00	607

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.559 using Equation (Exhibit 13-7)

V_{12} = 3870 pc/h

V_3 or V_{av34} 2221 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6091	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5039	Exhibit 13-8	7200	No
V_R	1052	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3870	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 35.8 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.393 (Exhibit 13-12)

S_R = 59.0 mph (Exhibit 13-12)

S_0 = 72.0 mph (Exhibit 13-12)

S = 63.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2020 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 880 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4457	
	Ramp Volume, V_R: 499	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4457	0.92	Level	7	0	0.966	1.00	5014
Ramp	499	0.92	Level	24	0	0.893	1.00	607
UpStream	880	0.92	Level	20	0	0.909	1.00	1052
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1269.73 (Equation 13-6 or 13-7)

P_{FM} = 0.585 using Equation (Exhibit 13-6)

V_{12} = 2932 pc/h

V_3 or V_{av34} = 2082 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2932 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5621	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3539	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 31.2 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.432 (Exibit 13-11)

S_R = 57.9 mph (Exhibit 13-11)

S_0 = 64.3 mph (Exhibit 13-11)

S = 60.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2020 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1075 ft
V_u = 374 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	0
Deceleration Lane Length L_D	
Freeway Volume, V_F	3338
Ramp Volume, V_R	1020
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3338	0.92	Level	9	0	0.957	1.00	3792
Ramp	1020	0.92	Level	26	0	0.885	1.00	1253
UpStream	374	0.92	Level	13	0	0.939	1.00	433
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = 0.577 using Equation (Exhibit 13-6)
V_{12} = 2190 pc/h
V_3 or V_{av34} = 1602 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 2190 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5045	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3443	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 31.8 (pc/mi/ln)
LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.443 (Exibit 13-11)
S_R = 57.6 mph (Exhibit 13-11)
S_0 = 66.0 mph (Exhibit 13-11)
S = 60.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = using Equation (Exhibit 13-7)
V_{12} = pc/h
V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)
S_R = mph (Exhibit 13-12)
S_0 = mph (Exhibit 13-12)
S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2020 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 223 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3274	
	Ramp Volume, V_R: 1386	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3274	0.92	Level	5	0	0.976	1.00	3648
Ramp	1386	0.92	Level	23	0	0.897	1.00	1680
UpStream	223	0.92	Level	16	0	0.926	1.00	262
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1224.79 (Equation 13-6 or 13-7)

P_{FM} = 0.586 using Equation (Exhibit 13-6)

V_{12} = 2137 pc/h

V_3 or V_{av34} = 1511 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2137 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5328	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3817	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 32.6 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.471 (Exibit 13-11)

S_R = 56.8 mph (Exhibit 13-11)

S_0 = 66.4 mph (Exhibit 13-11)

S = 59.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2020 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	3496
Ramp Volume, V_R	223
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1395 ft
V_D = 1386 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3496	0.92	Level	6	0	0.971	1.00	3914
Ramp	223	0.92	Level	16	0	0.926	1.00	262
UpStream								
DownStream	1386	0.92	Level	23	0	0.897	1.00	1680

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.650 using Equation (Exhibit 13-7)
V_{12} = 2636 pc/h
V_3 or V_{av34} 1278 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3914	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3652	Exhibit 13-8	7200	No
V_R	262	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2636	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 24.4 (pc/mi/ln)
LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.322 (Exhibit 13-12)
S_R = 61.0 mph (Exhibit 13-12)
S_0 = 75.7 mph (Exhibit 13-12)
S = 65.1 mph (Exhibit 13-13)

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APPENDIX 6.11:

OPENING YEAR CUMULATIVE (2020) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	579	124	580	2468	0	0	0	0	0	0	537
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5	4.0	5.5							5.6
Lane Util. Factor		*1.00	1.00	*1.00	*1.00							*1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00							0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00							1.00
Frt		1.00	1.00	1.00	1.00							1.00
Flt Protected		1.00	1.00	1.00	1.00							1.00
Satd. Flow (prot)		3800	1900	3800	3800							3707
Flt Permitted		1.00	1.00	1.00	1.00							1.00
Satd. Flow (perm)		3800	1900	3800	3800							3707
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	609	131	611	2598	0	0	0	0	0	0	565
RTOR Reduction (vph)	0	0	63	0	0	0	0	0	0	0	0	49
Lane Group Flow (vph)	0	609	68	611	2598	0	0	0	0	0	0	516
Confl. Bikes (#/hr)									2			2
Turn Type		NA	Perm	Prot	NA							Perm
Protected Phases		2		1	6							
Permitted Phases			2									4
Actuated Green, G (s)		62.0	62.0	23.2	89.2							19.7
Effective Green, g (s)		62.0	62.0	23.2	89.2							19.7
Actuated g/C Ratio		0.52	0.52	0.19	0.74							0.16
Clearance Time (s)		5.5	5.5	4.0	5.5							5.6
Vehicle Extension (s)		2.0	2.0	2.0	2.0							2.0
Lane Grp Cap (vph)		1963	981	734	2824							608
v/s Ratio Prot		0.16		0.16	c0.68							
v/s Ratio Perm			0.04									c0.14
v/c Ratio		0.31	0.07	0.83	0.92							0.85
Uniform Delay, d1		16.7	14.5	46.5	12.5							48.7
Progression Factor		1.00	1.00	0.94	1.32							1.00
Incremental Delay, d2		0.4	0.1	7.4	6.1							10.2
Delay (s)		17.1	14.7	51.2	22.6							58.9
Level of Service		B	B	D	C							E
Approach Delay (s)		16.7			28.0			0.0			58.9	
Approach LOS		B			C			A			E	

Intersection Summary			
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	524	43	230	288	0	0	0	0	1476	2	386
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	557	41	245	306	0				1570	2	347
Adj No. of Lanes	0	2	1	2	2	0				2	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	988	420	316	1557	0				1683	4	748
Arrive On Green	0.00	0.26	0.26	0.09	0.41	0.00				0.47	0.47	0.47
Sat Flow, veh/h	0	3800	1615	3619	3800	0				3619	9	1607
Grp Volume(v), veh/h	0	557	41	245	306	0				1570	0	349
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1616
Q Serve(g_s), s	0.0	10.2	1.5	5.3	4.1	0.0				32.8	0.0	11.8
Cycle Q Clear(g_c), s	0.0	10.2	1.5	5.3	4.1	0.0				32.8	0.0	11.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.99
Lane Grp Cap(c), veh/h	0	988	420	316	1557	0				1683	0	752
V/C Ratio(X)	0.00	0.56	0.10	0.78	0.20	0.00				0.93	0.00	0.46
Avail Cap(c_a), veh/h	0	988	420	316	1557	0				1719	0	768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.97	0.97	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	25.7	22.5	35.7	15.2	0.0				20.2	0.0	14.6
Incr Delay (d2), s/veh	0.0	2.3	0.5	10.2	0.3	0.0				9.7	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.7	0.7	3.1	2.2	0.0				18.4	0.0	5.3
LnGrp Delay(d),s/veh	0.0	28.0	22.9	45.9	15.4	0.0				29.9	0.0	15.0
LnGrp LOS		C	C	D	B					C		B
Approach Vol, veh/h		598			551						1919	
Approach Delay, s/veh		27.6			29.0						27.2	
Approach LOS		C			C						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	12.0	25.8		42.2		37.8		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	6.7	* 21		38.0		32.0		
Max Q Clear Time (g_c+I1), s	7.3	12.2		34.8		6.1		
Green Ext Time (p_c), s	0.0	1.6		2.4		1.5		

Intersection Summary	
HCM 2010 Ctrl Delay	27.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

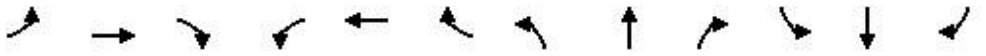
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	39	1372	101	0	2643	247	878	345	36	52	0	73
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, 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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	40	1400	97	0	2697	208	896	352	37	53	0	69
Adj No. of Lanes	1	3	0	0	3	0	2	1	0	1	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	80	3399	236	0	3378	254	825	537	56	139	0	247
Arrive On Green	0.21	0.21	0.21	0.00	0.65	0.65	0.23	0.32	0.32	0.08	0.00	0.16
Sat Flow, veh/h	89	5270	365	0	5237	393	3510	1688	177	1810	0	1591
Grp Volume(v), veh/h	40	1009	488	0	1937	968	896	0	389	53	0	69
Grp Sat Flow(s),veh/h/ln	89	1900	1836	0	1900	1831	1755	0	1866	1810	0	1591
Q Serve(g_s), s	27.7	27.5	27.5	0.0	44.3	47.8	28.2	0.0	21.5	3.3	0.0	4.6
Cycle Q Clear(g_c), s	77.4	27.5	27.5	0.0	44.3	47.8	28.2	0.0	21.5	3.3	0.0	4.6
Prop In Lane	1.00		0.20	0.00		0.21	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	80	2451	1184	0	2451	1181	825	0	594	139	0	247
V/C Ratio(X)	0.50	0.41	0.41	0.00	0.79	0.82	1.09	0.00	0.65	0.38	0.00	0.28
Avail Cap(c_a), veh/h	80	2451	1184	0	2451	1181	825	0	594	139	0	247
HCM Platoon Ratio	0.33	0.33	0.33	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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	78.9	27.6	27.6	0.0	15.4	16.0	45.9	0.0	35.2	52.7	0.0	44.8
Incr Delay (d2), s/veh	20.3	0.5	1.1	0.0	2.7	6.4	57.3	0.0	5.6	0.6	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	14.7	14.4	0.0	23.8	26.0	20.2	0.0	12.0	1.7	0.0	2.2
LnGrp Delay(d),s/veh	99.2	28.1	28.7	0.0	18.1	22.5	103.2	0.0	40.8	53.3	0.0	47.6
LnGrp LOS	F	C	C		B	C	F		D	D		D
Approach Vol, veh/h		1537			2905			1285			122	
Approach Delay, s/veh		30.1			19.6			84.3			50.1	
Approach LOS		C			B			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		83.0	33.8	24.2		83.0	14.8	43.2
Change Period (Y+Rc), s		5.0	5.6	* 5.6		5.0	5.6	5.0
Max Green Setting (Gmax), s		57.6	28.2	* 19		57.6	8.6	38.2
Max Q Clear Time (g_c+I1), s		79.4	30.2	6.6		49.8	5.3	23.5
Green Ext Time (p_c), s		0.0	0.0	0.2		7.6	0.1	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	37.2
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	314	1685	0	0	432	632	84	0	312	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	341	1832	0	0	470	0	91	0	253			
Adj No. of Lanes	2	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	549	2477	0	0	1742	740	528	0	471			
Arrive On Green	0.15	0.65	0.00	0.00	0.46	0.00	0.29	0.00	0.29			
Sat Flow, veh/h	3619	3800	0	0	3800	1615	1810	0	1615			
Grp Volume(v), veh/h	341	1832	0	0	470	0	91	0	253			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1810	0	1615			
Q Serve(g_s), s	10.6	38.9	0.0	0.0	9.2	0.0	4.5	0.0	15.8			
Cycle Q Clear(g_c), s	10.6	38.9	0.0	0.0	9.2	0.0	4.5	0.0	15.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	549	2477	0	0	1742	740	528	0	471			
V/C Ratio(X)	0.62	0.74	0.00	0.00	0.27	0.00	0.17	0.00	0.54			
Avail Cap(c_a), veh/h	549	2477	0	0	1742	740	528	0	471			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.51	0.51	0.00	0.00	0.73	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	47.7	14.0	0.0	0.0	20.1	0.0	31.7	0.0	35.7			
Incr Delay (d2), s/veh	0.8	1.0	0.0	0.0	0.3	0.0	0.7	0.0	4.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.4	20.5	0.0	0.0	4.9	0.0	2.4	0.0	7.6			
LnGrp Delay(d),s/veh	48.5	15.1	0.0	0.0	20.4	0.0	32.4	0.0	40.0			
LnGrp LOS	D	B			C		C		D			
Approach Vol, veh/h		2173			470			344				
Approach Delay, s/veh		20.3			20.4			38.0				
Approach LOS		C			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		83.3			23.3	60.0		40.0
Change Period (Y+Rc), s		5.0			5.0	* 5		5.0
Max Green Setting (Gmax), s		75.0			16.5	* 55		35.0
Max Q Clear Time (g_c+I1), s		40.9			12.6	11.2		17.8
Green Ext Time (p_c), s		13.0			2.5	1.9		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	22.4
HCM 2010 LOS	C

Notes

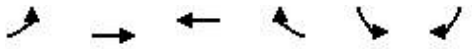
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	2103	256	115	2554	118	59	245	23	109	128	130
Future Volume (veh/h)	220	2103	256	115	2554	118	59	245	23	109	128	130
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		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	232	2214	0	121	2688	116	62	258	3	115	135	84
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	188	2584	732	536	3725	1056	77	461	5	98	489	579
Arrive On Green	0.10	0.45	0.00	0.30	0.65	0.65	0.04	0.25	0.25	0.05	0.26	0.26
Sat Flow, veh/h	1810	5700	1615	1810	5700	1615	1810	1874	22	1810	1900	1594
Grp Volume(v), veh/h	232	2214	0	121	2688	116	62	0	261	115	135	84
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1896	1810	1900	1594
Q Serve(g_s), s	12.5	41.7	0.0	6.1	37.1	3.2	4.1	0.0	14.4	6.5	6.8	4.3
Cycle Q Clear(g_c), s	12.5	41.7	0.0	6.1	37.1	3.2	4.1	0.0	14.4	6.5	6.8	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	188	2584	732	536	3725	1056	77	0	466	98	489	579
V/C Ratio(X)	1.23	0.86	0.00	0.23	0.72	0.11	0.81	0.00	0.56	1.17	0.28	0.15
Avail Cap(c_a), veh/h	188	2584	732	536	3725	1056	77	0	466	98	489	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	29.3	0.0	31.9	13.6	7.8	57.0	0.0	39.6	56.8	35.6	25.8
Incr Delay (d2), s/veh	141.3	3.9	0.0	0.1	0.6	0.0	58.3	0.0	4.8	144.9	0.1	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	13.6	22.7	0.0	3.0	19.4	1.4	3.3	0.0	8.2	7.2	3.6	1.9
LnGrp Delay(d),s/veh	195.1	33.2	0.0	31.9	14.2	7.8	115.3	0.0	44.4	201.6	35.7	25.9
LnGrp LOS	F	C		C	B	A	F		D	F	D	C
Approach Vol, veh/h		2446			2925			323			334	
Approach Delay, s/veh		48.6			14.7			58.0			90.4	
Approach LOS		D			B			E			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	41.4	59.9	10.6	36.4	17.0	84.3	12.0	35.0
Change Period (Y+Rc), s	5.5	* 5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	8.6	* 54	5.1	30.9	12.5	50.5	6.5	29.5
Max Q Clear Time (g_c+I1), s	8.1	43.7	6.1	8.8	14.5	39.1	8.5	16.4
Green Ext Time (p_c), s	0.0	7.3	0.0	1.6	0.0	9.2	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	35.0
HCM 2010 LOS	C

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	62	1936	1021	39	9	44
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	69	2151	1134	43	10	49
Adj No. of Lanes	1	2	2	1	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	89	2196	1818	765	82	404
Arrive On Green	0.05	0.58	0.48	0.48	0.30	0.30
Sat Flow, veh/h	1810	3800	3800	1600	275	1346
Grp Volume(v), veh/h	69	2151	1134	43	60	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1600	1649	0
Q Serve(g_s), s	3.4	49.6	20.0	1.3	2.4	0.0
Cycle Q Clear(g_c), s	3.4	49.6	20.0	1.3	2.4	0.0
Prop In Lane	1.00			1.00	0.17	0.82
Lane Grp Cap(c), veh/h	89	2196	1818	765	495	0
V/C Ratio(X)	0.77	0.98	0.62	0.06	0.12	0.00
Avail Cap(c_a), veh/h	171	2196	1818	765	495	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.59	0.59	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.3	18.5	17.5	12.6	22.9	0.0
Incr Delay (d2), s/veh	3.2	10.8	1.6	0.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	29.0	10.8	0.6	1.2	0.0
LnGrp Delay(d),s/veh	45.4	29.3	19.1	12.7	23.4	0.0
LnGrp LOS	D	C	B	B	C	
Approach Vol, veh/h		2220	1177		60	
Approach Delay, s/veh		29.8	18.8		23.4	
Approach LOS		C	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		57.5		32.5	8.9	48.6		
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		
Max Green Setting (Gmax), s		52.0		27.0	8.5	39.0		
Max Q Clear Time (g_c+I1), s		51.6		4.4	5.4	22.0		
Green Ext Time (p_c), s		0.4		0.1	0.0	14.2		

Intersection Summary	
HCM 2010 Ctrl Delay	25.9
HCM 2010 LOS	C

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)	151	1682	271	32	2493	126	211	91	24	94	95	121
Future Volume (veh/h)	151	1682	271	32	2493	126	211	91	24	94	95	121
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		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	162	1809	0	34	2681	133	227	98	23	101	102	95
Adj No. of Lanes	1	3	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	4498	1274	43	4115	201	236	735	167	115	892	454
Arrive On Green	0.05	0.79	0.00	0.02	0.76	0.76	0.07	0.25	0.25	0.06	0.23	0.23
Sat Flow, veh/h	1810	5700	1615	1810	5390	263	3619	2997	681	1810	3800	1593
Grp Volume(v), veh/h	162	1809	0	34	1878	936	227	61	60	101	102	95
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1854	1810	1900	1778	1810	1900	1593
Q Serve(g_s), s	5.7	11.3	0.0	2.1	26.6	27.7	7.2	2.9	3.0	6.4	2.4	5.9
Cycle Q Clear(g_c), s	5.7	11.3	0.0	2.1	26.6	27.7	7.2	2.9	3.0	6.4	2.4	5.9
Prop In Lane	1.00		1.00	1.00		0.14	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	90	4498	1274	43	2901	1415	236	466	436	115	892	454
V/C Ratio(X)	1.81	0.40	0.00	0.79	0.65	0.66	0.96	0.13	0.14	0.88	0.11	0.21
Avail Cap(c_a), veh/h	90	4498	1274	96	2901	1415	236	466	436	115	892	454
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)	0.88	0.88	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	3.7	0.0	55.8	6.4	6.5	53.6	33.8	33.9	53.4	34.6	41.0
Incr Delay (d2), s/veh	398.9	0.2	0.0	1.1	0.1	0.2	47.5	0.6	0.7	47.4	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.8	6.0	0.0	1.1	13.6	13.9	5.1	1.6	1.6	4.7	1.3	2.7
LnGrp Delay(d),s/veh	453.6	4.0	0.0	56.9	6.5	6.7	101.1	34.4	34.6	100.8	34.9	42.1
LnGrp LOS	F	A		E	A	A	F	C	C	F	C	D
Approach Vol, veh/h		1971			2848			348			298	
Approach Delay, s/veh		40.9			7.1			77.9			59.5	
Approach LOS		D			A			E			E	

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	7.3	97.2	13.0	32.5	10.2	94.3	11.8	33.7
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	6.1	54.4	7.5	* 27	5.7	54.8	7.3	27.2
Max Q Clear Time (g_c+I1), s	4.1	13.3	9.2	7.9	7.7	29.7	8.4	5.0
Green Ext Time (p_c), s	0.0	35.5	0.0	0.4	0.0	22.8	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	84	1821	23	7	937	2	133	0	20	0	2	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	88	1917	24	7	986	2	140	0	21	0	2	21
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	0	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	113	2032	864	13	1821	774	427	5	54	0	543	462
Arrive On Green	0.06	0.53	0.53	0.01	0.48	0.48	0.29	0.00	0.29	0.00	0.29	0.29
Sat Flow, veh/h	1810	3800	1615	1810	3800	1615	1232	19	188	0	1900	1615
Grp Volume(v), veh/h	88	1917	24	7	986	2	161	0	0	0	2	21
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1439	0	0	0	1900	1615
Q Serve(g_s), s	4.3	42.6	0.6	0.3	16.4	0.1	7.7	0.0	0.0	0.0	0.1	0.8
Cycle Q Clear(g_c), s	4.3	42.6	0.6	0.3	16.4	0.1	8.0	0.0	0.0	0.0	0.1	0.8
Prop In Lane	1.00		1.00	1.00		1.00	0.87		0.13	0.00		1.00
Lane Grp Cap(c), veh/h	113	2032	864	13	1821	774	486	0	0	0	543	462
V/C Ratio(X)	0.78	0.94	0.03	0.54	0.54	0.00	0.33	0.00	0.00	0.00	0.00	0.05
Avail Cap(c_a), veh/h	189	2048	870	80	1821	774	486	0	0	0	543	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	19.7	9.9	44.5	16.5	12.2	25.8	0.0	0.0	0.0	23.0	23.2
Incr Delay (d2), s/veh	4.3	9.5	0.0	12.5	0.2	0.0	1.8	0.0	0.0	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	24.8	0.3	0.2	8.5	0.0	3.5	0.0	0.0	0.0	0.0	0.4
LnGrp Delay(d),s/veh	45.8	29.2	9.9	57.0	16.7	12.2	27.6	0.0	0.0	0.0	23.0	23.4
LnGrp LOS	D	C	A	E	B	B	C				C	C
Approach Vol, veh/h		2029			995			161			23	
Approach Delay, s/veh		29.7			16.9			27.6			23.4	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		31.2	5.1	53.6		31.2	10.1	48.6
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	48.5		22.0	9.4	43.1
Max Q Clear Time (g_c+I1), s		10.0	2.3	44.6		2.8	6.3	18.4
Green Ext Time (p_c), s		0.5	0.0	3.5		0.6	0.0	17.3

Intersection Summary	
HCM 2010 Ctrl Delay	25.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1011	509	14	1795	147	883	601	15	72	393	67
Future Volume (veh/h)	140	1011	509	14	1795	147	883	601	15	72	393	67
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	152	1099	476	15	1951	151	960	653	14	78	427	57
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	128	2531	1431	24	2121	162	799	1417	30	100	685	91
Arrive On Green	0.07	0.67	0.67	0.01	0.61	0.61	0.22	0.38	0.38	0.06	0.21	0.21
Sat Flow, veh/h	1810	3800	1613	1810	3487	266	3619	3705	79	1810	3286	436
Grp Volume(v), veh/h	152	1099	476	15	1051	1051	960	335	332	78	246	238
Grp Sat Flow(s),veh/h/ln	1810	1900	1613	1810	1900	1853	1810	1900	1884	1810	1900	1822
Q Serve(g_s), s	8.5	16.3	2.5	1.0	58.2	61.6	26.5	15.8	15.9	5.1	14.1	14.3
Cycle Q Clear(g_c), s	8.5	16.3	2.5	1.0	58.2	61.6	26.5	15.8	15.9	5.1	14.1	14.3
Prop In Lane	1.00		1.00	1.00		0.14	1.00		0.04	1.00		0.24
Lane Grp Cap(c), veh/h	128	2531	1431	24	1156	1127	799	727	721	100	396	379
V/C Ratio(X)	1.19	0.43	0.33	0.63	0.91	0.93	1.20	0.46	0.46	0.78	0.62	0.63
Avail Cap(c_a), veh/h	128	2531	1431	134	1156	1127	799	727	721	167	396	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)	0.73	0.73	0.73	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	9.4	5.7	58.9	20.6	21.3	46.8	27.8	27.8	56.0	43.2	43.3
Incr Delay (d2), s/veh	126.9	0.4	0.5	9.9	12.1	14.8	101.2	1.9	1.9	5.0	7.2	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	8.7	1.2	0.6	33.9	35.9	24.4	8.7	8.6	2.7	8.2	8.0
LnGrp Delay(d),s/veh	182.6	9.8	6.2	68.8	32.7	36.1	148.0	29.6	29.7	61.0	50.3	50.9
LnGrp LOS	F	A	A	E	C	D	F	C	C	E	D	D
Approach Vol, veh/h		1727			2117			1627			562	
Approach Delay, s/veh		24.0			34.6			99.5			52.1	
Approach LOS		C			C			F			D	

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	6.1	86.4	32.0	30.5	13.0	79.5	11.1	51.4
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	8.9	39.6	26.5	* 25	8.5	40.0	11.1	40.4
Max Q Clear Time (g_c+I1), s	3.0	18.3	28.5	16.3	10.5	63.6	7.1	17.9
Green Ext Time (p_c), s	0.0	16.9	0.0	1.1	0.0	0.0	0.0	4.4

Intersection Summary	
HCM 2010 Ctrl Delay	50.7
HCM 2010 LOS	D

Notes



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	4	110	723	3	67	528
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	4	116	761	3	71	556
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	162	145	1329	1129	90	1519
Arrive On Green	0.09	0.09	0.70	0.70	0.05	0.80
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	4	116	761	3	71	556
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.2	6.3	18.1	0.1	3.5	7.5
Cycle Q Clear(g_c), s	0.2	6.3	18.1	0.1	3.5	7.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	162	145	1329	1129	90	1519
V/C Ratio(X)	0.02	0.80	0.57	0.00	0.78	0.37
Avail Cap(c_a), veh/h	523	467	1329	1129	90	1519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.92	0.92	1.00	1.00
Uniform Delay (d), s/veh	37.4	40.2	6.8	4.1	42.3	2.6
Incr Delay (d2), s/veh	0.0	3.9	1.7	0.0	32.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.0	9.9	0.0	2.6	4.1
LnGrp Delay(d),s/veh	37.4	44.0	8.4	4.1	75.0	3.2
LnGrp LOS	D	D	A	A	E	A
Approach Vol, veh/h	120		764			627
Approach Delay, s/veh	43.8		8.4			11.4
Approach LOS	D		A			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.0	68.4				77.4		12.6
Change Period (Y+Rc), s	4.5	5.5				5.5		4.5
Max Green Setting (Gmax), s	4.5	45.0				54.0		26.0
Max Q Clear Time (g_c+I1), s	15.5	20.1				9.5		8.3
Green Ext Time (p_c), s	0.0	5.2				5.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.5
HCM 2010 LOS	B



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	340	473	304	212	271	307
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	362	503	323	226	288	327
Adj No. of Lanes	1	1	2	0	2	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	423	721	684	468	770	2236
Arrive On Green	0.23	0.23	0.33	0.33	0.21	0.62
Sat Flow, veh/h	1810	1615	2147	1405	3619	3705
Grp Volume(v), veh/h	362	503	283	266	288	327
Grp Sat Flow(s),veh/h/ln	1810	1615	1805	1652	1810	1805
Q Serve(g_s), s	14.4	2.8	9.3	9.6	5.1	2.8
Cycle Q Clear(g_c), s	14.4	2.8	9.3	9.6	5.1	2.8
Prop In Lane	1.00	1.00		0.85	1.00	
Lane Grp Cap(c), veh/h	423	721	602	551	770	2236
V/C Ratio(X)	0.85	0.70	0.47	0.48	0.37	0.15
Avail Cap(c_a), veh/h	627	903	602	551	770	2236
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	0.94	0.94
Uniform Delay (d), s/veh	27.5	16.7	19.8	19.9	25.3	6.0
Incr Delay (d2), s/veh	5.2	1.1	2.6	3.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	1.4	5.1	4.8	2.6	1.4
LnGrp Delay(d),s/veh	32.7	17.7	22.4	22.9	25.4	6.1
LnGrp LOS	C	B	C	C	C	A
Approach Vol, veh/h	865		549			615
Approach Delay, s/veh	24.0		22.6			15.1
Approach LOS	C		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	31.4	30.5				51.9		23.1
Change Period (Y+Rc), s	5.5	* 5.5				5.5		5.5
Max Green Setting (Gmax), s	8.5	* 25				38.0		26.0
Max Q Clear Time (g_c+I1), s	17.1	11.6				4.8		16.4
Green Ext Time (p_c), s	0.3	1.6				1.7		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	20.9
HCM 2010 LOS	C

Notes

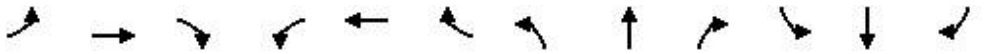
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	28	76	4	40	310	538	1	55	11	404	104	47
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	37	101	2	53	413	650	1	73	15	539	139	62
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	2	1	1
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	47	439	373	69	462	842	150	529	449	978	900	765
Arrive On Green	0.03	0.23	0.23	0.04	0.24	0.24	0.08	0.28	0.28	0.28	0.47	0.47
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	1900	1615	3510	1900	1615
Grp Volume(v), veh/h	37	101	2	53	413	650	1	73	15	539	139	62
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1615	1755	1900	1615
Q Serve(g_s), s	2.3	5.0	0.1	3.3	24.2	5.1	0.1	3.3	0.6	15.0	4.8	1.9
Cycle Q Clear(g_c), s	2.3	5.0	0.1	3.3	24.2	5.1	0.1	3.3	0.6	15.0	4.8	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	47	439	373	69	462	842	150	529	449	978	900	765
V/C Ratio(X)	0.78	0.23	0.01	0.77	0.89	0.77	0.01	0.14	0.03	0.55	0.15	0.08
Avail Cap(c_a), veh/h	79	466	396	131	520	892	150	529	449	978	900	765
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	0.22	0.22	0.22	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	35.9	20.6	54.8	42.1	10.6	48.4	31.1	20.7	35.4	17.2	10.2
Incr Delay (d2), s/veh	9.9	0.1	0.0	1.6	4.2	0.8	0.0	0.5	0.1	0.4	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.6	0.0	1.7	13.3	11.4	0.0	1.8	0.3	7.3	2.6	0.9
LnGrp Delay(d),s/veh	65.6	36.0	20.6	56.4	46.3	11.4	48.4	31.7	20.8	35.7	17.5	10.4
LnGrp LOS	E	D	C	E	D	B	D	C	C	D	B	B
Approach Vol, veh/h		140			1116			89			740	
Approach Delay, s/veh		43.6			26.5			30.0			30.2	
Approach LOS		D			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	36.5	37.5	8.9	32.1	14.0	60.0	7.5	33.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	26.5	32.0	8.3	28.2	4.0	54.5	5.0	31.5
Max Q Clear Time (g_c+I1), s	17.0	5.3	5.3	7.0	2.1	6.8	4.3	26.2
Green Ext Time (p_c), s	0.8	0.2	0.0	3.1	0.3	0.5	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	29.1
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	199	295	174	806	10	1251	116	217	5	112	12
Future Volume (veh/h)	16	199	295	174	806	10	1251	116	217	5	112	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.69
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	1900	1900	1900	1900	1900	1976	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	22	273	392	238	1104	11	1714	159	265	7	153	13
Adj No. of Lanes	1	2	1	1	2	1	2	1	1	1	2	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	32	432	960	300	1028	420	1809	1009	858	13	162	13
Arrive On Green	0.04	0.23	0.23	0.33	0.54	0.54	0.96	1.00	1.00	0.01	0.10	0.10
Sat Flow, veh/h	1810	3800	1615	1810	3800	1552	3764	1900	1615	1810	3337	272
Grp Volume(v), veh/h	22	273	392	238	1104	11	1714	159	265	7	84	82
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1552	1882	1900	1615	1810	1900	1709
Q Serve(g_s), s	1.4	7.5	0.0	13.7	31.1	0.4	22.7	0.0	0.0	0.4	5.1	5.5
Cycle Q Clear(g_c), s	1.4	7.5	0.0	13.7	31.1	0.4	22.7	0.0	0.0	0.4	5.1	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	32	432	960	300	1028	420	1809	1009	858	13	93	83
V/C Ratio(X)	0.69	0.63	0.41	0.79	1.07	0.03	0.95	0.16	0.31	0.56	0.91	0.98
Avail Cap(c_a), veh/h	63	889	1154	300	1028	420	1809	1009	858	63	93	83
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.69	0.69	0.69	1.00	1.00	1.00	0.72	0.72	0.72	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	42.3	10.5	36.7	26.4	19.3	1.6	0.0	0.0	56.5	51.7	51.8
Incr Delay (d2), s/veh	6.8	0.4	0.1	12.6	50.3	0.0	8.5	0.2	0.7	13.4	71.8	93.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.9	5.5	7.9	23.0	0.2	9.0	0.1	0.2	0.3	4.5	4.7
LnGrp Delay(d),s/veh	61.9	42.7	10.5	49.3	76.7	19.4	10.1	0.2	0.7	69.9	123.5	145.1
LnGrp LOS	E	D	B	D	F	B	B	A	A	E	F	F
Approach Vol, veh/h		687			1353			2138			173	
Approach Delay, s/veh		24.9			71.4			8.2			131.5	
Approach LOS		C			E			A			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	5.3	66.6	24.6	18.6	60.8	11.1	6.5	36.6
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	55.9	8.2	* 27	54.3	* 5.6	4.0	31.1
Max Q Clear Time (g_c+I1), s	2.4	2.0	15.7	9.5	24.7	7.5	3.4	33.1
Green Ext Time (p_c), s	0.0	5.6	0.0	1.6	5.5	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	35.4
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	21	212	68	31	22	260	1432	85	12	422	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	26	200	83	38	25	317	1746	102	15	515	25
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	25	79	732	98	156	133	745	2574	149	24	1141	55
Arrive On Green	0.01	0.04	0.04	0.05	0.08	0.08	0.41	0.72	0.72	0.01	0.32	0.32
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3553	206	1810	3595	174
Grp Volume(v), veh/h	16	26	200	83	38	25	317	926	922	15	272	268
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1859	1810	1900	1869
Q Serve(g_s), s	1.1	1.6	1.6	5.5	2.2	1.7	15.0	31.4	32.6	1.0	13.7	13.7
Cycle Q Clear(g_c), s	1.1	1.6	1.6	5.5	2.2	1.7	15.0	31.4	32.6	1.0	13.7	13.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.09
Lane Grp Cap(c), veh/h	25	79	732	98	156	133	745	1376	1346	24	603	593
V/C Ratio(X)	0.64	0.33	0.27	0.85	0.24	0.19	0.43	0.67	0.68	0.63	0.45	0.45
Avail Cap(c_a), veh/h	77	382	989	98	404	343	745	1376	1346	62	603	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	58.9	55.9	9.6	56.3	51.6	51.4	25.2	8.9	9.0	58.9	32.6	32.6
Incr Delay (d2), s/veh	9.8	0.9	0.1	44.4	0.3	0.3	0.1	2.6	2.8	9.3	2.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.9	2.7	3.9	1.2	0.8	7.5	17.2	17.5	0.6	7.6	7.5
LnGrp Delay(d),s/veh	68.7	56.8	9.7	100.6	51.9	51.6	25.3	11.5	11.9	68.2	34.9	34.9
LnGrp LOS	E	E	A	F	D	D	C	B	B	E	C	C
Approach Vol, veh/h		242			146			2165			555	
Approach Delay, s/veh		18.6			79.5			13.7			35.8	
Approach LOS		B			E			B			D	

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	6.1	92.4	11.0	10.5	54.9	43.6	6.2	15.3
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.1	65.3	6.5	24.1	31.3	* 38	5.1	25.5
Max Q Clear Time (g_c+I1), s	3.1	34.6	7.5	3.6	17.0	15.7	3.1	4.2
Green Ext Time (p_c), s	0.0	10.4	0.0	0.5	7.5	1.6	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	21.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



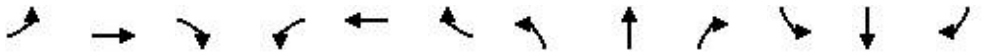
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	793	768	176	12	385	42	157	307	30	15	78	374
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	844	817	170	13	410	43	167	327	28	16	83	331
Adj No. of Lanes	2	3	0	1	3	0	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	2679	4756	983	22	1737	179	152	1425	606	52	1280	1776
Arrive On Green	0.76	1.00	1.00	0.01	0.34	0.34	0.04	0.37	0.37	0.01	0.34	0.34
Sat Flow, veh/h	3510	4310	891	1810	5077	523	3619	3800	1615	3619	3800	1615
Grp Volume(v), veh/h	844	654	333	13	305	148	167	327	28	16	83	331
Grp Sat Flow(s),veh/h/ln	1755	1729	1743	1810	1900	1800	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	7.1	0.0	0.0	0.7	5.5	5.6	4.0	5.6	1.0	0.4	1.4	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	0.7	5.5	5.6	4.0	5.6	1.0	0.4	1.4	0.0
Prop In Lane	1.00		0.51	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2679	3816	1923	22	1300	616	152	1425	606	52	1280	1776
V/C Ratio(X)	0.32	0.17	0.17	0.59	0.23	0.24	1.10	0.23	0.05	0.30	0.06	0.19
Avail Cap(c_a), veh/h	2679	3816	1923	76	1300	616	152	1425	606	152	1280	1776
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	3.5	0.0	0.0	46.7	22.4	22.4	45.5	20.3	18.9	46.3	21.4	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.2	8.9	0.4	0.9	100.9	0.4	0.1	1.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.1	0.1	0.4	2.9	3.0	4.1	3.0	0.5	0.2	0.8	0.1
LnGrp Delay(d),s/veh	3.5	0.1	0.2	55.6	22.8	23.3	146.4	20.7	19.0	47.5	21.5	0.2
LnGrp LOS	A	A	A	E	C	C	F	C	B	D	C	A
Approach Vol, veh/h		1831			466			522			430	
Approach Delay, s/veh		1.7			23.9			60.8			6.1	
Approach LOS		A			C			E			A	

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	5.7	112.3	9.5	37.5	80.0	38.0	5.9	41.1
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	35.0	4.0	* 32	6.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	12.7	2.0	6.0	3.4	9.1	7.6	2.4	7.6
Green Ext Time (p_c), s	0.0	6.4	0.0	0.8	0.0	1.6	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	15.0
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	586	205	146	1164	113	379	1184	145	169	842	213
Future Volume (veh/h)	138	586	205	146	1164	113	379	1184	145	169	842	213
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		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1976	1900	1900	1976	1900	1900	1976	1900	1900	1976	1900
Adj Flow Rate, veh/h	153	651	211	162	1293	117	421	1316	149	188	936	227
Adj No. of Lanes	1	2	1	1	2	0	1	3	0	1	2	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	173	2318	1260	190	2126	192	354	1599	181	201	906	364
Arrive On Green	0.10	0.59	0.59	0.11	0.60	0.60	0.20	0.31	0.31	0.11	0.23	0.23
Sat Flow, veh/h	1810	3952	1609	1810	3568	322	1810	5228	592	1810	3952	1590
Grp Volume(v), veh/h	153	651	211	162	714	696	421	995	470	188	936	227
Grp Sat Flow(s),veh/h/ln	1810	1976	1609	1810	1976	1914	1810	1976	1867	1810	1976	1590
Q Serve(g_s), s	10.0	9.8	3.9	10.6	27.4	27.7	23.5	28.0	28.0	12.4	27.5	15.4
Cycle Q Clear(g_c), s	10.0	9.8	3.9	10.6	27.4	27.7	23.5	28.0	28.0	12.4	27.5	15.4
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	173	2318	1260	190	1177	1140	354	1209	571	201	906	364
V/C Ratio(X)	0.88	0.28	0.17	0.85	0.61	0.61	1.19	0.82	0.82	0.94	1.03	0.62
Avail Cap(c_a), veh/h	173	2318	1260	279	1177	1140	354	1209	571	201	906	364
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	53.6	12.3	3.3	52.8	15.3	15.4	48.3	38.6	38.6	52.9	46.3	41.6
Incr Delay (d2), s/veh	36.2	0.3	0.3	10.8	2.3	2.4	109.4	6.4	12.7	45.5	38.9	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	5.4	1.8	5.8	15.6	15.3	22.5	16.3	16.4	8.7	19.9	7.6
LnGrp Delay(d),s/veh	89.8	12.6	3.6	63.6	17.7	17.8	157.7	45.1	51.3	98.4	85.1	49.4
LnGrp LOS	F	B	A	E	B	B	F	D	D	F	F	D
Approach Vol, veh/h		1015			1572			1886			1351	
Approach Delay, s/veh		22.3			22.5			71.8			81.0	
Approach LOS		C			C			E			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	17.1	76.9	28.0	33.0	16.0	78.0	18.8	42.2
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	18.5	31.5	23.5	26.5	11.5	38.5	13.3	* 37
Max Q Clear Time (g_c+I1), s	12.6	11.8	25.5	29.5	12.0	29.7	14.4	30.0
Green Ext Time (p_c), s	0.1	9.7	0.0	0.0	0.0	5.8	0.0	3.6

Intersection Summary	
HCM 2010 Ctrl Delay	52.0
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	232	135	265	238	265	93	1229	364	131	977	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	55	255	132	291	262	191	102	1351	375	144	1074	41
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	85	275	142	320	689	576	148	1476	408	128	1820	69
Arrive On Green	0.05	0.23	0.23	0.18	0.36	0.36	0.08	0.34	0.34	0.07	0.33	0.33
Sat Flow, veh/h	1810	1180	611	1810	1900	1590	1810	4284	1185	1810	5452	208
Grp Volume(v), veh/h	55	0	387	291	262	191	102	1198	528	144	748	367
Grp Sat Flow(s),veh/h/ln	1810	0	1791	1810	1900	1590	1810	1900	1668	1810	1900	1860
Q Serve(g_s), s	3.6	0.0	25.4	18.9	12.2	10.4	6.6	36.2	36.4	8.5	19.6	19.6
Cycle Q Clear(g_c), s	3.6	0.0	25.4	18.9	12.2	10.4	6.6	36.2	36.4	8.5	19.6	19.6
Prop In Lane	1.00		0.34	1.00		1.00	1.00		0.71	1.00		0.11
Lane Grp Cap(c), veh/h	85	0	417	320	689	576	148	1310	575	128	1269	621
V/C Ratio(X)	0.65	0.00	0.93	0.91	0.38	0.33	0.69	0.91	0.92	1.12	0.59	0.59
Avail Cap(c_a), veh/h	452	0	448	452	689	576	148	1310	575	128	1269	621
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.2	0.0	45.1	48.4	28.3	27.7	53.6	37.6	37.7	55.8	33.2	33.2
Incr Delay (d2), s/veh	3.0	0.0	24.1	14.4	0.1	0.1	23.3	11.4	22.0	116.5	2.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	15.4	10.7	6.4	4.6	4.2	21.0	20.2	8.4	10.6	10.8
LnGrp Delay(d),s/veh	59.2	0.0	69.1	62.8	28.4	27.8	76.9	49.0	59.7	172.3	35.2	37.3
LnGrp LOS	E		E	E	C	C	E	D	E	F	D	D
Approach Vol, veh/h		442			744			1828			1259	
Approach Delay, s/veh		67.9			41.7			53.7			51.5	
Approach LOS		E			D			D			D	

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	13.0	46.9	26.7	33.4	14.3	45.6	11.1	49.0
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	8.5	30.5	30.0	30.0	9.8	29.2	30.0	30.0
Max Q Clear Time (g_c+I1), s	10.5	38.4	20.9	27.4	8.6	21.6	5.6	14.2
Green Ext Time (p_c), s	0.0	0.0	0.3	0.4	0.0	6.1	0.1	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	52.4
HCM 2010 LOS	D

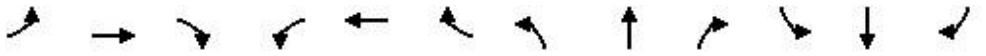
Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1561	593	1019	679	0	0	0	990	0	0	276
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				0	0	1900
Adj Flow Rate, veh/h	0	1643	616	1073	715	0				0	0	169
Adj No. of Lanes	0	2	1	2	2	0				0	0	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2422	1030	1025	3626	0				0	0	0
Arrive On Green	0.00	0.64	0.64	0.47	1.00	0.00				0.00	0.00	0.00
Sat Flow, veh/h	0	3800	1615	3619	3800	0					0	
Grp Volume(v), veh/h	0	1643	616	1073	715	0					0.0	
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0						
Q Serve(g_s), s	0.0	33.1	26.8	34.0	0.0	0.0						
Cycle Q Clear(g_c), s	0.0	33.1	26.8	34.0	0.0	0.0						
Prop In Lane	0.00		1.00	1.00		0.00						
Lane Grp Cap(c), veh/h	0	2423	1030	1025	3626	0						
V/C Ratio(X)	0.00	0.68	0.60	1.05	0.20	0.00						
Avail Cap(c_a), veh/h	0	2423	1030	1025	3626	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00						
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	13.9	12.7	31.6	0.0	0.0						
Incr Delay (d2), s/veh	0.0	1.5	2.6	41.0	0.1	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	17.6	12.5	22.7	0.1	0.0						
LnGrp Delay(d),s/veh	0.0	15.4	15.3	72.6	0.1	0.0						
LnGrp LOS		B	B	F	A							
Approach Vol, veh/h		2259			1788							
Approach Delay, s/veh		15.4			43.6							
Approach LOS		B			D							

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		
Phs Duration (G+Y+Rc), s	38.0	82.0				120.0		
Change Period (Y+Rc), s	4.0	5.5				5.5		
Max Green Setting (Gmax), s	34.0	38.5				76.5		
Max Q Clear Time (g_c+I1), s	36.0	35.1				2.0		
Green Ext Time (p_c), s	0.0	2.9				23.2		

Intersection Summary	
HCM 2010 Ctrl Delay	27.9
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	721	105	524	202	0	0	0	0	785	2	419
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	767	112	557	215	0				835	2	369
Adj No. of Lanes	0	2	1	2	2	0				2	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1286	547	668	2280	0				891	2	396
Arrive On Green	0.00	0.34	0.34	0.18	0.60	0.00				0.25	0.25	0.25
Sat Flow, veh/h	0	3800	1615	3619	3800	0				3619	9	1608
Grp Volume(v), veh/h	0	767	112	557	215	0				835	0	371
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1616
Q Serve(g_s), s	0.0	10.9	3.2	9.6	1.6	0.0				14.7	0.0	14.6
Cycle Q Clear(g_c), s	0.0	10.9	3.2	9.6	1.6	0.0				14.7	0.0	14.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.99
Lane Grp Cap(c), veh/h	0	1286	547	668	2280	0				891	0	398
V/C Ratio(X)	0.00	0.60	0.20	0.83	0.09	0.00				0.94	0.00	0.93
Avail Cap(c_a), veh/h	0	1286	547	696	2280	0				891	0	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.10	0.10	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.8	15.3	25.5	5.5	0.0				24.0	0.0	24.0
Incr Delay (d2), s/veh	0.0	2.0	0.8	0.8	0.0	0.0				17.0	0.0	28.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.0	1.6	4.9	0.8	0.0				9.4	0.0	9.7
LnGrp Delay(d),s/veh	0.0	19.9	16.1	26.4	5.5	0.0				41.0	0.0	52.7
LnGrp LOS		B	B	C	A					D		D
Approach Vol, veh/h		879			772						1206	
Approach Delay, s/veh		19.4			20.6						44.6	
Approach LOS		B			C						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	17.0	27.0		21.0		44.0		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	12.5	* 22		16.0		39.0		
Max Q Clear Time (g_c+I1), s	11.6	12.9		16.7		3.6		
Green Ext Time (p_c), s	0.2	2.4		0.0		1.8		

Intersection Summary	
HCM 2010 Ctrl Delay	30.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	27	2111	414	0	2463	94	142	62	29	114	1	66
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		0.98	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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	2176	423	0	2539	88	146	64	30	118	1	53
Adj No. of Lanes	1	3	0	0	3	0	2	1	0	1	1	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	134	3772	700	0	4433	152	234	191	89	127	5	261
Arrive On Green	0.27	0.27	0.27	0.00	0.81	0.81	0.07	0.16	0.16	0.07	0.16	0.16
Sat Flow, veh/h	117	4661	865	0	5478	188	3510	1225	574	1810	30	1590
Grp Volume(v), veh/h	28	1755	844	0	1755	872	146	0	94	118	0	54
Grp Sat Flow(s),veh/h/ln	117	1900	1726	0	1900	1867	1755	0	1799	1810	0	1619
Q Serve(g_s), s	24.6	47.9	51.3	0.0	19.7	20.1	4.9	0.0	5.6	7.8	0.0	3.5
Cycle Q Clear(g_c), s	46.3	47.9	51.3	0.0	19.7	20.1	4.9	0.0	5.6	7.8	0.0	3.5
Prop In Lane	1.00		0.50	0.00		0.10	1.00		0.32	1.00		0.98
Lane Grp Cap(c), veh/h	134	3075	1397	0	3075	1511	234	0	280	127	0	266
V/C Ratio(X)	0.21	0.57	0.60	0.00	0.57	0.58	0.62	0.00	0.34	0.93	0.00	0.20
Avail Cap(c_a), veh/h	134	3075	1397	0	3075	1511	234	0	280	127	0	266
HCM Platoon Ratio	0.33	0.33	0.33	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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.7	26.0	27.2	0.0	4.1	4.1	54.5	0.0	45.1	55.5	0.0	43.4
Incr Delay (d2), s/veh	3.5	0.8	1.9	0.0	0.8	1.6	3.8	0.0	3.2	58.4	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	25.6	25.3	0.0	10.3	10.8	2.5	0.0	3.0	6.0	0.0	1.7
LnGrp Delay(d),s/veh	38.3	26.7	29.1	0.0	4.8	5.7	58.4	0.0	48.3	113.9	0.0	45.1
LnGrp LOS	D	C	C		A	A	E		D	F		D
Approach Vol, veh/h		2627			2627			240			172	
Approach Delay, s/veh		27.6			5.1			54.4			92.3	
Approach LOS		C			A			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		102.7	13.6	24.7		102.7	14.0	24.3
Change Period (Y+Rc), s		5.0	5.6	5.0		5.0	5.6	* 5.6
Max Green Setting (Gmax), s		77.3	7.4	19.7		77.3	8.4	* 19
Max Q Clear Time (g_c+I1), s		53.3	6.9	5.5		22.1	9.8	7.6
Green Ext Time (p_c), s		23.2	0.0	0.1		51.1	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	20.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	530	975	0	0	675	1452	51	1	191	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	596	1096	0	0	758	0	57	1	106			
Adj No. of Lanes	2	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	1990	3008	0	0	760	323	222	4	202			
Arrive On Green	0.55	0.79	0.00	0.00	0.20	0.00	0.13	0.13	0.13			
Sat Flow, veh/h	3619	3800	0	0	3800	1615	1780	31	1615			
Grp Volume(v), veh/h	596	1096	0	0	758	0	58	0	106			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1811	0	1615			
Q Serve(g_s), s	10.6	10.1	0.0	0.0	23.9	0.0	3.5	0.0	7.4			
Cycle Q Clear(g_c), s	10.6	10.1	0.0	0.0	23.9	0.0	3.5	0.0	7.4			
Prop In Lane	1.00		0.00	0.00		1.00	0.98		1.00			
Lane Grp Cap(c), veh/h	1990	3008	0	0	760	323	226	0	202			
V/C Ratio(X)	0.30	0.36	0.00	0.00	1.00	0.00	0.26	0.00	0.53			
Avail Cap(c_a), veh/h	2036	3008	0	0	760	323	226	0	202			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.58	0.58	0.00	0.00	0.28	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	14.5	3.7	0.0	0.0	48.0	0.0	47.5	0.0	49.2			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	16.5	0.0	2.7	0.0	9.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.3	5.3	0.0	0.0	14.3	0.0	1.9	0.0	3.8			
LnGrp Delay(d),s/veh	14.6	3.9	0.0	0.0	64.5	0.0	50.2	0.0	58.6			
LnGrp LOS	B	A			E		D		E			
Approach Vol, veh/h		1692			758			164				
Approach Delay, s/veh		7.6			64.5			55.6				
Approach LOS		A			E			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		100.0			71.0	29.0		20.0
Change Period (Y+Rc), s		5.0			5.0	* 5		5.0
Max Green Setting (Gmax), s		95.0			67.5	* 24		15.0
Max Q Clear Time (g_c+I1), s		12.1			12.6	25.9		9.4
Green Ext Time (p_c), s		7.0			7.0	0.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	27.1
HCM 2010 LOS	C

Notes

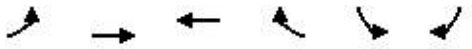
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	2418	25	28	2122	106	404	105	200	136	22	221
Future Volume (veh/h)	128	2418	25	28	2122	106	404	105	200	136	22	221
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	132	2493	0	29	2188	78	416	108	152	140	23	121
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	128	2636	747	37	2348	651	513	178	251	168	112	209
Arrive On Green	0.07	0.46	0.00	0.02	0.41	0.41	0.28	0.25	0.25	0.09	0.06	0.06
Sat Flow, veh/h	1810	5700	1615	1810	5700	1581	1810	715	1006	1810	1900	1615
Grp Volume(v), veh/h	132	2493	0	29	2188	78	416	0	260	140	23	121
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1581	1810	0	1721	1810	1900	1615
Q Serve(g_s), s	8.5	50.1	0.0	1.9	44.0	2.5	25.7	0.0	16.0	9.1	1.4	4.4
Cycle Q Clear(g_c), s	8.5	50.1	0.0	1.9	44.0	2.5	25.7	0.0	16.0	9.1	1.4	4.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.58	1.00		1.00
Lane Grp Cap(c), veh/h	128	2636	747	37	2348	651	513	0	429	168	112	209
V/C Ratio(X)	1.03	0.95	0.00	0.79	0.93	0.12	0.81	0.00	0.61	0.83	0.21	0.58
Avail Cap(c_a), veh/h	128	2636	747	92	2348	651	513	0	429	187	467	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	30.8	0.0	58.5	33.7	10.3	40.0	0.0	39.8	53.5	53.8	20.6
Incr Delay (d2), s/veh	87.7	8.7	0.0	13.2	7.4	0.0	13.1	0.0	6.2	22.0	0.3	0.9
Initial Q Delay(d3),s/veh	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	28.2	0.0	1.1	24.5	1.1	14.7	0.0	8.3	5.6	0.7	2.0
LnGrp Delay(d),s/veh	143.8	39.5	0.0	71.7	41.1	10.3	53.1	0.0	46.1	75.5	54.1	21.6
LnGrp LOS	F	D		E	D	B	D		D	E	D	C
Approach Vol, veh/h		2625			2295			676			284	
Approach Delay, s/veh		44.8			40.4			50.4			50.8	
Approach LOS		D			D			D			D	

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	6.9	61.0	39.5	12.6	13.0	54.9	16.7	35.4
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	6.1	50.6	12.8	29.5	8.5	48.2	12.4	29.9
Max Q Clear Time (g_c+I1), s	3.9	52.1	27.7	6.4	10.5	46.0	11.1	18.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.0	1.0	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	44.0
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	30	1136	2057	18	15	70
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	33	1235	2236	20	16	76
Adj No. of Lanes	1	2	2	1	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	45	2597	2328	982	64	303
Arrive On Green	0.03	0.91	0.61	0.61	0.22	0.22
Sat Flow, veh/h	1810	3800	3800	1603	284	1347
Grp Volume(v), veh/h	33	1235	2236	20	93	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1603	1648	0
Q Serve(g_s), s	2.2	6.3	66.5	0.6	5.6	0.0
Cycle Q Clear(g_c), s	2.2	6.3	66.5	0.6	5.6	0.0
Prop In Lane	1.00			1.00	0.17	0.82
Lane Grp Cap(c), veh/h	45	2597	2328	982	371	0
V/C Ratio(X)	0.73	0.48	0.96	0.02	0.25	0.00
Avail Cap(c_a), veh/h	60	2597	2328	982	371	0
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.6	2.0	21.9	9.1	38.2	0.0
Incr Delay (d2), s/veh	14.8	0.6	11.5	0.0	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.2	38.2	0.3	2.7	0.0
LnGrp Delay(d),s/veh	72.4	2.6	33.4	9.2	39.8	0.0
LnGrp LOS	E	A	C	A	D	
Approach Vol, veh/h		1268	2256		93	
Approach Delay, s/veh		4.4	33.1		39.8	
Approach LOS		A	C		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		87.5		32.5	8.5	79.0		
Change Period (Y+Rc), s		5.5		5.5	5.5	* 5.5		
Max Green Setting (Gmax), s		82.0		27.0	4.0	* 74		
Max Q Clear Time (g_c+I1), s		8.3		7.6	4.2	68.5		
Green Ext Time (p_c), s		6.5		0.1	0.0	4.1		

Intersection Summary	
HCM 2010 Ctrl Delay	23.2
HCM 2010 LOS	C

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)	209	3115	489	16	1448	78	268	108	26	200	214	224
Future Volume (veh/h)	209	3115	489	16	1448	78	268	108	26	200	214	224
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		0.99	1.00		1.00	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	227	3386	0	17	1574	81	291	117	23	217	233	165
Adj No. of Lanes	1	3	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1151	6045	1713	26	2312	119	296	755	145	149	895	1403
Arrive On Green	0.64	1.00	0.00	0.01	0.43	0.43	0.08	0.24	0.24	0.08	0.24	0.24
Sat Flow, veh/h	1810	5700	1615	1810	5370	276	3619	3101	594	1810	3800	1594
Grp Volume(v), veh/h	227	3386	0	17	1114	541	291	71	69	217	233	165
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1847	1810	1900	1795	1810	1900	1594
Q Serve(g_s), s	6.0	0.0	0.0	1.1	27.2	27.2	9.2	3.4	3.5	9.5	5.7	0.0
Cycle Q Clear(g_c), s	6.0	0.0	0.0	1.1	27.2	27.2	9.2	3.4	3.5	9.5	5.7	0.0
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	1151	6045	1713	26	1636	795	296	463	437	149	895	1403
V/C Ratio(X)	0.20	0.56	0.00	0.64	0.68	0.68	0.98	0.15	0.16	1.45	0.26	0.12
Avail Cap(c_a), veh/h	1151	6045	1713	63	1636	795	296	463	437	149	895	1403
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)	0.37	0.37	0.00	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.7	0.0	0.0	56.4	26.4	26.4	52.7	34.2	34.2	52.7	35.8	1.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	5.8	1.4	2.9	47.6	0.7	0.8	236.5	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.1	0.0	0.6	14.6	14.5	6.6	1.9	1.8	14.6	3.1	0.8
LnGrp Delay(d),s/veh	8.7	0.1	0.0	62.2	27.8	29.3	100.3	34.9	35.0	289.3	36.5	1.2
LnGrp LOS	A	A		E	C	C	F	C	D	F	D	A
Approach Vol, veh/h		3613			1672			431			615	
Approach Delay, s/veh		0.7			28.6			79.1			116.2	
Approach LOS		A			C			E			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	6.2	128.5	14.9	32.6	79.7	55.0	14.0	33.5
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	54.5	9.4	* 27	9.0	* 50	9.5	27.0
Max Q Clear Time (g_c+I1), s	3.1	2.0	11.2	7.7	8.0	29.2	11.5	5.5
Green Ext Time (p_c), s	0.0	39.4	0.0	1.0	0.0	7.0	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.6
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	24	953	52	22	1787	6	79	5	15	8	5	93
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	27	1083	59	25	2031	7	90	6	17	9	6	106
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	33	2186	929	36	2156	916	329	26	51	286	178	403
Arrive On Green	0.02	0.58	0.58	0.02	0.57	0.57	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1810	3800	1615	1810	3800	1615	1060	103	206	917	713	1615
Grp Volume(v), veh/h	27	1083	59	25	2031	7	113	0	0	15	0	106
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1369	0	0	1629	0	1615
Q Serve(g_s), s	1.5	16.9	1.6	1.4	49.7	0.2	6.1	0.0	0.0	0.0	0.0	5.3
Cycle Q Clear(g_c), s	1.5	16.9	1.6	1.4	49.7	0.2	6.7	0.0	0.0	0.6	0.0	5.3
Prop In Lane	1.00		1.00	1.00		1.00	0.80		0.15	0.60		1.00
Lane Grp Cap(c), veh/h	33	2186	929	36	2156	916	406	0	0	464	0	403
V/C Ratio(X)	0.82	0.50	0.06	0.69	0.94	0.01	0.28	0.00	0.00	0.03	0.00	0.26
Avail Cap(c_a), veh/h	72	2186	929	116	2223	945	406	0	0	464	0	403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.9	12.6	9.4	48.7	20.1	9.4	30.6	0.0	0.0	28.4	0.0	30.1
Incr Delay (d2), s/veh	16.9	0.1	0.0	8.4	8.6	0.0	1.7	0.0	0.0	0.1	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	8.9	0.7	0.8	28.2	0.1	2.7	0.0	0.0	0.3	0.0	2.5
LnGrp Delay(d),s/veh	65.8	12.7	9.4	57.1	28.7	9.4	32.3	0.0	0.0	28.5	0.0	31.7
LnGrp LOS	E	B	A	E	C	A	C			C		C
Approach Vol, veh/h		1169			2063			113			121	
Approach Delay, s/veh		13.7			29.0			32.3			31.3	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		30.5	6.5	63.0		30.5	7.3	62.2
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	5.5	* 5.5
Max Green Setting (Gmax), s		22.0	6.4	56.1		22.0	4.0	* 59
Max Q Clear Time (g_c+I1), s		8.7	3.4	18.9		7.3	3.5	51.7
Green Ext Time (p_c), s		0.6	0.0	5.6		0.6	0.0	5.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.0
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	1804	1171	20	884	112	593	660	23	162	777	64
Future Volume (veh/h)	129	1804	1171	20	884	112	593	660	23	162	777	64
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	137	1919	1231	21	940	113	631	702	20	172	827	61
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	636	2333	1304	32	899	108	701	1253	36	204	874	64
Arrive On Green	0.35	0.61	0.61	0.02	0.27	0.27	0.19	0.34	0.34	0.11	0.25	0.25
Sat Flow, veh/h	1810	3800	1615	1810	3329	400	3619	3675	105	1810	3497	258
Grp Volume(v), veh/h	137	1919	1231	21	536	517	631	363	359	172	449	439
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1829	1810	1900	1879	1810	1900	1854
Q Serve(g_s), s	5.3	39.4	61.4	1.2	27.0	27.0	17.0	15.6	15.6	9.3	23.2	23.2
Cycle Q Clear(g_c), s	5.3	39.4	61.4	1.2	27.0	27.0	17.0	15.6	15.6	9.3	23.2	23.2
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.06	1.00		0.14
Lane Grp Cap(c), veh/h	636	2333	1304	32	513	494	701	648	641	204	475	464
V/C Ratio(X)	0.22	0.82	0.94	0.66	1.05	1.05	0.90	0.56	0.56	0.84	0.95	0.95
Avail Cap(c_a), veh/h	636	2333	1304	72	513	494	742	648	641	233	475	464
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)	0.09	0.09	0.09	1.00	1.00	1.00	0.88	0.88	0.88	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	15.1	40.1	48.8	36.5	36.5	39.4	26.8	26.8	43.5	36.8	36.8
Incr Delay (d2), s/veh	0.0	0.3	1.9	8.2	52.2	53.1	11.7	3.1	3.1	19.3	29.8	30.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	20.6	0.7	0.7	21.5	20.9	9.6	8.7	8.6	5.8	16.0	15.7
LnGrp Delay(d),s/veh	22.8	15.4	42.0	57.0	88.7	89.6	51.1	29.9	29.9	62.9	66.6	67.1
LnGrp LOS	C	B	D	E	F	F	D	C	C	E	E	E
Approach Vol, veh/h		3287			1074			1353			1060	
Approach Delay, s/veh		25.7			88.5			39.8			66.2	
Approach LOS		C			F			D			E	

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	6.3	67.4	24.9	30.5	41.2	32.5	15.8	39.6
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	30.5	20.5	* 25	7.5	* 27	12.9	32.6
Max Q Clear Time (g_c+I1), s	3.2	63.4	19.0	25.2	7.3	29.0	11.3	17.6
Green Ext Time (p_c), s	0.0	0.0	0.3	0.0	0.0	0.0	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	44.8
HCM 2010 LOS	D

Notes



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	2	74	699	9	147	1142
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	80	752	10	158	1228
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	112	100	1386	1178	158	1624
Arrive On Green	0.06	0.06	0.73	0.73	0.09	0.85
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	2	80	752	10	158	1228
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.1	5.9	21.2	0.2	10.5	31.9
Cycle Q Clear(g_c), s	0.1	5.9	21.2	0.2	10.5	31.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	112	100	1386	1178	158	1624
V/C Ratio(X)	0.02	0.80	0.54	0.01	1.00	0.76
Avail Cap(c_a), veh/h	392	350	1386	1178	158	1624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.85	0.85	1.00	1.00
Uniform Delay (d), s/veh	52.8	55.5	7.3	4.4	54.7	3.6
Incr Delay (d2), s/veh	0.0	5.4	1.3	0.0	70.8	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.8	11.6	0.1	8.3	17.5
LnGrp Delay(d),s/veh	52.9	61.0	8.6	4.4	125.6	6.9
LnGrp LOS	D	E	A	A	F	A
Approach Vol, veh/h	82		762			1386
Approach Delay, s/veh	60.8		8.5			20.4
Approach LOS	E		A			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.0	93.1				108.1		11.9
Change Period (Y+Rc), s	4.5	5.5				5.5		4.5
Max Green Setting (Gmax), s	10.5	69.0				84.0		26.0
Max Q Clear Time (g_c+I1), s	12.5	23.2				33.9		7.9
Green Ext Time (p_c), s	0.0	13.1				13.4		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	17.8
HCM 2010 LOS	B



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	236	318	432	347	615	555
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	274	370	502	403	715	645
Adj No. of Lanes	1	1	2	0	2	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	377	650	810	650	704	2417
Arrive On Green	0.21	0.21	0.43	0.43	0.19	0.67
Sat Flow, veh/h	1810	1615	2001	1529	3619	3705
Grp Volume(v), veh/h	274	370	475	430	715	645
Grp Sat Flow(s),veh/h/ln	1810	1615	1805	1630	1810	1805
Q Serve(g_s), s	12.7	16.0	18.5	18.5	17.5	6.5
Cycle Q Clear(g_c), s	12.7	16.0	18.5	18.5	17.5	6.5
Prop In Lane	1.00	1.00		0.94	1.00	
Lane Grp Cap(c), veh/h	377	650	767	693	704	2417
V/C Ratio(X)	0.73	0.57	0.62	0.62	1.02	0.27
Avail Cap(c_a), veh/h	523	781	767	693	704	2417
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	0.58	0.58
Uniform Delay (d), s/veh	33.2	20.8	20.2	20.2	36.3	6.0
Incr Delay (d2), s/veh	1.6	0.3	3.7	4.1	30.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	7.1	9.9	9.0	11.6	3.3
LnGrp Delay(d),s/veh	34.8	21.1	23.9	24.3	66.3	6.1
LnGrp LOS	C	C	C	C	F	A
Approach Vol, veh/h	644		905			1360
Approach Delay, s/veh	26.9		24.1			37.7
Approach LOS	C		C			D

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	22.0	43.8				65.8		24.2
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	17.5	31.0				53.0		26.0
Max Q Clear Time (g_c+I1), s	19.5	20.5				8.5		18.0
Green Ext Time (p_c), s	0.0	4.6				6.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	31.1
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	52	316	6	19	93	579	0	88	36	636	250	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	74	451	9	27	133	827	0	126	47	909	357	46
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	2	1	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	79	474	402	36	413	822	47	504	422	1023	1008	857
Arrive On Green	0.04	0.25	0.25	0.02	0.22	0.22	0.00	0.27	0.27	0.29	0.53	0.53
Sat Flow, veh/h	1810	1900	1612	1810	1900	1615	1810	1900	1593	3510	1900	1615
Grp Volume(v), veh/h	74	451	9	27	133	827	0	126	47	909	357	46
Grp Sat Flow(s),veh/h/ln	1810	1900	1612	1810	1900	1615	1810	1900	1593	1755	1900	1615
Q Serve(g_s), s	4.7	26.9	0.4	1.7	6.8	25.0	0.0	6.0	2.2	28.5	12.5	1.6
Cycle Q Clear(g_c), s	4.7	26.9	0.4	1.7	6.8	25.0	0.0	6.0	2.2	28.5	12.5	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	79	474	402	36	413	822	47	504	422	1023	1008	857
V/C Ratio(X)	0.94	0.95	0.02	0.74	0.32	1.01	0.00	0.25	0.11	0.89	0.35	0.05
Avail Cap(c_a), veh/h	79	474	402	63	413	822	63	504	422	1053	1008	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	1.00	1.00	0.58	0.58	0.58	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.9	42.5	23.5	56.0	37.9	28.2	0.0	33.2	23.3	39.0	15.6	13.0
Incr Delay (d2), s/veh	80.5	29.1	0.0	6.3	0.1	25.5	0.0	1.2	0.5	8.9	1.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	17.9	0.2	0.9	3.6	16.6	0.0	3.3	1.0	15.0	6.8	0.7
LnGrp Delay(d),s/veh	135.3	71.6	23.5	62.3	38.0	53.8	0.0	34.4	23.9	47.9	16.6	13.2
LnGrp LOS	F	E	C	E	D	F		C	C	D	B	B
Approach Vol, veh/h		534			987			173			1312	
Approach Delay, s/veh		79.6			51.9			31.6			38.2	
Approach LOS		E			D			C			D	

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	38.0	36.0	6.8	34.2	7.5	66.5	10.5	30.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	34.5	30.5	4.0	26.0	4.0	61.0	5.0	* 25
Max Q Clear Time (g_c+I1), s	30.5	8.0	3.7	28.9	0.0	14.5	6.7	27.0
Green Ext Time (p_c), s	0.9	0.4	0.0	0.0	0.0	1.2	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	49.6
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	796	1222	219	451	50	652	163	202	124	254	32
Future Volume (veh/h)	22	796	1222	219	451	50	652	163	202	124	254	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.36
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	1900	1900	1900	1900	1900	1976	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	33	1206	1094	332	683	53	988	247	221	188	385	36
Adj No. of Lanes	1	2	1	1	2	1	2	1	1	1	2	0
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	42	1219	1343	234	1653	699	1960	435	370	777	405	35
Arrive On Green	0.02	0.32	0.32	0.13	0.44	0.44	0.17	0.08	0.08	0.43	0.14	0.14
Sat Flow, veh/h	1810	3800	1563	1810	3800	1608	3764	1900	1613	1810	2948	258
Grp Volume(v), veh/h	33	1206	1094	332	683	53	988	247	221	188	239	182
Grp Sat Flow(s),veh/h/ln	1810	1900	1563	1810	1900	1608	1882	1900	1613	1810	1900	1306
Q Serve(g_s), s	2.2	37.9	0.0	15.5	14.9	1.4	28.6	15.1	15.9	7.9	14.9	16.5
Cycle Q Clear(g_c), s	2.2	37.9	0.0	15.5	14.9	1.4	28.6	15.1	15.9	7.9	14.9	16.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	42	1219	1343	234	1653	699	1960	435	370	777	261	180
V/C Ratio(X)	0.78	0.99	0.81	1.42	0.41	0.08	0.50	0.57	0.60	0.24	0.91	1.02
Avail Cap(c_a), veh/h	92	1219	1343	234	1653	699	1960	435	370	777	261	180
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.39	0.39	0.39	1.00	1.00	1.00	0.75	0.75	0.75	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.3	40.5	4.7	52.3	23.3	7.0	35.6	49.7	50.1	21.8	51.0	51.8
Incr Delay (d2), s/veh	4.6	13.5	1.5	212.4	0.1	0.0	0.1	4.0	5.3	0.1	37.2	71.3
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	0.1
%ile BackOfQ(50%),veh/ln	1.1	22.1	17.6	21.5	7.8	0.6	14.9	8.4	7.7	4.0	10.5	9.5
LnGrp Delay(d),s/veh	62.9	54.1	6.1	264.6	23.4	7.0	35.7	53.7	55.4	21.9	88.2	123.1
LnGrp LOS	E	D	A	F	C	A	D	D	E	C	F	F
Approach Vol, veh/h		2333			1068			1456			609	
Approach Delay, s/veh		31.7			97.6			41.7			78.2	
Approach LOS		C			F			D			E	

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	57.0	33.0	21.0	44.0	68.0	22.0	7.3	57.7
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	18.5	27.5	15.5	* 39	29.5	16.5	6.1	47.9
Max Q Clear Time (g_c+I1), s	9.9	17.9	17.5	39.9	30.6	18.5	4.2	16.9
Green Ext Time (p_c), s	1.8	0.8	0.0	0.0	0.0	0.0	0.0	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	52.4
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	28	54	412	126	35	16	105	821	91	55	1432	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	40	77	232	180	50	4	150	1173	66	79	2046	75
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	268	247	323	128	100	84	128	2058	116	100	2047	75
Arrive On Green	0.30	0.26	0.26	0.14	0.11	0.11	0.14	1.00	1.00	0.11	1.00	1.00
Sat Flow, veh/h	1810	1900	1608	1810	1900	1597	1810	3564	200	1810	3644	133
Grp Volume(v), veh/h	40	77	232	180	50	4	150	625	614	79	1061	1061
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	1900	1597	1810	1900	1864	1810	1900	1877
Q Serve(g_s), s	2.0	3.9	12.6	8.5	3.0	0.2	8.5	0.0	0.0	5.1	0.0	67.4
Cycle Q Clear(g_c), s	2.0	3.9	12.6	8.5	3.0	0.2	8.5	0.0	0.0	5.1	0.0	67.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.07
Lane Grp Cap(c), veh/h	268	247	323	128	100	84	128	1097	1076	100	1067	1054
V/C Ratio(X)	0.15	0.31	0.72	1.40	0.50	0.05	1.17	0.57	0.57	0.79	0.99	1.01
Avail Cap(c_a), veh/h	268	380	436	128	410	345	128	1097	1076	137	1067	1054
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.40	0.40	0.40
Uniform Delay (d), s/veh	36.7	40.1	22.8	51.5	52.2	37.2	51.5	0.0	0.0	52.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.3	1.9	221.9	1.4	0.1	132.5	2.1	2.2	5.7	16.1	19.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.1	5.7	12.1	1.6	0.1	8.9	0.7	0.7	2.7	4.8	5.6
LnGrp Delay(d),s/veh	36.7	40.3	24.7	273.4	53.6	37.2	184.0	2.1	2.2	58.5	16.1	19.1
LnGrp LOS	D	D	C	F	D	D	F	A	A	E	B	F
Approach Vol, veh/h		349			234			1389			2200	
Approach Delay, s/veh		29.5			222.4			21.8			19.0	
Approach LOS		C			F			C			B	

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	11.1	74.8	13.0	21.1	13.0	72.9	22.3	11.8
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	6.6	58.4	8.5	24.0	8.5	59.0	6.6	25.9
Max Q Clear Time (g_c+I1), s	7.1	2.0	10.5	14.6	10.5	69.4	4.0	5.0
Green Ext Time (p_c), s	0.0	29.1	0.0	0.4	0.0	0.0	0.1	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	32.2
HCM 2010 LOS	C



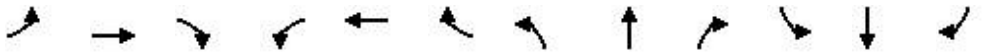
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	507	370	138	23	750	11	188	305	16	59	398	936
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	658	481	179	30	974	14	244	396	21	77	517	1211
Adj No. of Lanes	2	3	0	1	3	0	2	2	1	2	2	1
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	2679	4116	1479	42	1917	28	152	1341	570	132	1280	1776
Arrive On Green	0.76	1.00	1.00	0.02	0.34	0.34	0.04	0.35	0.35	0.04	0.34	0.34
Sat Flow, veh/h	3510	3766	1353	1810	5604	81	3619	3800	1615	3619	3800	1615
Grp Volume(v), veh/h	658	440	220	30	660	328	244	396	21	77	517	1211
Grp Sat Flow(s),veh/h/ln	1755	1729	1661	1810	1900	1885	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	5.2	0.0	0.0	1.6	13.1	13.2	4.0	7.2	0.8	2.0	9.9	0.0
Cycle Q Clear(g_c), s	5.2	0.0	0.0	1.6	13.1	13.2	4.0	7.2	0.8	2.0	9.9	0.0
Prop In Lane	1.00		0.81	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2679	3779	1815	42	1300	645	152	1341	570	132	1280	1776
V/C Ratio(X)	0.25	0.12	0.12	0.72	0.51	0.51	1.60	0.30	0.04	0.58	0.40	0.68
Avail Cap(c_a), veh/h	2679	3779	1815	99	1300	645	152	1341	570	152	1280	1776
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	3.3	0.0	0.0	46.1	24.9	24.9	45.5	22.2	20.2	45.0	24.2	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.1	8.4	1.4	2.8	299.0	0.6	0.1	1.7	0.9	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.1	0.9	7.1	7.3	8.3	3.8	0.4	1.0	5.3	1.1
LnGrp Delay(d),s/veh	3.3	0.1	0.1	54.5	26.3	27.7	344.5	22.8	20.3	46.7	25.1	2.1
LnGrp LOS	A	A	A	D	C	C	F	C	C	D	C	A
Approach Vol, veh/h		1318			1018			661			1805	
Approach Delay, s/veh		1.7			27.6			141.5			10.6	
Approach LOS		A			C			F			B	

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	6.7	111.3	9.5	37.5	80.0	38.0	8.0	39.0
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	5.2	33.8	4.0	* 32	6.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	13.6	2.0	6.0	11.9	7.2	15.2	4.0	9.2
Green Ext Time (p_c), s	0.0	4.0	0.0	5.4	0.0	3.6	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	29.8
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

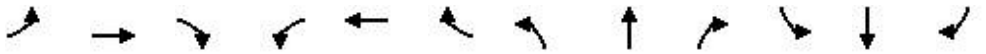


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	226	1080	391	102	568	141	274	1140	136	197	1458	84
Future Volume (veh/h)	226	1080	391	102	568	141	274	1140	136	197	1458	84
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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	1976	1900	1900	1976	1900	1900	1976	1900	1900	1976	1900
Adj Flow Rate, veh/h	231	1102	378	104	580	135	280	1163	128	201	1488	75
Adj No. of Lanes	1	2	1	1	2	0	1	3	0	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	234	2223	1089	128	1560	362	204	1871	206	229	1433	585
Arrive On Green	0.13	0.56	0.56	0.07	0.50	0.50	0.11	0.36	0.36	0.13	0.36	0.36
Sat Flow, veh/h	1810	3952	1612	1810	3095	718	1810	5248	577	1810	3952	1615
Grp Volume(v), veh/h	231	1102	378	104	370	345	280	876	415	201	1488	75
Grp Sat Flow(s),veh/h/ln	1810	1976	1612	1810	1976	1837	1810	1976	1874	1810	1976	1615
Q Serve(g_s), s	15.3	20.3	5.5	6.8	13.7	13.8	13.5	22.0	22.0	13.1	43.5	4.1
Cycle Q Clear(g_c), s	15.3	20.3	5.5	6.8	13.7	13.8	13.5	22.0	22.0	13.1	43.5	4.1
Prop In Lane	1.00		1.00	1.00		0.39	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	234	2223	1089	128	996	926	204	1409	668	229	1433	585
V/C Ratio(X)	0.99	0.50	0.35	0.81	0.37	0.37	1.38	0.62	0.62	0.88	1.04	0.13
Avail Cap(c_a), veh/h	234	2223	1089	128	996	926	204	1409	668	326	1433	585
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	52.2	15.9	14.7	55.0	18.1	18.2	53.2	31.9	31.9	51.5	38.3	31.6
Incr Delay (d2), s/veh	55.3	0.8	0.9	29.3	1.1	1.2	196.8	2.1	4.3	13.2	34.4	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	11.2	11.3	2.7	4.5	7.7	7.3	17.9	12.4	12.2	7.4	30.5	1.9
LnGrp Delay(d),s/veh	107.5	16.7	15.5	84.3	19.2	19.3	250.0	34.0	36.2	64.7	72.7	32.0
LnGrp LOS	F	B	B	F	B	B	F	C	D	E	F	C
Approach Vol, veh/h		1711			819			1571			1764	
Approach Delay, s/veh		28.7			27.5			73.1			70.1	
Approach LOS		C			C			E			E	

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	13.0	74.0	19.0	49.0	20.0	67.0	19.7	48.3
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	8.5	34.5	13.5	* 44	15.5	27.5	21.6	35.4
Max Q Clear Time (g_c+I1), s	8.8	22.3	15.5	45.5	17.3	15.8	15.1	24.0
Green Ext Time (p_c), s	0.0	6.8	0.0	0.0	0.0	6.6	0.1	4.8

Intersection Summary	
HCM 2010 Ctrl Delay	52.9
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	62	166	67	238	121	134	60	1361	209	211	1247	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	68	182	58	262	133	47	66	1496	205	232	1370	58
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	98	217	69	291	501	419	89	2056	281	158	2485	105
Arrive On Green	0.05	0.16	0.16	0.16	0.26	0.26	0.05	0.42	0.42	0.09	0.46	0.46
Sat Flow, veh/h	1810	1381	440	1810	1900	1588	1810	4899	670	1810	5426	230
Grp Volume(v), veh/h	68	0	240	262	133	47	66	1160	541	232	959	469
Grp Sat Flow(s),veh/h/ln	1810	0	1821	1810	1900	1588	1810	1900	1769	1810	1900	1856
Q Serve(g_s), s	4.4	0.0	15.4	17.0	6.7	2.7	4.3	30.6	30.7	10.5	22.0	22.0
Cycle Q Clear(g_c), s	4.4	0.0	15.4	17.0	6.7	2.7	4.3	30.6	30.7	10.5	22.0	22.0
Prop In Lane	1.00		0.24	1.00		1.00	1.00		0.38	1.00		0.12
Lane Grp Cap(c), veh/h	98	0	286	291	501	419	89	1595	743	158	1740	850
V/C Ratio(X)	0.69	0.00	0.84	0.90	0.27	0.11	0.74	0.73	0.73	1.47	0.55	0.55
Avail Cap(c_a), veh/h	452	0	455	452	501	419	89	1595	743	158	1740	850
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	0.0	49.1	49.4	35.0	33.5	56.3	29.1	29.1	54.8	23.6	23.6
Incr Delay (d2), s/veh	3.3	0.0	4.1	10.2	0.1	0.0	42.6	2.9	6.2	240.5	1.3	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	8.1	9.3	3.5	1.2	3.2	16.6	16.2	15.8	11.8	11.8
LnGrp Delay(d),s/veh	59.0	0.0	53.2	59.6	35.1	33.6	98.8	32.0	35.3	295.3	24.8	26.2
LnGrp LOS	E		D	E	D	C	F	C	D	F	C	C
Approach Vol, veh/h		308			442			1767			1660	
Approach Delay, s/veh		54.5			49.4			35.5			63.0	
Approach LOS		D			D			D			E	

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	15.0	55.9	24.8	24.3	10.4	60.5	12.0	37.1
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	10.5	28.5	30.0	30.0	5.9	33.1	30.0	30.0
Max Q Clear Time (g_c+I1), s	12.5	32.7	19.0	17.4	6.3	24.0	6.4	8.7
Green Ext Time (p_c), s	0.0	0.0	0.3	0.7	0.0	7.6	0.1	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	49.3
HCM 2010 LOS	D

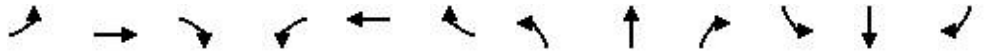
Notes

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

APPENDIX 6.12:

OPENING YEAR CUMULATIVE (2020) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

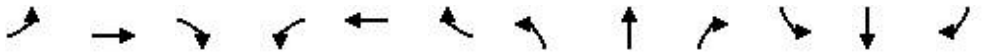
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰↰	↑↑							↱↱
Volume (vph)	0	579	124	580	2468	0	0	0	0	0	0	537
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5	4.0	5.5							5.6
Lane Util. Factor		*1.00	1.00	*1.00	*1.00							*1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00							0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00							1.00
Frt		1.00	1.00	1.00	1.00							1.00
Flt Protected		1.00	1.00	1.00	1.00							1.00
Satd. Flow (prot)		3800	1900	3800	3800							3707
Flt Permitted		1.00	1.00	1.00	1.00							1.00
Satd. Flow (perm)		3800	1900	3800	3800							3707
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	609	131	611	2598	0	0	0	0	0	0	565
RTOR Reduction (vph)	0	0	63	0	0	0	0	0	0	0	0	49
Lane Group Flow (vph)	0	609	68	611	2598	0	0	0	0	0	0	516
Confl. Bikes (#/hr)									2			2
Turn Type		NA	Perm	Prot	NA							Perm
Protected Phases		2		1	6							
Permitted Phases			2									4
Actuated Green, G (s)		62.0	62.0	23.2	89.2							19.7
Effective Green, g (s)		62.0	62.0	23.2	89.2							19.7
Actuated g/C Ratio		0.52	0.52	0.19	0.74							0.16
Clearance Time (s)		5.5	5.5	4.0	5.5							5.6
Vehicle Extension (s)		2.0	2.0	2.0	2.0							2.0
Lane Grp Cap (vph)		1963	981	734	2824							608
v/s Ratio Prot		0.16		0.16	c0.68							
v/s Ratio Perm			0.04									c0.14
v/c Ratio		0.31	0.07	0.83	0.92							0.85
Uniform Delay, d1		16.7	14.5	46.5	12.5							48.7
Progression Factor		1.00	1.00	0.94	1.33							1.00
Incremental Delay, d2		0.4	0.1	7.4	6.0							10.2
Delay (s)		17.1	14.7	51.0	22.7							58.9
Level of Service		B	B	D	C							E
Approach Delay (s)		16.7			28.1			0.0			58.9	
Approach LOS		B			C			A			E	

Intersection Summary			
HCM 2000 Control Delay	30.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	524	43	248	288	0	0	0	0	1541	2	386
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	557	41	264	306	0				1639	2	347
Adj No. of Lanes	0	2	1	2	2	0				2	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	950	404	611	1829	0				1710	4	760
Arrive On Green	0.00	0.25	0.25	0.17	0.48	0.00				0.47	0.47	0.47
Sat Flow, veh/h	0	3800	1615	3619	3800	0				3619	9	1607
Grp Volume(v), veh/h	0	557	41	264	306	0				1639	0	349
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1616
Q Serve(g_s), s	0.0	10.3	1.6	5.2	3.6	0.0				34.9	0.0	11.6
Cycle Q Clear(g_c), s	0.0	10.3	1.6	5.2	3.6	0.0				34.9	0.0	11.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.99
Lane Grp Cap(c), veh/h	0	950	404	611	1829	0				1710	0	764
V/C Ratio(X)	0.00	0.59	0.10	0.43	0.17	0.00				0.96	0.00	0.46
Avail Cap(c_a), veh/h	0	950	404	611	1829	0				1719	0	768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.97	0.97	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.4	23.1	29.8	11.7	0.0				20.3	0.0	14.2
Incr Delay (d2), s/veh	0.0	2.6	0.5	0.2	0.2	0.0				13.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.8	0.8	2.6	2.0	0.0				20.4	0.0	5.2
LnGrp Delay(d),s/veh	0.0	29.0	23.6	30.0	11.9	0.0				33.5	0.0	14.6
LnGrp LOS		C	C	C	B					C		B
Approach Vol, veh/h		598			570						1988	
Approach Delay, s/veh		28.6			20.3						30.2	
Approach LOS		C			C						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	18.6	25.0		42.8		43.6		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	7.5	* 20		38.0		32.0		
Max Q Clear Time (g_c+I1), s	7.2	12.3		36.9		5.6		
Green Ext Time (p_c), s	0.0	1.5		0.9		1.6		

Intersection Summary	
HCM 2010 Ctrl Delay	28.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	39	1569	101	0	2688	247	878	345	36	52	0	73
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		0.99	1.00		0.99
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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	40	1601	97	0	2743	208	896	352	37	53	0	69
Adj No. of Lanes	1	3	0	0	3	0	2	1	0	1	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	78	3432	208	0	3383	250	825	537	56	139	0	247
Arrive On Green	0.21	0.21	0.21	0.00	0.65	0.65	0.23	0.32	0.32	0.08	0.00	0.16
Sat Flow, veh/h	85	5321	322	0	5244	387	3510	1688	177	1810	0	1591
Grp Volume(v), veh/h	40	1143	555	0	1967	984	896	0	389	53	0	69
Grp Sat Flow(s),veh/h/ln	85	1900	1843	0	1900	1832	1755	0	1866	1810	0	1591
Q Serve(g_s), s	26.0	31.5	31.6	0.0	45.7	49.4	28.2	0.0	21.5	3.3	0.0	4.6
Cycle Q Clear(g_c), s	77.4	31.5	31.6	0.0	45.7	49.4	28.2	0.0	21.5	3.3	0.0	4.6
Prop In Lane	1.00		0.17	0.00		0.21	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	78	2451	1189	0	2451	1181	825	0	594	139	0	247
V/C Ratio(X)	0.51	0.47	0.47	0.00	0.80	0.83	1.09	0.00	0.65	0.38	0.00	0.28
Avail Cap(c_a), veh/h	78	2451	1189	0	2451	1181	825	0	594	139	0	247
HCM Platoon Ratio	0.33	0.33	0.33	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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	80.0	29.2	29.2	0.0	15.7	16.3	45.9	0.0	35.2	52.7	0.0	44.8
Incr Delay (d2), s/veh	21.8	0.6	1.3	0.0	2.9	6.9	57.3	0.0	5.6	0.6	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	16.9	16.6	0.0	24.8	26.9	20.2	0.0	12.0	1.7	0.0	2.2
LnGrp Delay(d),s/veh	101.8	29.8	30.5	0.0	18.6	23.3	103.2	0.0	40.8	53.3	0.0	47.6
LnGrp LOS	F	C	C		B	C	F		D	D		D
Approach Vol, veh/h		1738			2951			1285			122	
Approach Delay, s/veh		31.7			20.1			84.3			50.1	
Approach LOS		C			C			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		83.0	33.8	24.2		83.0	14.8	43.2
Change Period (Y+Rc), s		5.0	5.6	* 5.6		5.0	5.6	5.0
Max Green Setting (Gmax), s		57.6	28.2	* 19		57.6	8.6	38.2
Max Q Clear Time (g_c+I1), s		79.4	30.2	6.6		51.4	5.3	23.5
Green Ext Time (p_c), s		0.0	0.0	0.2		6.1	0.1	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	37.6
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	314	1750	0	0	450	646	84	0	393	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	341	1902	0	0	489	0	91	0	341			
Adj No. of Lanes	2	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	554	2482	0	0	1742	740	528	0	471			
Arrive On Green	0.15	0.65	0.00	0.00	0.46	0.00	0.29	0.00	0.29			
Sat Flow, veh/h	3619	3800	0	0	3800	1615	1810	0	1615			
Grp Volume(v), veh/h	341	1902	0	0	489	0	91	0	341			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1810	0	1615			
Q Serve(g_s), s	10.6	41.7	0.0	0.0	9.6	0.0	4.5	0.0	22.8			
Cycle Q Clear(g_c), s	10.6	41.7	0.0	0.0	9.6	0.0	4.5	0.0	22.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	554	2482	0	0	1742	740	528	0	471			
V/C Ratio(X)	0.62	0.77	0.00	0.00	0.28	0.00	0.17	0.00	0.72			
Avail Cap(c_a), veh/h	554	2482	0	0	1742	740	528	0	471			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.46	0.46	0.00	0.00	0.70	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	47.5	14.5	0.0	0.0	20.2	0.0	31.7	0.0	38.2			
Incr Delay (d2), s/veh	0.7	1.1	0.0	0.0	0.3	0.0	0.7	0.0	9.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.4	22.0	0.0	0.0	5.1	0.0	2.4	0.0	11.4			
LnGrp Delay(d),s/veh	48.2	15.6	0.0	0.0	20.5	0.0	32.4	0.0	47.5			
LnGrp LOS	D	B			C		C		D			
Approach Vol, veh/h		2243			489			432				
Approach Delay, s/veh		20.5			20.5			44.3				
Approach LOS		C			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		83.5			23.5	60.0		40.0
Change Period (Y+Rc), s		5.0			5.0	* 5		5.0
Max Green Setting (Gmax), s		75.0			16.5	* 55		35.0
Max Q Clear Time (g_c+I1), s		43.7			12.6	11.6		24.8
Green Ext Time (p_c), s		13.4			2.5	2.0		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	23.8
HCM 2010 LOS	C

Notes

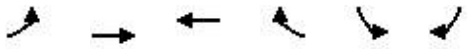
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	2300	256	115	2599	118	59	245	23	109	128	130
Future Volume (veh/h)	220	2300	256	115	2599	118	59	245	23	109	128	130
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		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	232	2421	0	121	2736	116	62	258	3	115	135	84
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	188	2584	732	536	3725	1056	77	461	5	98	489	579
Arrive On Green	0.10	0.45	0.00	0.30	0.65	0.65	0.04	0.25	0.25	0.05	0.26	0.26
Sat Flow, veh/h	1810	5700	1615	1810	5700	1615	1810	1874	22	1810	1900	1594
Grp Volume(v), veh/h	232	2421	0	121	2736	116	62	0	261	115	135	84
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1896	1810	1900	1594
Q Serve(g_s), s	12.5	48.4	0.0	6.1	38.4	3.2	4.1	0.0	14.4	6.5	6.8	4.3
Cycle Q Clear(g_c), s	12.5	48.4	0.0	6.1	38.4	3.2	4.1	0.0	14.4	6.5	6.8	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	188	2584	732	536	3725	1056	77	0	466	98	489	579
V/C Ratio(X)	1.23	0.94	0.00	0.23	0.73	0.11	0.81	0.00	0.56	1.17	0.28	0.15
Avail Cap(c_a), veh/h	188	2584	732	536	3725	1056	77	0	466	98	489	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	31.2	0.0	31.9	13.8	7.8	57.0	0.0	39.6	56.8	35.6	25.8
Incr Delay (d2), s/veh	141.3	8.1	0.0	0.1	0.7	0.0	58.3	0.0	4.8	144.9	0.1	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	13.6	27.3	0.0	3.0	20.2	1.4	3.3	0.0	8.2	7.2	3.6	1.9
LnGrp Delay(d),s/veh	195.1	39.2	0.0	31.9	14.5	7.8	115.3	0.0	44.4	201.6	35.7	25.9
LnGrp LOS	F	D		C	B	A	F		D	F	D	C
Approach Vol, veh/h		2653			2973			323			334	
Approach Delay, s/veh		52.9			15.0			58.0			90.4	
Approach LOS		D			B			E			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	41.3	59.9	10.6	36.4	17.0	84.2	12.0	35.0
Change Period (Y+Rc), s	5.5	* 5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	8.6	* 54	5.1	30.9	12.5	50.5	6.5	29.5
Max Q Clear Time (g_c+I1), s	8.1	50.4	6.1	8.8	14.5	40.4	8.5	16.4
Green Ext Time (p_c), s	0.0	3.3	0.0	1.6	0.0	8.4	0.0	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	37.2
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	62	2082	1053	39	9	44
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	69	2313	1170	43	10	49
Adj No. of Lanes	1	2	2	1	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	89	2196	1818	765	82	404
Arrive On Green	0.05	0.58	0.48	0.48	0.30	0.30
Sat Flow, veh/h	1810	3800	3800	1600	275	1346
Grp Volume(v), veh/h	69	2313	1170	43	60	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1600	1649	0
Q Serve(g_s), s	3.4	52.0	20.9	1.3	2.4	0.0
Cycle Q Clear(g_c), s	3.4	52.0	20.9	1.3	2.4	0.0
Prop In Lane	1.00			1.00	0.17	0.82
Lane Grp Cap(c), veh/h	89	2196	1818	765	495	0
V/C Ratio(X)	0.77	1.05	0.64	0.06	0.12	0.00
Avail Cap(c_a), veh/h	171	2196	1818	765	495	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.52	0.52	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.3	19.0	17.7	12.6	22.9	0.0
Incr Delay (d2), s/veh	2.8	30.7	1.8	0.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	36.2	11.3	0.6	1.2	0.0
LnGrp Delay(d),s/veh	45.1	49.7	19.5	12.7	23.4	0.0
LnGrp LOS	D	F	B	B	C	
Approach Vol, veh/h		2382	1213		60	
Approach Delay, s/veh		49.6	19.2		23.4	
Approach LOS		D	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		57.5		32.5	8.9	48.6		
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		
Max Green Setting (Gmax), s		52.0		27.0	8.5	39.0		
Max Q Clear Time (g_c+I1), s		54.0		4.4	5.4	22.9		
Green Ext Time (p_c), s		0.0		0.1	0.0	14.1		

Intersection Summary	
HCM 2010 Ctrl Delay	39.1
HCM 2010 LOS	D

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)	151	1879	271	32	2538	126	211	91	24	94	95	121
Future Volume (veh/h)	151	1879	271	32	2538	126	211	91	24	94	95	121
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		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	162	2020	0	34	2729	133	227	98	23	101	102	95
Adj No. of Lanes	1	3	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	4498	1274	43	4119	198	220	735	167	115	909	461
Arrive On Green	0.05	0.79	0.00	0.02	0.76	0.76	0.06	0.25	0.25	0.06	0.24	0.24
Sat Flow, veh/h	1810	5700	1615	1810	5395	259	3619	2997	681	1810	3800	1593
Grp Volume(v), veh/h	162	2020	0	34	1909	953	227	61	60	101	102	95
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1854	1810	1900	1778	1810	1900	1593
Q Serve(g_s), s	5.7	13.3	0.0	2.1	27.5	28.7	7.0	2.9	3.0	6.4	2.4	5.9
Cycle Q Clear(g_c), s	5.7	13.3	0.0	2.1	27.5	28.7	7.0	2.9	3.0	6.4	2.4	5.9
Prop In Lane	1.00		1.00	1.00		0.14	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	90	4498	1274	43	2901	1416	220	466	436	115	909	461
V/C Ratio(X)	1.81	0.45	0.00	0.79	0.66	0.67	1.03	0.13	0.14	0.88	0.11	0.21
Avail Cap(c_a), veh/h	90	4498	1274	96	2901	1416	220	466	436	115	909	461
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)	0.84	0.84	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	4.0	0.0	55.8	6.5	6.6	54.0	33.8	33.9	53.4	34.2	41.0
Incr Delay (d2), s/veh	397.4	0.3	0.0	1.1	0.1	0.2	68.8	0.6	0.7	47.4	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	7.0	0.0	1.1	14.1	14.4	5.6	1.6	1.6	4.7	1.3	2.7
LnGrp Delay(d),s/veh	452.1	4.2	0.0	56.9	6.6	6.9	122.9	34.4	34.6	100.8	34.5	42.0
LnGrp LOS	F	A		E	A	A	F	C	C	F	C	D
Approach Vol, veh/h		2182			2896			348			298	
Approach Delay, s/veh		37.5			7.3			92.1			59.4	
Approach LOS		D			A			F			E	

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	7.3	97.2	12.5	33.0	10.2	94.3	11.8	33.7
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	6.1	54.4	7.0	* 28	5.7	54.8	7.3	27.2
Max Q Clear Time (g_c+I1), s	4.1	15.3	9.0	7.9	7.7	30.7	8.4	5.0
Green Ext Time (p_c), s	0.0	35.1	0.0	0.4	0.0	22.5	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	84	1967	23	10	969	2	133	0	36	0	2	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	88	2071	24	11	1020	2	140	0	38	0	2	21
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	0	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	113	2048	870	19	1851	786	382	9	87	0	529	449
Arrive On Green	0.06	0.54	0.54	0.01	0.49	0.49	0.28	0.00	0.28	0.00	0.28	0.28
Sat Flow, veh/h	1810	3800	1615	1810	3800	1615	1115	31	311	0	1900	1615
Grp Volume(v), veh/h	88	2071	24	11	1020	2	178	0	0	0	2	21
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1458	0	0	0	1900	1615
Q Serve(g_s), s	4.3	48.5	0.6	0.5	16.9	0.1	8.4	0.0	0.0	0.0	0.1	0.9
Cycle Q Clear(g_c), s	4.3	48.5	0.6	0.5	16.9	0.1	8.9	0.0	0.0	0.0	0.1	0.9
Prop In Lane	1.00		1.00	1.00		1.00	0.79		0.21	0.00		1.00
Lane Grp Cap(c), veh/h	113	2048	870	19	1851	786	477	0	0	0	529	449
V/C Ratio(X)	0.78	1.01	0.03	0.57	0.55	0.00	0.37	0.00	0.00	0.00	0.00	0.05
Avail Cap(c_a), veh/h	189	2048	870	80	1851	786	477	0	0	0	529	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	20.7	9.7	44.3	16.2	11.9	26.6	0.0	0.0	0.0	23.5	23.8
Incr Delay (d2), s/veh	4.3	22.7	0.0	9.4	0.2	0.0	2.2	0.0	0.0	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	31.5	0.3	0.3	8.8	0.0	3.9	0.0	0.0	0.0	0.0	0.4
LnGrp Delay(d),s/veh	45.8	43.5	9.7	53.7	16.4	11.9	28.8	0.0	0.0	0.0	23.5	23.9
LnGrp LOS	D	F	A	D	B	B	C				C	C
Approach Vol, veh/h		2183			1033			178			23	
Approach Delay, s/veh		43.2			16.8			28.8			23.9	
Approach LOS		D			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		30.5	5.5	54.0		30.5	10.1	49.3
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	48.5		22.0	9.4	43.1
Max Q Clear Time (g_c+I1), s		10.9	2.5	50.5		2.9	6.3	18.9
Green Ext Time (p_c), s		0.5	0.0	0.0		0.7	0.0	18.2

Intersection Summary	
HCM 2010 Ctrl Delay	34.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	1011	706	56	1795	147	928	609	24	72	428	67
Future Volume (veh/h)	140	1011	706	56	1795	147	928	609	24	72	428	67
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	152	1099	690	61	1951	151	1009	662	24	78	465	57
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	128	2415	1382	79	2121	162	799	1393	50	100	692	84
Arrive On Green	0.07	0.64	0.64	0.04	0.61	0.61	0.22	0.38	0.38	0.06	0.21	0.21
Sat Flow, veh/h	1810	3800	1613	1810	3487	266	3619	3642	132	1810	3322	405
Grp Volume(v), veh/h	152	1099	690	61	1051	1051	1009	345	341	78	265	257
Grp Sat Flow(s),veh/h/ln	1810	1900	1613	1810	1900	1853	1810	1900	1874	1810	1900	1827
Q Serve(g_s), s	8.5	17.8	7.3	4.0	58.2	61.6	26.5	16.5	16.5	5.1	15.4	15.5
Cycle Q Clear(g_c), s	8.5	17.8	7.3	4.0	58.2	61.6	26.5	16.5	16.5	5.1	15.4	15.5
Prop In Lane	1.00		1.00	1.00		0.14	1.00		0.07	1.00		0.22
Lane Grp Cap(c), veh/h	128	2415	1382	79	1156	1127	799	727	717	100	396	381
V/C Ratio(X)	1.19	0.46	0.50	0.77	0.91	0.93	1.26	0.47	0.48	0.78	0.67	0.68
Avail Cap(c_a), veh/h	128	2415	1382	134	1156	1127	799	727	717	167	396	381
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)	0.65	0.65	0.65	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	11.2	7.5	56.8	20.6	21.3	46.8	28.0	28.0	56.0	43.7	43.8
Incr Delay (d2), s/veh	123.1	0.4	0.8	5.9	12.1	14.8	126.9	1.9	2.0	5.0	8.7	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	8.6	9.4	3.3	2.1	33.9	35.9	27.3	9.0	8.9	2.7	9.1	8.8
LnGrp Delay(d),s/veh	178.8	11.6	8.3	62.7	32.7	36.1	173.6	29.9	29.9	61.0	52.4	53.0
LnGrp LOS	F	B	A	E	C	D	F	C	C	E	D	D
Approach Vol, veh/h		1941			2163			1695			600	
Approach Delay, s/veh		23.5			35.2			115.5			53.8	
Approach LOS		C			D			F			D	

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	9.7	82.8	32.0	30.5	13.0	79.5	11.1	51.4
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	8.9	39.6	26.5	* 25	8.5	40.0	11.1	40.4
Max Q Clear Time (g_c+I1), s	6.0	19.8	28.5	17.5	10.5	63.6	7.1	18.5
Green Ext Time (p_c), s	0.0	16.3	0.0	1.1	0.0	0.0	0.0	4.6

Intersection Summary	
HCM 2010 Ctrl Delay	54.6
HCM 2010 LOS	D

Notes



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	4	110	786	3	67	811
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	4	116	827	3	71	854
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	162	145	950	807	431	1519
Arrive On Green	0.09	0.09	0.50	0.50	0.24	0.80
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	4	116	827	3	71	854
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.2	6.3	34.7	0.1	2.8	14.7
Cycle Q Clear(g_c), s	0.2	6.3	34.7	0.1	2.8	14.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	162	145	950	807	431	1519
V/C Ratio(X)	0.02	0.80	0.87	0.00	0.16	0.56
Avail Cap(c_a), veh/h	523	467	950	807	431	1519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.90	0.90	1.00	1.00
Uniform Delay (d), s/veh	37.4	40.2	19.9	11.3	27.2	3.3
Incr Delay (d2), s/veh	0.0	3.9	9.8	0.0	0.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.0	20.5	0.0	1.4	8.2
LnGrp Delay(d),s/veh	37.4	44.0	29.7	11.3	27.3	4.8
LnGrp LOS	D	D	C	B	C	A
Approach Vol, veh/h	120		830			925
Approach Delay, s/veh	43.8		29.7			6.5
Approach LOS	D		C			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	26.9	50.5				77.4		12.6
Change Period (Y+Rc), s	5.5	* 5.5				5.5		4.5
Max Green Setting (Gmax), s	4.5	* 45				54.0		26.0
Max Q Clear Time (g_c+I1), s	4.8	36.7				16.7		8.3
Green Ext Time (p_c), s	0.0	2.2				3.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	19.2
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	340	473	367	212	271	590
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	362	503	390	226	288	628
Adj No. of Lanes	1	1	2	0	2	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	553	655	859	491	362	1978
Arrive On Green	0.31	0.31	0.39	0.39	0.10	0.55
Sat Flow, veh/h	1810	1615	2310	1267	3619	3705
Grp Volume(v), veh/h	362	503	317	299	288	628
Grp Sat Flow(s),veh/h/ln	1810	1615	1805	1676	1810	1805
Q Serve(g_s), s	13.0	20.2	9.8	10.0	5.8	7.1
Cycle Q Clear(g_c), s	13.0	20.2	9.8	10.0	5.8	7.1
Prop In Lane	1.00	1.00		0.76	1.00	
Lane Grp Cap(c), veh/h	553	655	700	650	362	1978
V/C Ratio(X)	0.65	0.77	0.45	0.46	0.80	0.32
Avail Cap(c_a), veh/h	627	721	700	650	362	1978
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	0.80	0.80
Uniform Delay (d), s/veh	22.6	19.2	17.0	17.1	33.0	9.3
Incr Delay (d2), s/veh	1.4	3.9	2.1	2.3	8.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	9.6	5.3	5.0	3.4	3.6
LnGrp Delay(d),s/veh	24.0	23.1	19.2	19.4	41.8	9.6
LnGrp LOS	C	C	B	B	D	A
Approach Vol, veh/h	865		616			916
Approach Delay, s/veh	23.5		19.3			19.7
Approach LOS	C		B			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.0	34.6				46.6		28.4
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	7.5	26.0				38.0		26.0
Max Q Clear Time (g_c+I1), s	7.8	12.0				9.1		22.2
Green Ext Time (p_c), s	0.0	4.1				4.9		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	21.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	28	76	4	40	310	716	1	55	11	443	104	47
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	37	101	2	53	413	888	1	73	15	591	139	62
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	2	1	1
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	47	444	378	69	467	842	145	529	449	969	900	765
Arrive On Green	0.03	0.23	0.23	0.04	0.25	0.25	0.08	0.28	0.28	0.28	0.47	0.47
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	1900	1615	3510	1900	1615
Grp Volume(v), veh/h	37	101	2	53	413	888	1	73	15	591	139	62
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1615	1755	1900	1615
Q Serve(g_s), s	2.3	4.9	0.1	3.3	24.1	17.4	0.1	3.3	0.6	16.9	4.8	1.9
Cycle Q Clear(g_c), s	2.3	4.9	0.1	3.3	24.1	17.4	0.1	3.3	0.6	16.9	4.8	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	47	444	378	69	467	842	145	529	449	969	900	765
V/C Ratio(X)	0.78	0.23	0.01	0.77	0.88	1.05	0.01	0.14	0.03	0.61	0.15	0.08
Avail Cap(c_a), veh/h	79	466	396	131	520	888	145	529	449	969	900	765
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	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	35.6	20.6	54.8	41.8	14.4	48.7	31.1	20.7	36.2	17.2	10.2
Incr Delay (d2), s/veh	9.9	0.1	0.0	0.6	1.6	27.6	0.0	0.5	0.1	0.8	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.6	0.0	1.7	12.8	13.9	0.0	1.8	0.3	8.2	2.6	0.9
LnGrp Delay(d),s/veh	65.6	35.7	20.6	55.5	43.4	42.1	48.7	31.7	20.8	37.1	17.5	10.4
LnGrp LOS	E	D	C	E	D	F	D	C	C	D	B	B
Approach Vol, veh/h		140			1354			89			792	
Approach Delay, s/veh		43.4			43.0			30.1			31.6	
Approach LOS		D			D			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	36.2	37.5	8.9	32.4	13.7	60.0	7.5	33.8
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	26.5	32.0	8.3	28.2	4.0	54.5	5.0	31.5
Max Q Clear Time (g_c+I1), s	18.9	5.3	5.3	6.9	2.1	6.8	4.3	26.1
Green Ext Time (p_c), s	0.8	0.2	0.0	3.8	0.3	0.5	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	38.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	199	334	174	806	10	1429	116	217	5	112	12
Future Volume (veh/h)	16	199	334	174	806	10	1429	116	217	5	112	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.77
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	1900	1900	1900	1900	1900	1976	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	22	273	253	238	1104	11	1958	159	265	7	153	13
Adj No. of Lanes	1	2	1	1	2	1	2	1	1	1	2	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	31	419	911	367	1124	460	1708	895	760	90	225	19
Arrive On Green	0.03	0.22	0.22	0.41	0.59	0.59	0.91	0.94	0.94	0.10	0.13	0.13
Sat Flow, veh/h	1810	3800	1615	1810	3800	1555	3764	1900	1615	1810	3377	279
Grp Volume(v), veh/h	22	273	253	238	1104	11	1958	159	265	7	84	82
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1555	1882	1900	1615	1810	1900	1756
Q Serve(g_s), s	1.4	7.8	0.0	12.7	34.0	0.4	54.4	0.7	1.7	0.4	5.0	5.4
Cycle Q Clear(g_c), s	1.4	7.8	0.0	12.7	34.0	0.4	54.4	0.7	1.7	0.4	5.0	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	31	419	911	367	1124	460	1708	895	760	90	127	117
V/C Ratio(X)	0.71	0.65	0.28	0.65	0.98	0.02	1.15	0.18	0.35	0.08	0.66	0.70
Avail Cap(c_a), veh/h	60	823	1083	367	1124	460	1708	895	760	90	127	117
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.65	0.65	0.65	1.00	1.00	1.00	0.62	0.62	0.62	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.6	44.7	11.6	32.2	24.2	17.3	5.6	1.9	1.9	51.6	50.7	50.9
Incr Delay (d2), s/veh	7.0	0.4	0.0	3.2	22.4	0.0	70.7	0.3	0.8	0.1	24.2	29.5
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	0.8	4.1	3.6	6.7	21.0	0.2	40.5	0.4	0.8	0.2	3.5	3.6
LnGrp Delay(d),s/veh	64.7	45.1	11.6	35.4	46.6	17.3	76.3	2.1	2.7	51.7	74.9	80.3
LnGrp LOS	E	D	B	D	D	B	F	A	A	D	E	F
Approach Vol, veh/h		548			1353			2382			173	
Approach Delay, s/veh		30.4			44.4			63.2			76.5	
Approach LOS		C			D			E			E	

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	10.4	62.0	28.8	18.7	58.9	13.5	6.6	41.0
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	56.5	13.5	26.0	52.5	8.0	4.0	35.5
Max Q Clear Time (g_c+I1), s	2.4	3.7	14.7	9.8	56.4	7.4	3.4	36.0
Green Ext Time (p_c), s	1.0	0.9	0.0	1.3	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	54.0
HCM 2010 LOS	D

Notes

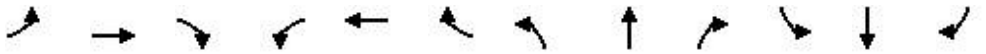
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	21	212	68	31	22	260	1610	85	12	461	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	26	200	83	38	25	317	1963	102	15	562	25
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	25	79	732	98	156	133	745	2593	133	24	1146	51
Arrive On Green	0.01	0.04	0.04	0.05	0.08	0.08	0.41	0.72	0.72	0.01	0.32	0.32
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3579	184	1810	3611	160
Grp Volume(v), veh/h	16	26	200	83	38	25	317	1033	1033	15	295	292
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1863	1810	1900	1871
Q Serve(g_s), s	1.1	1.6	1.6	5.5	2.2	1.7	15.0	39.4	41.1	1.0	15.1	15.1
Cycle Q Clear(g_c), s	1.1	1.6	1.6	5.5	2.2	1.7	15.0	39.4	41.1	1.0	15.1	15.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		0.09
Lane Grp Cap(c), veh/h	25	79	732	98	156	133	745	1376	1350	24	603	594
V/C Ratio(X)	0.64	0.33	0.27	0.85	0.24	0.19	0.43	0.75	0.77	0.63	0.49	0.49
Avail Cap(c_a), veh/h	77	382	989	98	404	343	745	1376	1350	62	603	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	58.9	55.9	9.6	56.3	51.6	51.4	25.2	10.0	10.2	58.9	33.1	33.1
Incr Delay (d2), s/veh	9.8	0.9	0.1	44.4	0.3	0.3	0.1	3.8	4.2	9.3	2.6	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.9	2.7	3.9	1.2	0.8	7.5	21.8	22.5	0.6	8.3	8.2
LnGrp Delay(d),s/veh	68.7	56.8	9.7	100.6	51.9	51.6	25.3	13.8	14.4	68.2	35.7	35.8
LnGrp LOS	E	E	A	F	D	D	C	B	B	E	D	D
Approach Vol, veh/h		242			146			2382			602	
Approach Delay, s/veh		18.6			79.5			15.6			36.6	
Approach LOS		B			E			B			D	

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	6.1	92.4	11.0	10.5	54.9	43.6	6.2	15.3
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.1	65.3	6.5	24.1	31.3	* 38	5.1	25.5
Max Q Clear Time (g_c+I1), s	3.0	43.1	7.5	3.6	17.0	17.1	3.1	4.2
Green Ext Time (p_c), s	0.0	11.2	0.0	0.5	8.7	1.8	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	22.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	955	768	176	12	385	42	157	323	30	15	81	410
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1016	817	170	13	410	43	167	344	28	16	86	369
Adj No. of Lanes	2	3	0	1	3	0	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1460	3259	673	22	1737	179	152	1280	544	152	1280	1215
Arrive On Green	0.42	0.76	0.76	0.01	0.34	0.34	0.04	0.34	0.34	0.04	0.34	0.34
Sat Flow, veh/h	3510	4310	891	1810	5077	523	3619	3800	1615	3619	3800	1615
Grp Volume(v), veh/h	1016	654	333	13	305	148	167	344	28	16	86	369
Grp Sat Flow(s),veh/h/ln	1755	1729	1742	1810	1900	1800	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	22.6	5.4	5.5	0.7	5.5	5.6	4.0	6.3	1.5	0.4	1.5	0.0
Cycle Q Clear(g_c), s	22.6	5.4	5.5	0.7	5.5	5.6	4.0	6.3	1.5	0.4	1.5	0.0
Prop In Lane	1.00		0.51	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1460	2615	1318	22	1300	616	152	1280	544	152	1280	1215
V/C Ratio(X)	0.70	0.25	0.25	0.59	0.23	0.24	1.10	0.27	0.05	0.10	0.07	0.30
Avail Cap(c_a), veh/h	1460	2615	1318	76	1300	616	152	1280	544	152	1280	1215
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	22.8	3.5	3.5	46.7	22.4	22.4	45.5	23.0	39.5	43.8	21.4	3.8
Incr Delay (d2), s/veh	1.2	0.2	0.5	8.9	0.4	0.9	100.9	0.5	0.2	0.1	0.1	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	11.1	2.6	2.8	0.4	2.9	3.0	4.1	3.4	0.7	0.2	0.8	3.3
LnGrp Delay(d),s/veh	24.0	3.7	4.0	55.6	22.8	23.3	146.4	23.5	39.6	43.9	21.5	4.4
LnGrp LOS	C	A	A	E	C	C	F	C	D	D	C	A
Approach Vol, veh/h		2003			466			539			471	
Approach Delay, s/veh		14.1			23.9			62.4			8.9	
Approach LOS		B			C			E			A	

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	5.7	78.3	8.5	37.5	46.0	38.0	8.5	37.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	35.0	4.0	32.0	6.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	2.7	7.5	6.0	3.5	24.6	7.6	2.4	8.3
Green Ext Time (p_c), s	0.0	6.9	0.0	0.9	0.0	1.6	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	22.2
HCM 2010 LOS	C

Notes

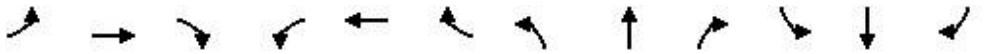
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	589	205	146	1180	113	379	1184	145	169	842	239
Future Volume (veh/h)	143	589	205	146	1180	113	379	1184	145	169	842	239
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		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1976	1900	1900	1976	1900	1900	1976	1900	1900	1976	1900
Adj Flow Rate, veh/h	159	654	211	162	1311	117	421	1316	149	188	936	256
Adj No. of Lanes	1	2	1	1	2	0	1	3	0	1	2	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	173	2351	1247	190	2159	192	324	1555	176	201	939	378
Arrive On Green	0.10	0.59	0.59	0.11	0.60	0.60	0.18	0.30	0.30	0.11	0.24	0.24
Sat Flow, veh/h	1810	3952	1609	1810	3573	318	1810	5227	592	1810	3952	1590
Grp Volume(v), veh/h	159	654	211	162	723	705	421	995	470	188	936	256
Grp Sat Flow(s),veh/h/ln	1810	1976	1609	1810	1976	1915	1810	1976	1867	1810	1976	1590
Q Serve(g_s), s	10.5	9.6	4.1	10.6	27.4	27.7	21.5	28.4	28.4	12.4	28.4	17.6
Cycle Q Clear(g_c), s	10.5	9.6	4.1	10.6	27.4	27.7	21.5	28.4	28.4	12.4	28.4	17.6
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	173	2351	1247	190	1194	1157	324	1176	556	201	939	378
V/C Ratio(X)	0.92	0.28	0.17	0.85	0.61	0.61	1.30	0.85	0.85	0.94	1.00	0.68
Avail Cap(c_a), veh/h	173	2351	1247	309	1194	1157	324	1176	556	201	939	378
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	53.8	11.8	3.5	52.8	14.8	14.9	49.3	39.6	39.6	52.9	45.7	41.6
Incr Delay (d2), s/veh	44.4	0.3	0.3	6.2	2.3	2.4	155.2	7.6	14.7	45.5	28.7	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	5.4	1.9	5.6	15.6	15.3	24.7	16.7	16.9	8.7	19.2	8.7
LnGrp Delay(d),s/veh	98.1	12.1	3.8	58.9	17.1	17.3	204.5	47.2	54.3	98.4	74.4	51.0
LnGrp LOS	F	B	A	E	B	B	F	D	D	F	E	D
Approach Vol, veh/h		1024			1590			1886			1380	
Approach Delay, s/veh		23.8			21.4			84.1			73.4	
Approach LOS		C			C			F			E	

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	17.1	77.9	26.0	34.0	16.0	79.0	18.8	41.2
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	20.5	30.5	21.5	27.5	11.5	39.5	13.3	* 36
Max Q Clear Time (g_c+I1), s	12.6	11.6	23.5	30.4	12.5	29.7	14.4	30.4
Green Ext Time (p_c), s	0.1	9.6	0.0	0.0	0.0	6.4	0.0	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	54.1
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	53	232	142	265	238	265	125	1229	364	131	977	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	58	255	140	291	262	191	137	1351	375	144	1074	58
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	88	273	150	320	693	580	148	1459	403	128	1766	95
Arrive On Green	0.05	0.24	0.24	0.18	0.36	0.36	0.08	0.34	0.34	0.07	0.33	0.33
Sat Flow, veh/h	1810	1154	633	1810	1900	1590	1810	4283	1185	1810	5356	289
Grp Volume(v), veh/h	58	0	395	291	262	191	137	1198	528	144	762	370
Grp Sat Flow(s),veh/h/ln	1810	0	1787	1810	1900	1590	1810	1900	1668	1810	1900	1845
Q Serve(g_s), s	3.8	0.0	26.0	18.9	12.2	10.4	9.0	36.4	36.7	8.5	20.2	20.2
Cycle Q Clear(g_c), s	3.8	0.0	26.0	18.9	12.2	10.4	9.0	36.4	36.7	8.5	20.2	20.2
Prop In Lane	1.00		0.35	1.00		1.00	1.00		0.71	1.00		0.16
Lane Grp Cap(c), veh/h	88	0	423	320	693	580	148	1294	568	128	1253	608
V/C Ratio(X)	0.66	0.00	0.93	0.91	0.38	0.33	0.93	0.93	0.93	1.12	0.61	0.61
Avail Cap(c_a), veh/h	452	0	447	452	693	580	148	1294	568	128	1253	608
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	0.0	44.9	48.4	28.1	27.5	54.7	38.1	38.2	55.8	33.7	33.7
Incr Delay (d2), s/veh	3.1	0.0	25.3	14.4	0.1	0.1	56.7	12.6	23.9	116.5	2.2	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	15.8	10.7	6.4	4.6	6.9	21.4	20.6	8.4	11.0	11.0
LnGrp Delay(d),s/veh	59.2	0.0	70.2	62.8	28.2	27.6	111.5	50.7	62.1	172.3	35.9	38.2
LnGrp LOS	E		E	E	C	C	F	D	E	F	D	D
Approach Vol, veh/h		453			744			1863			1276	
Approach Delay, s/veh		68.8			41.6			58.4			52.0	
Approach LOS		E			D			E			D	

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	13.0	46.4	26.7	33.9	14.3	45.1	11.3	49.3
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	8.5	30.5	30.0	30.0	9.8	29.2	30.0	30.0
Max Q Clear Time (g_c+I1), s	10.5	38.7	20.9	28.0	11.0	22.2	5.8	14.2
Green Ext Time (p_c), s	0.0	0.0	0.3	0.4	0.0	5.7	0.1	2.8

Intersection Summary	
HCM 2010 Ctrl Delay	54.7
HCM 2010 LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1561	593	1019	679	0	0	0	0	0	0	276
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				0	0	1900
Adj Flow Rate, veh/h	0	1643	616	1073	715	0				0	0	169
Adj No. of Lanes	0	2	1	2	2	0				0	0	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2422	1030	1025	3626	0				0	0	0
Arrive On Green	0.00	0.64	0.64	0.47	1.00	0.00				0.00	0.00	0.00
Sat Flow, veh/h	0	3800	1615	3619	3800	0					0	
Grp Volume(v), veh/h	0	1643	616	1073	715	0					0.0	
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0						
Q Serve(g_s), s	0.0	33.1	26.8	34.0	0.0	0.0						
Cycle Q Clear(g_c), s	0.0	33.1	26.8	34.0	0.0	0.0						
Prop In Lane	0.00		1.00	1.00		0.00						
Lane Grp Cap(c), veh/h	0	2423	1030	1025	3626	0						
V/C Ratio(X)	0.00	0.68	0.60	1.05	0.20	0.00						
Avail Cap(c_a), veh/h	0	2423	1030	1025	3626	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00						
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	13.9	12.7	31.6	0.0	0.0						
Incr Delay (d2), s/veh	0.0	1.5	2.6	41.0	0.1	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	17.6	12.5	22.7	0.1	0.0						
LnGrp Delay(d),s/veh	0.0	15.4	15.3	72.6	0.1	0.0						
LnGrp LOS		B	B	F	A							
Approach Vol, veh/h		2259			1788							
Approach Delay, s/veh		15.4			43.6							
Approach LOS		B			D							

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		
Phs Duration (G+Y+Rc), s	38.0	82.0				120.0		
Change Period (Y+Rc), s	4.0	5.5				5.5		
Max Green Setting (Gmax), s	34.0	38.5				76.5		
Max Q Clear Time (g_c+I1), s	36.0	35.1				2.0		
Green Ext Time (p_c), s	0.0	2.9				23.2		

Intersection Summary	
HCM 2010 Ctrl Delay	27.9
HCM 2010 LOS	C

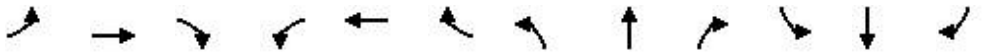
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	721	105	611	202	0	0	0	0	802	2	419
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	767	112	650	215	0				853	2	369
Adj No. of Lanes	0	2	1	2	2	0				2	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1228	522	879	2443	0				891	2	396
Arrive On Green	0.00	0.32	0.32	0.24	0.64	0.00				0.25	0.25	0.25
Sat Flow, veh/h	0	3800	1615	3619	3800	0				3619	9	1608
Grp Volume(v), veh/h	0	767	112	650	215	0				853	0	371
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1616
Q Serve(g_s), s	0.0	11.1	3.3	10.8	1.4	0.0				15.1	0.0	14.6
Cycle Q Clear(g_c), s	0.0	11.1	3.3	10.8	1.4	0.0				15.1	0.0	14.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.99
Lane Grp Cap(c), veh/h	0	1228	522	879	2443	0				891	0	398
V/C Ratio(X)	0.00	0.62	0.21	0.74	0.09	0.00				0.96	0.00	0.93
Avail Cap(c_a), veh/h	0	1228	522	879	2443	0				891	0	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.7	16.0	22.7	4.4	0.0				24.2	0.0	24.0
Incr Delay (d2), s/veh	0.0	2.4	0.9	0.3	0.0	0.0				20.5	0.0	28.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.2	1.6	5.4	0.7	0.0				10.0	0.0	9.7
LnGrp Delay(d),s/veh	0.0	21.1	16.9	23.0	4.4	0.0				44.7	0.0	52.7
LnGrp LOS		C	B	C	A					D		D
Approach Vol, veh/h		879			865						1224	
Approach Delay, s/veh		20.5			18.4						47.1	
Approach LOS		C			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	20.8	26.0		21.0		46.8		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	13.5	* 21		16.0		39.0		
Max Q Clear Time (g_c+I1), s	12.8	13.1		17.1		3.4		
Green Ext Time (p_c), s	0.2	2.2		0.0		2.0		

Intersection Summary	
HCM 2010 Ctrl Delay	30.9
HCM 2010 LOS	C

Notes

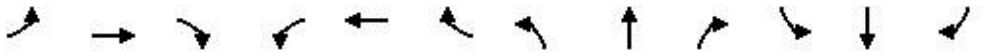
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	27	2163	414	0	2680	94	142	62	29	114	1	66
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		0.98	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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	2230	423	0	2763	88	146	64	30	118	1	53
Adj No. of Lanes	1	3	0	0	3	0	2	1	0	1	1	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	86	3018	545	0	3540	112	201	191	89	127	5	268
Arrive On Green	0.43	0.43	0.43	0.00	0.64	0.64	0.06	0.16	0.16	0.07	0.17	0.17
Sat Flow, veh/h	94	4684	845	0	5496	173	3510	1225	574	1810	30	1590
Grp Volume(v), veh/h	28	1787	866	0	1902	949	146	0	94	118	0	54
Grp Sat Flow(s),veh/h/ln	94	1900	1730	0	1900	1869	1755	0	1799	1810	0	1619
Q Serve(g_s), s	33.2	46.8	51.3	0.0	42.8	44.1	4.9	0.0	5.6	7.8	0.0	3.4
Cycle Q Clear(g_c), s	77.3	46.8	51.3	0.0	42.8	44.1	4.9	0.0	5.6	7.8	0.0	3.4
Prop In Lane	1.00		0.49	0.00		0.09	1.00		0.32	1.00		0.98
Lane Grp Cap(c), veh/h	86	2448	1114	0	2448	1204	201	0	280	127	0	273
V/C Ratio(X)	0.33	0.73	0.78	0.00	0.78	0.79	0.73	0.00	0.34	0.93	0.00	0.20
Avail Cap(c_a), veh/h	86	2448	1114	0	2448	1204	216	0	280	127	0	273
HCM Platoon Ratio	0.67	0.67	0.67	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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.3	25.5	26.7	0.0	15.2	15.4	55.6	0.0	45.1	55.5	0.0	42.9
Incr Delay (d2), s/veh	9.8	2.0	5.3	0.0	2.5	5.3	8.9	0.0	3.2	58.4	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	25.3	26.2	0.0	23.0	24.2	2.6	0.0	3.0	6.0	0.0	1.7
LnGrp Delay(d),s/veh	67.1	27.4	32.1	0.0	17.7	20.7	64.6	0.0	48.3	113.9	0.0	44.5
LnGrp LOS	E	C	C		B	C	E		D	F		D
Approach Vol, veh/h		2681			2851			240			172	
Approach Delay, s/veh		29.3			18.7			58.2			92.1	
Approach LOS		C			B			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		82.3	12.5	25.2		82.3	14.0	23.7
Change Period (Y+Rc), s		5.0	5.6	5.0		5.0	5.6	5.0
Max Green Setting (Gmax), s		77.3	7.4	19.7		77.3	8.4	18.7
Max Q Clear Time (g_c+I1), s		79.3	6.9	5.4		46.1	9.8	7.6
Green Ext Time (p_c), s		0.0	0.0	0.3		30.3	0.0	0.3

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												
Volume (veh/h)	530	992	0	0	762	1523	51	1	211	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	596	1115	0	0	856	0	57	1	128			
Adj No. of Lanes	2	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	1990	3008	0	0	760	323	222	4	202			
Arrive On Green	0.55	0.79	0.00	0.00	0.20	0.00	0.13	0.13	0.13			
Sat Flow, veh/h	3619	3800	0	0	3800	1615	1780	31	1615			
Grp Volume(v), veh/h	596	1115	0	0	856	0	58	0	128			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1811	0	1615			
Q Serve(g_s), s	10.6	10.4	0.0	0.0	24.0	0.0	3.5	0.0	9.0			
Cycle Q Clear(g_c), s	10.6	10.4	0.0	0.0	24.0	0.0	3.5	0.0	9.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.98		1.00			
Lane Grp Cap(c), veh/h	1990	3008	0	0	760	323	226	0	202			
V/C Ratio(X)	0.30	0.37	0.00	0.00	1.13	0.00	0.26	0.00	0.63			
Avail Cap(c_a), veh/h	2036	3008	0	0	760	323	226	0	202			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.56	0.56	0.00	0.00	0.12	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	14.5	3.7	0.0	0.0	48.0	0.0	47.5	0.0	49.9			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	59.2	0.0	2.7	0.0	14.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.3	5.3	0.0	0.0	18.8	0.0	1.9	0.0	4.8			
LnGrp Delay(d),s/veh	14.6	3.9	0.0	0.0	107.2	0.0	50.2	0.0	64.1			
LnGrp LOS	B	A			F		D		E			
Approach Vol, veh/h		1711			856			186				
Approach Delay, s/veh		7.6			107.2			59.8				
Approach LOS		A			F			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		100.0			71.0	29.0		20.0
Change Period (Y+Rc), s		5.0			5.0	* 5		5.0
Max Green Setting (Gmax), s		95.0			67.5	* 24		15.0
Max Q Clear Time (g_c+I1), s		12.4			12.6	26.0		11.0
Green Ext Time (p_c), s		7.2			7.1	0.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	42.1
HCM 2010 LOS	D

Notes

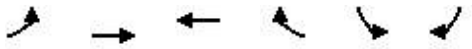
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	2470	25	28	2339	106	404	105	200	136	22	221
Future Volume (veh/h)	128	2470	25	28	2339	106	404	105	200	136	22	221
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	132	2546	0	29	2411	78	416	108	152	140	23	121
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	128	2636	747	37	2348	651	513	178	251	168	112	209
Arrive On Green	0.07	0.46	0.00	0.02	0.41	0.41	0.28	0.25	0.25	0.09	0.06	0.06
Sat Flow, veh/h	1810	5700	1615	1810	5700	1581	1810	715	1006	1810	1900	1615
Grp Volume(v), veh/h	132	2546	0	29	2411	78	416	0	260	140	23	121
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1581	1810	0	1721	1810	1900	1615
Q Serve(g_s), s	8.5	52.1	0.0	1.9	49.4	2.5	25.7	0.0	16.0	9.1	1.4	4.4
Cycle Q Clear(g_c), s	8.5	52.1	0.0	1.9	49.4	2.5	25.7	0.0	16.0	9.1	1.4	4.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.58	1.00		1.00
Lane Grp Cap(c), veh/h	128	2636	747	37	2348	651	513	0	429	168	112	209
V/C Ratio(X)	1.03	0.97	0.00	0.79	1.03	0.12	0.81	0.00	0.61	0.83	0.21	0.58
Avail Cap(c_a), veh/h	128	2636	747	92	2348	651	513	0	429	187	467	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	31.3	0.0	58.5	35.3	10.3	40.0	0.0	39.8	53.5	53.8	20.6
Incr Delay (d2), s/veh	87.7	11.2	0.0	13.2	25.8	0.0	13.1	0.0	6.2	22.0	0.3	0.9
Initial Q Delay(d3),s/veh	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	29.8	0.0	1.1	31.5	1.1	14.7	0.0	8.3	5.6	0.7	2.0
LnGrp Delay(d),s/veh	143.8	42.5	0.0	71.7	61.1	10.3	53.1	0.0	46.1	75.5	54.1	21.6
LnGrp LOS	F	D		E	F	B	D		D	E	D	C
Approach Vol, veh/h		2678			2518			676			284	
Approach Delay, s/veh		47.5			59.6			50.4			50.8	
Approach LOS		D			E			D			D	

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	6.9	61.0	39.5	12.6	13.0	54.9	16.7	35.4
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	6.1	50.6	12.8	29.5	8.5	48.2	12.4	29.9
Max Q Clear Time (g_c+I1), s	3.9	54.1	27.7	6.4	10.5	51.4	11.1	18.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	52.9
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	30	1173	2215	18	15	70
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	33	1275	2408	20	16	76
Adj No. of Lanes	1	2	2	1	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	45	2597	2328	982	64	303
Arrive On Green	0.03	0.91	0.61	0.61	0.22	0.22
Sat Flow, veh/h	1810	3800	3800	1603	284	1347
Grp Volume(v), veh/h	33	1275	2408	20	93	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1603	1648	0
Q Serve(g_s), s	2.2	6.6	73.5	0.6	5.6	0.0
Cycle Q Clear(g_c), s	2.2	6.6	73.5	0.6	5.6	0.0
Prop In Lane	1.00			1.00	0.17	0.82
Lane Grp Cap(c), veh/h	45	2597	2328	982	371	0
V/C Ratio(X)	0.73	0.49	1.03	0.02	0.25	0.00
Avail Cap(c_a), veh/h	60	2597	2328	982	371	0
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.6	2.0	23.3	9.1	38.2	0.0
Incr Delay (d2), s/veh	14.6	0.6	28.3	0.0	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.3	47.3	0.3	2.7	0.0
LnGrp Delay(d),s/veh	72.2	2.6	51.5	9.2	39.8	0.0
LnGrp LOS	E	A	F	A	D	
Approach Vol, veh/h		1308	2428		93	
Approach Delay, s/veh		4.4	51.2		39.8	
Approach LOS		A	D		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		87.5		32.5	8.5	79.0		
Change Period (Y+Rc), s		5.5		5.5	5.5	* 5.5		
Max Green Setting (Gmax), s		82.0		27.0	4.0	* 74		
Max Q Clear Time (g_c+I1), s		8.6		7.6	4.2	75.5		
Green Ext Time (p_c), s		6.8		0.1	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	34.9
HCM 2010 LOS	C

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)	209	3167	489	16	1665	78	268	108	26	200	214	224
Future Volume (veh/h)	209	3167	489	16	1665	78	268	108	26	200	214	224
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		0.99	1.00		1.00	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	227	3442	0	17	1810	81	291	117	23	217	233	165
Adj No. of Lanes	1	3	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1115	5896	1671	26	2296	103	296	755	145	149	895	1370
Arrive On Green	0.62	1.00	0.00	0.01	0.42	0.42	0.08	0.24	0.24	0.08	0.24	0.24
Sat Flow, veh/h	1810	5700	1615	1810	5412	242	3619	3101	594	1810	3800	1594
Grp Volume(v), veh/h	227	3442	0	17	1270	621	291	71	69	217	233	165
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1853	1810	1900	1795	1810	1900	1594
Q Serve(g_s), s	6.3	0.0	0.0	1.1	33.2	33.3	9.2	3.4	3.5	9.5	5.7	0.0
Cycle Q Clear(g_c), s	6.3	0.0	0.0	1.1	33.2	33.3	9.2	3.4	3.5	9.5	5.7	0.0
Prop In Lane	1.00		1.00	1.00		0.13	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	1115	5896	1671	26	1613	786	296	463	437	149	895	1370
V/C Ratio(X)	0.20	0.58	0.00	0.64	0.79	0.79	0.98	0.15	0.16	1.45	0.26	0.12
Avail Cap(c_a), veh/h	1115	5896	1671	63	1613	786	296	463	437	149	895	1370
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)	0.34	0.34	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.7	0.0	0.0	56.4	28.6	28.7	52.7	34.2	34.2	52.7	35.8	1.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.9	0.4	0.8	47.6	0.7	0.8	236.5	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.1	0.0	0.5	17.4	17.2	6.6	1.9	1.8	14.6	3.1	0.9
LnGrp Delay(d),s/veh	9.7	0.1	0.0	57.3	29.0	29.4	100.3	34.9	35.0	289.3	36.5	1.6
LnGrp LOS	A	A		E	C	C	F	C	D	F	D	A
Approach Vol, veh/h		3669			1908			431			615	
Approach Delay, s/veh		0.7			29.4			79.1			116.3	
Approach LOS		A			C			E			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	6.2	125.2	14.9	32.6	77.0	54.3	14.0	33.5
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	54.5	9.4	* 27	9.7	* 49	9.5	27.0
Max Q Clear Time (g_c+I1), s	3.1	2.0	11.2	7.7	8.3	35.3	11.5	5.5
Green Ext Time (p_c), s	0.0	40.4	0.0	1.0	0.1	6.8	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.8
HCM 2010 LOS	C

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	24	990	52	39	1945	6	79	5	19	8	5	93
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	27	1125	59	44	2210	7	90	6	22	9	6	106
Adj No. of Lanes	1	2	1	1	2	1	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	33	2211	940	56	2223	945	300	25	60	268	166	375
Arrive On Green	0.02	0.58	0.58	0.03	0.58	0.58	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1810	3800	1615	1810	3800	1615	1019	108	258	909	715	1615
Grp Volume(v), veh/h	27	1125	59	44	2210	7	118	0	0	15	0	106
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1385	0	0	1624	0	1615
Q Serve(g_s), s	1.5	17.6	1.6	2.4	57.7	0.2	6.4	0.0	0.0	0.0	0.0	5.4
Cycle Q Clear(g_c), s	1.5	17.6	1.6	2.4	57.7	0.2	7.0	0.0	0.0	0.6	0.0	5.4
Prop In Lane	1.00		1.00	1.00		1.00	0.76		0.19	0.60		1.00
Lane Grp Cap(c), veh/h	33	2211	940	56	2223	945	385	0	0	434	0	375
V/C Ratio(X)	0.83	0.51	0.06	0.78	0.99	0.01	0.31	0.00	0.00	0.03	0.00	0.28
Avail Cap(c_a), veh/h	72	2211	940	116	2223	945	385	0	0	434	0	375
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.9	12.4	9.1	48.1	20.6	8.6	32.1	0.0	0.0	29.7	0.0	31.6
Incr Delay (d2), s/veh	17.4	0.1	0.0	8.4	17.7	0.0	2.1	0.0	0.0	0.1	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	0.9	9.2	0.7	1.3	35.2	0.1	2.9	0.0	0.0	0.3	0.0	2.6
LnGrp Delay(d),s/veh	66.3	12.5	9.1	56.5	38.2	8.6	34.2	0.0	0.0	29.9	0.0	33.5
LnGrp LOS	E	B	A	E	D	A	C			C		C
Approach Vol, veh/h		1211			2261			118			121	
Approach Delay, s/veh		13.5			38.5			34.2			33.0	
Approach LOS		B			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		28.7	7.6	63.7		28.7	7.3	64.0
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	5.5	* 5.5
Max Green Setting (Gmax), s		22.0	6.4	56.1		22.0	4.0	* 59
Max Q Clear Time (g_c+I1), s		9.0	4.4	19.6		7.4	3.5	59.7
Green Ext Time (p_c), s		0.6	0.0	5.9		0.6	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	30.0
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	1804	1223	29	884	112	810	698	66	162	786	64
Future Volume (veh/h)	129	1804	1223	29	884	112	810	698	66	162	786	64
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	137	1919	1286	31	940	113	862	743	66	172	836	61
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	935	2939	1580	42	899	108	742	1211	107	204	875	64
Arrive On Green	0.52	0.77	0.77	0.02	0.27	0.27	0.20	0.35	0.35	0.11	0.25	0.25
Sat Flow, veh/h	1810	3800	1615	1810	3329	400	3619	3435	305	1810	3500	255
Grp Volume(v), veh/h	137	1919	1286	31	536	517	862	411	398	172	454	443
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1829	1810	1900	1840	1810	1900	1855
Q Serve(g_s), s	4.0	23.1	77.3	1.7	27.0	27.0	20.5	17.9	17.9	9.3	23.5	23.5
Cycle Q Clear(g_c), s	4.0	23.1	77.3	1.7	27.0	27.0	20.5	17.9	17.9	9.3	23.5	23.5
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.17	1.00		0.14
Lane Grp Cap(c), veh/h	935	2939	1580	42	513	494	742	670	649	204	475	464
V/C Ratio(X)	0.15	0.65	0.81	0.74	1.05	1.05	1.16	0.61	0.61	0.84	0.96	0.96
Avail Cap(c_a), veh/h	935	2939	1580	72	513	494	742	670	649	233	475	464
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)	0.09	0.09	0.09	1.00	1.00	1.00	0.68	0.68	0.68	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	5.2	47.9	48.5	36.5	36.5	39.8	26.8	26.8	43.5	37.0	37.0
Incr Delay (d2), s/veh	0.0	0.1	0.4	9.2	52.2	53.1	83.3	2.9	3.0	19.3	31.6	32.1
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	2.0	11.8	0.2	1.0	21.5	20.9	18.8	9.9	9.6	5.8	16.5	16.2
LnGrp Delay(d),s/veh	12.7	5.3	48.4	57.8	88.7	89.6	123.0	29.6	29.7	62.9	68.5	69.0
LnGrp LOS	B	A	D	E	F	F	F	C	C	E	E	E
Approach Vol, veh/h		3342			1084			1671			1069	
Approach Delay, s/veh		22.2			88.2			77.8			67.8	
Approach LOS		C			F			E			E	

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	6.8	83.2	26.0	30.5	57.5	32.5	15.8	40.7
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	30.5	20.5	* 25	7.5	* 27	12.9	32.6
Max Q Clear Time (g_c+I1), s	3.7	79.3	22.5	25.5	6.0	29.0	11.3	19.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1

Intersection Summary	
HCM 2010 Ctrl Delay	52.0
HCM 2010 LOS	D

Notes



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	2	74	1008	9	147	1215
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	80	1084	10	158	1306
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	112	100	1386	1178	158	1624
Arrive On Green	0.06	0.06	0.73	0.73	0.09	0.85
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	2	80	1084	10	158	1306
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	0.1	5.9	43.1	0.2	10.5	38.3
Cycle Q Clear(g_c), s	0.1	5.9	43.1	0.2	10.5	38.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	112	100	1386	1178	158	1624
V/C Ratio(X)	0.02	0.80	0.78	0.01	1.00	0.80
Avail Cap(c_a), veh/h	392	350	1386	1178	158	1624
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	52.8	55.5	10.2	4.4	54.7	4.1
Incr Delay (d2), s/veh	0.0	5.4	4.5	0.0	70.8	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.8	24.0	0.1	8.3	21.2
LnGrp Delay(d),s/veh	52.9	61.0	14.7	4.4	125.6	8.4
LnGrp LOS	D	E	B	A	F	A
Approach Vol, veh/h	82		1094			1464
Approach Delay, s/veh	60.8		14.6			21.0
Approach LOS	E		B			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.0	93.1				108.1		11.9
Change Period (Y+Rc), s	4.5	5.5				5.5		4.5
Max Green Setting (Gmax), s	10.5	69.0				84.0		26.0
Max Q Clear Time (g_c+I1), s	12.5	45.1				40.3		7.9
Green Ext Time (p_c), s	0.0	14.4				19.6		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	19.6
HCM 2010 LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	236	318	741	347	615	628
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	274	370	862	403	715	730
Adj No. of Lanes	1	1	2	0	2	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	377	650	1019	473	704	2417
Arrive On Green	0.21	0.21	0.43	0.43	0.19	0.67
Sat Flow, veh/h	1810	1615	2491	1112	3619	3705
Grp Volume(v), veh/h	274	370	648	617	715	730
Grp Sat Flow(s),veh/h/ln	1810	1615	1805	1704	1810	1805
Q Serve(g_s), s	12.7	16.0	29.0	29.4	17.5	7.5
Cycle Q Clear(g_c), s	12.7	16.0	29.0	29.4	17.5	7.5
Prop In Lane	1.00	1.00		0.65	1.00	
Lane Grp Cap(c), veh/h	377	650	767	724	704	2417
V/C Ratio(X)	0.73	0.57	0.84	0.85	1.02	0.30
Avail Cap(c_a), veh/h	523	781	767	724	704	2417
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	0.51	0.51
Uniform Delay (d), s/veh	33.2	20.8	23.2	23.3	36.3	6.2
Incr Delay (d2), s/veh	1.6	0.3	11.0	12.1	28.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	7.1	16.7	16.2	11.5	3.8
LnGrp Delay(d),s/veh	34.8	21.1	34.2	35.5	64.6	6.3
LnGrp LOS	C	C	C	D	F	A
Approach Vol, veh/h	644		1265			1445
Approach Delay, s/veh	26.9		34.8			35.1
Approach LOS	C		C			D

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	22.0	43.8				65.8		24.2
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	17.5	31.0				53.0		26.0
Max Q Clear Time (g_c+I1), s	19.5	31.4				9.5		18.0
Green Ext Time (p_c), s	0.0	0.0				10.4		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	33.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	52	316	6	19	93	623	0	88	36	827	250	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	74	451	9	27	133	890	0	126	47	1181	357	46
Adj No. of Lanes	1	1	1	1	1	1	1	1	1	2	1	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	79	457	388	36	397	906	276	504	422	1237	884	751
Arrive On Green	0.04	0.24	0.24	0.02	0.21	0.21	0.00	0.27	0.27	0.35	0.47	0.47
Sat Flow, veh/h	1810	1900	1612	1810	1900	1615	1810	1900	1593	3510	1900	1615
Grp Volume(v), veh/h	74	451	9	27	133	890	0	126	47	1181	357	46
Grp Sat Flow(s),veh/h/ln	1810	1900	1612	1810	1900	1615	1810	1900	1593	1755	1900	1615
Q Serve(g_s), s	4.7	27.2	0.4	1.7	6.8	21.4	0.0	6.0	2.4	37.8	14.2	1.8
Cycle Q Clear(g_c), s	4.7	27.2	0.4	1.7	6.8	21.4	0.0	6.0	2.4	37.8	14.2	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	79	457	388	36	397	906	276	504	422	1237	884	751
V/C Ratio(X)	0.94	0.99	0.02	0.74	0.34	0.98	0.00	0.25	0.11	0.95	0.40	0.06
Avail Cap(c_a), veh/h	79	457	388	63	413	920	276	504	422	1237	884	751
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	0.51	0.51	0.51	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.9	43.5	18.9	56.0	38.7	24.7	0.0	33.2	27.4	36.3	20.2	16.9
Incr Delay (d2), s/veh	80.5	38.2	0.0	5.5	0.1	16.8	0.0	1.2	0.5	15.8	1.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	19.1	0.2	0.9	3.6	13.5	0.0	3.3	1.1	20.9	7.8	0.8
LnGrp Delay(d),s/veh	135.3	81.6	18.9	61.6	38.8	41.5	0.0	34.4	27.9	52.1	21.6	17.1
LnGrp LOS	F	F	B	E	D	D		C	C	D	C	B
Approach Vol, veh/h		534			1050			173			1584	
Approach Delay, s/veh		88.0			41.6			32.7			44.2	
Approach LOS		F			D			C			D	

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	45.0	36.0	6.8	33.2	22.0	59.0	10.5	29.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	34.5	30.5	4.0	26.0	11.5	53.5	5.0	* 25
Max Q Clear Time (g_c+I1), s	39.8	8.0	3.7	29.2	0.0	16.2	6.7	23.4
Green Ext Time (p_c), s	0.0	0.4	0.0	0.0	0.0	1.2	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	49.8
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	796	1413	219	451	50	696	163	202	124	254	32
Future Volume (veh/h)	22	796	1413	219	451	50	696	163	202	124	254	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.36
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	1900	1900	1900	1900	1900	1976	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	33	1206	1383	332	683	53	1055	247	221	188	385	36
Adj No. of Lanes	1	2	1	1	2	1	2	1	1	1	2	0
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	42	1188	1329	249	1653	699	1960	435	370	777	405	35
Arrive On Green	0.02	0.31	0.31	0.14	0.44	0.44	0.17	0.08	0.08	0.43	0.14	0.14
Sat Flow, veh/h	1810	3800	1562	1810	3800	1608	3764	1900	1613	1810	2948	258
Grp Volume(v), veh/h	33	1206	1383	332	683	53	1055	247	221	188	239	182
Grp Sat Flow(s),veh/h/ln	1810	1900	1562	1810	1900	1608	1882	1900	1613	1810	1900	1306
Q Serve(g_s), s	2.2	37.5	37.5	16.5	14.9	1.4	30.7	15.1	15.9	7.9	14.9	16.5
Cycle Q Clear(g_c), s	2.2	37.5	37.5	16.5	14.9	1.4	30.7	15.1	15.9	7.9	14.9	16.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	42	1188	1329	249	1653	699	1960	435	370	777	261	180
V/C Ratio(X)	0.78	1.02	1.04	1.33	0.41	0.08	0.54	0.57	0.60	0.24	0.91	1.02
Avail Cap(c_a), veh/h	92	1188	1329	249	1653	699	1960	435	370	777	261	180
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.72	0.72	0.72	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.3	41.2	9.6	51.7	23.3	7.0	36.5	49.7	50.1	21.8	51.0	51.8
Incr Delay (d2), s/veh	1.1	12.1	20.9	175.2	0.1	0.0	0.1	3.8	5.1	0.1	37.2	71.3
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	0.1
%ile BackOfQ(50%),veh/ln	1.1	21.6	21.6	20.3	7.8	0.6	16.1	8.4	7.6	4.0	10.5	9.5
LnGrp Delay(d),s/veh	59.4	53.4	30.5	227.0	23.4	7.0	36.6	53.5	55.2	21.9	88.2	123.1
LnGrp LOS	E	F	F	F	C	A	D	D	E	C	F	F
Approach Vol, veh/h		2622			1068			1523			609	
Approach Delay, s/veh		41.4			85.9			42.1			78.2	
Approach LOS		D			F			D			E	

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	57.0	33.0	22.0	43.0	68.0	22.0	7.3	57.7
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	18.5	27.5	16.5	* 38	29.5	16.5	6.1	47.9
Max Q Clear Time (g_c+I1), s	9.9	17.9	18.5	39.5	32.7	18.5	4.2	16.9
Green Ext Time (p_c), s	1.9	0.8	0.0	0.0	0.0	0.0	0.0	3.3

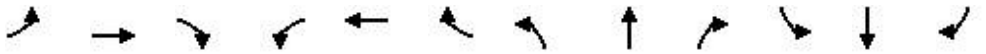
Intersection Summary	
HCM 2010 Ctrl Delay	53.6
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	28	54	412	126	35	16	105	865	91	55	1623	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	40	77	232	180	50	4	150	1236	66	79	2319	75
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	268	247	323	128	100	84	128	2064	110	100	2056	66
Arrive On Green	0.30	0.26	0.26	0.14	0.11	0.11	0.14	1.00	1.00	0.11	1.00	1.00
Sat Flow, veh/h	1810	1900	1608	1810	1900	1597	1810	3575	191	1810	3661	118
Grp Volume(v), veh/h	40	77	232	180	50	4	150	656	646	79	1197	1197
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	1900	1597	1810	1900	1866	1810	1900	1879
Q Serve(g_s), s	2.0	3.9	12.6	8.5	3.0	0.2	8.5	0.0	0.0	5.1	67.4	67.4
Cycle Q Clear(g_c), s	2.0	3.9	12.6	8.5	3.0	0.2	8.5	0.0	0.0	5.1	67.4	67.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		0.06
Lane Grp Cap(c), veh/h	268	247	323	128	100	84	128	1097	1077	100	1067	1055
V/C Ratio(X)	0.15	0.31	0.72	1.40	0.50	0.05	1.17	0.60	0.60	0.79	1.12	1.13
Avail Cap(c_a), veh/h	268	380	436	128	410	345	128	1097	1077	137	1067	1055
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.21	0.21	0.21
Uniform Delay (d), s/veh	36.7	40.1	22.8	51.5	52.2	37.2	51.5	0.0	0.0	52.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.3	1.9	221.9	1.4	0.1	132.5	2.4	2.5	3.1	57.9	63.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.1	5.7	12.1	1.6	0.1	8.9	0.7	0.7	2.6	17.2	18.6
LnGrp Delay(d),s/veh	36.7	40.3	24.7	273.4	53.6	37.2	184.0	2.4	2.5	55.9	57.9	63.3
LnGrp LOS	D	D	C	F	D	D	F	A	A	E	F	F
Approach Vol, veh/h		349			234			1452			2473	
Approach Delay, s/veh		29.5			222.4			21.2			60.5	
Approach LOS		C			F			C			E	

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	11.1	74.8	13.0	21.1	13.0	72.9	22.3	11.8
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	9.1	58.4	8.5	24.0	8.5	59.0	6.6	25.9
Max Q Clear Time (g_c+I1), s	7.1	2.0	10.5	14.6	10.5	69.4	4.0	5.0
Green Ext Time (p_c), s	0.0	36.5	0.0	0.4	0.0	0.0	0.1	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	53.8
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	547	370	138	23	750	11	188	309	16	59	415	1111
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	710	481	179	30	974	14	244	401	21	77	539	1438
Adj No. of Lanes	2	3	0	1	3	0	2	2	1	2	2	1
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	2578	3961	1423	41	1849	27	145	1288	547	131	1235	1711
Arrive On Green	0.73	1.00	1.00	0.02	0.33	0.33	0.04	0.34	0.34	0.04	0.32	0.32
Sat Flow, veh/h	3510	3766	1353	1810	5604	81	3619	3800	1615	3619	3800	1615
Grp Volume(v), veh/h	710	440	220	30	660	328	244	401	21	77	539	1438
Grp Sat Flow(s),veh/h/ln	1755	1729	1661	1810	1900	1885	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	6.7	0.0	0.0	1.6	14.1	14.1	4.0	7.8	0.9	2.1	11.2	0.0
Cycle Q Clear(g_c), s	6.7	0.0	0.0	1.6	14.1	14.1	4.0	7.8	0.9	2.1	11.2	0.0
Prop In Lane	1.00		0.81	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2578	3637	1747	41	1254	622	145	1288	547	131	1235	1711
V/C Ratio(X)	0.28	0.12	0.13	0.73	0.53	0.53	1.69	0.31	0.04	0.59	0.44	0.84
Avail Cap(c_a), veh/h	2578	3637	1747	101	1254	622	145	1288	547	145	1235	1711
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	4.4	0.0	0.0	48.6	27.2	27.2	48.0	24.4	22.1	47.5	26.5	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.1	9.0	1.6	3.2	336.5	0.6	0.1	2.7	1.1	5.2
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	3.3	0.0	0.1	0.9	7.6	7.8	8.8	4.2	0.4	1.1	6.0	2.5
LnGrp Delay(d),s/veh	4.4	0.1	0.1	57.6	28.7	30.3	384.5	25.1	22.3	50.2	27.7	5.2
LnGrp LOS	A	A	A	E	C	C	F	C	C	D	C	A
Approach Vol, veh/h		1370			1018			666			2054	
Approach Delay, s/veh		2.3			30.1			156.7			12.8	
Approach LOS		A			C			F			B	

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	6.8	111.4	9.5	38.0	79.6	38.5	8.1	39.4
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	5.6	37.9	4.0	* 33	10.5	* 33	4.0	32.5
Max Q Clear Time (g_c+I1), s	3.6	2.0	6.0	13.2	8.7	16.1	4.1	9.8
Green Ext Time (p_c), s	0.0	4.2	0.0	7.2	0.5	3.6	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	32.2
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	1097	391	102	572	141	274	1140	136	197	1458	90
Future Volume (veh/h)	253	1097	391	102	572	141	274	1140	136	197	1458	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		0.99	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	1976	1900	1900	1976	1900	1900	1976	1900	1900	1976	1900
Adj Flow Rate, veh/h	258	1119	378	104	584	135	280	1163	128	201	1488	81
Adj No. of Lanes	1	2	1	1	2	0	1	3	0	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	234	2223	1089	128	1563	360	204	1871	206	229	1433	585
Arrive On Green	0.13	0.56	0.56	0.07	0.50	0.50	0.11	0.36	0.36	0.13	0.36	0.36
Sat Flow, veh/h	1810	3952	1612	1810	3100	714	1810	5248	577	1810	3952	1615
Grp Volume(v), veh/h	258	1119	378	104	372	347	280	876	415	201	1488	81
Grp Sat Flow(s),veh/h/ln	1810	1976	1612	1810	1976	1838	1810	1976	1874	1810	1976	1615
Q Serve(g_s), s	15.5	20.7	5.5	6.8	13.8	13.9	13.5	22.0	22.0	13.1	43.5	4.5
Cycle Q Clear(g_c), s	15.5	20.7	5.5	6.8	13.8	13.9	13.5	22.0	22.0	13.1	43.5	4.5
Prop In Lane	1.00		1.00	1.00		0.39	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	234	2223	1089	128	996	927	204	1409	668	229	1433	585
V/C Ratio(X)	1.10	0.50	0.35	0.81	0.37	0.37	1.38	0.62	0.62	0.88	1.04	0.14
Avail Cap(c_a), veh/h	234	2223	1089	128	996	927	204	1409	668	326	1433	585
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	52.3	16.0	14.7	55.0	18.2	18.2	53.2	31.9	31.9	51.5	38.3	31.7
Incr Delay (d2), s/veh	89.5	0.8	0.9	29.3	1.1	1.2	196.8	2.1	4.3	13.2	34.4	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	13.5	11.4	2.7	4.5	7.8	7.3	17.9	12.4	12.2	7.4	30.5	2.1
LnGrp Delay(d),s/veh	141.7	16.8	15.5	84.3	19.2	19.3	250.0	34.0	36.2	64.7	72.7	32.2
LnGrp LOS	F	B	B	F	B	B	F	C	D	E	F	C
Approach Vol, veh/h		1755			823			1571			1770	
Approach Delay, s/veh		34.9			27.5			73.1			69.9	
Approach LOS		C			C			E			E	

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	13.0	74.0	19.0	49.0	20.0	67.0	19.7	48.3
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	8.5	34.5	13.5	* 44	15.5	27.5	21.6	35.4
Max Q Clear Time (g_c+I1), s	8.8	22.7	15.5	45.5	17.5	15.9	15.1	24.0
Green Ext Time (p_c), s	0.0	6.7	0.0	0.0	0.0	6.7	0.1	4.8

Intersection Summary	
HCM 2010 Ctrl Delay	54.5
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	79	166	100	238	121	134	67	1361	209	211	1247	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	87	182	94	262	133	47	74	1496	205	232	1370	63
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	117	210	108	291	521	435	89	1954	267	158	2362	109
Arrive On Green	0.06	0.18	0.18	0.16	0.27	0.27	0.05	0.40	0.40	0.09	0.44	0.44
Sat Flow, veh/h	1810	1181	610	1810	1900	1588	1810	4899	670	1810	5404	249
Grp Volume(v), veh/h	87	0	276	262	133	47	74	1160	541	232	963	470
Grp Sat Flow(s),veh/h/ln	1810	0	1791	1810	1900	1588	1810	1900	1769	1810	1900	1852
Q Serve(g_s), s	5.7	0.0	18.0	17.0	6.6	2.7	4.9	31.7	31.8	10.5	22.9	22.9
Cycle Q Clear(g_c), s	5.7	0.0	18.0	17.0	6.6	2.7	4.9	31.7	31.8	10.5	22.9	22.9
Prop In Lane	1.00		0.34	1.00		1.00	1.00		0.38	1.00		0.13
Lane Grp Cap(c), veh/h	117	0	318	291	521	435	89	1515	706	158	1661	810
V/C Ratio(X)	0.74	0.00	0.87	0.90	0.26	0.11	0.83	0.77	0.77	1.47	0.58	0.58
Avail Cap(c_a), veh/h	452	0	448	452	521	435	89	1515	706	158	1661	810
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.1	0.0	48.0	49.4	34.0	32.6	56.6	31.2	31.2	54.8	25.5	25.5
Incr Delay (d2), s/veh	3.5	0.0	9.4	10.2	0.1	0.0	57.0	3.7	7.8	240.5	1.5	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	9.7	9.3	3.4	1.2	3.8	17.4	17.0	15.8	12.4	12.4
LnGrp Delay(d),s/veh	58.6	0.0	57.3	59.6	34.1	32.6	113.6	35.0	39.1	295.3	27.0	28.5
LnGrp LOS	E		E	E	C	C	F	C	D	F	C	C
Approach Vol, veh/h		363			442			1775			1665	
Approach Delay, s/veh		57.6			49.0			39.5			64.8	
Approach LOS		E			D			D			E	

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	15.0	53.4	24.8	26.8	10.4	58.0	13.3	38.4
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	10.5	28.5	30.0	30.0	5.9	33.1	30.0	30.0
Max Q Clear Time (g_c+I1), s	12.5	33.8	19.0	20.0	6.9	24.9	7.7	8.6
Green Ext Time (p_c), s	0.0	0.0	0.3	0.8	0.0	6.9	0.1	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	52.0
HCM 2010 LOS	D

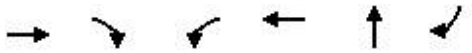
Notes

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

APPENDIX 6.13:

OPENING YEAR CUMULATIVE (2020) WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Lane Group	EBT	EBR	WBL	WBT	NBT	SBR
Lane Group Flow (vph)	609	131	611	2598	982	565
v/c Ratio	0.31	0.13	0.83	0.92	8.93	0.86
Control Delay	18.0	3.2	53.8	23.8	0.0	57.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	3.2	53.8	23.8	0.0	57.4
Queue Length 50th (ft)	135	0	229	878	0	191
Queue Length 95th (ft)	186	33	m261	m926	0	253
Internal Link Dist (ft)	658			955	1615	
Turn Bay Length (ft)						
Base Capacity (vph)	1964	1045	858	2825	110	709
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.13	0.71	0.92	8.93	0.80

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	557	46	245	306	1570	413
v/c Ratio	0.55	0.08	0.77	0.20	0.88	0.37
Control Delay	28.0	1.1	53.6	16.0	26.2	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	1.1	53.6	16.0	26.2	2.5
Queue Length 50th (ft)	120	0	61	48	334	2
Queue Length 95th (ft)	168	5	#114	74	#431	46
Internal Link Dist (ft)	844			267		1109
Turn Bay Length (ft)		100	80			
Base Capacity (vph)	1005	572	318	1537	1805	1115
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.08	0.77	0.20	0.87	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	40	1503	2949	896	389	53	74
v/c Ratio	0.62	0.55	1.07	1.03	0.60	0.42	0.21
Control Delay	31.5	18.8	43.4	84.8	37.9	64.2	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	18.8	43.4	84.8	37.9	64.2	13.3
Queue Length 50th (ft)	23	277	~855	~384	254	40	3
Queue Length 95th (ft)	m28	m134	m36	#511	363	83	47
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	64	2743	2746	866	652	136	348
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.55	1.07	1.03	0.60	0.39	0.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

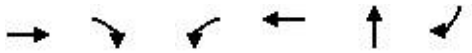
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	341	1832	470	687	91	339
v/c Ratio	0.65	0.77	0.27	0.36	0.16	0.57
Control Delay	55.6	19.2	20.6	0.5	32.7	33.2
Queue Delay	0.0	47.9	0.0	0.0	0.0	0.0
Total Delay	55.6	67.0	20.6	0.5	32.7	33.2
Queue Length 50th (ft)	127	479	110	0	52	180
Queue Length 95th (ft)	175	569	145	0	95	279
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	522	2375	1741	1900	554	599
Starvation Cap Reductn	0	873	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	1.22	0.27	0.36	0.16	0.57

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	NBT	SBR
Lane Group Flow (vph)	1643	624	1073	715	1042	291
v/c Ratio	0.87	0.55	0.85	0.22	9.47	0.45
Control Delay	33.0	10.0	29.0	0.9	0.0	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	10.0	29.0	0.9	0.0	2.3
Queue Length 50th (ft)	544	120	252	16	0	0
Queue Length 95th (ft)	676	234	356	20	0	0
Internal Link Dist (ft)	658			955	1615	
Turn Bay Length (ft)						
Base Capacity (vph)	1896	1132	1267	3290	110	1395
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.55	0.85	0.22	9.47	0.21

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	767	112	557	215	835	448
v/c Ratio	0.60	0.16	0.76	0.09	0.89	0.56
Control Delay	20.2	4.0	33.1	5.7	37.9	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	4.0	33.1	5.7	37.9	5.5
Queue Length 50th (ft)	123	0	105	16	159	1
Queue Length 95th (ft)	173	27	#167	27	#255	63
Internal Link Dist (ft)	844			267		1109
Turn Bay Length (ft)		100	80			
Base Capacity (vph)	1286	720	730	2280	935	803
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.16	0.76	0.09	0.89	0.56

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	2603	2636	146	94	118	69
v/c Ratio	0.44	0.71	0.72	0.64	0.30	0.89	0.22
Control Delay	22.3	17.9	14.1	68.6	39.6	108.2	40.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	17.9	14.1	68.6	39.6	108.2	40.4
Queue Length 50th (ft)	13	507	609	58	53	92	41
Queue Length 95th (ft)	m31	m447	m748	#94	105	#206	86
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	63	3688	3675	227	310	133	318
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.71	0.72	0.64	0.30	0.89	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	596	1096	758	1631	58	215
v/c Ratio	0.28	0.36	1.00	0.87	0.24	0.55
Control Delay	14.0	4.0	53.8	18.0	50.4	17.2
Queue Delay	1.3	1.6	0.0	0.0	0.0	0.0
Total Delay	15.3	5.7	53.8	18.0	50.4	17.2
Queue Length 50th (ft)	114	102	295	479	41	27
Queue Length 95th (ft)	145	121	m#357	548	83	100
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	2137	3008	760	1877	237	392
Starvation Cap Reductn	1275	1665	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.82	1.00	0.87	0.24	0.55

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 6.14:

OPENING YEAR CUMULATIVE (2020) WITH PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Lane Group	EBT	EBR	WBL	WBT	SBR
Lane Group Flow (vph)	609	131	611	2598	565
v/c Ratio	0.31	0.13	0.83	0.92	0.86
Control Delay	18.0	3.2	53.7	23.9	57.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	3.2	53.7	23.9	57.4
Queue Length 50th (ft)	135	0	229	881	191
Queue Length 95th (ft)	186	33	m259	m922	253
Internal Link Dist (ft)	658			955	
Turn Bay Length (ft)					
Base Capacity (vph)	1964	1045	858	2825	709
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.31	0.13	0.71	0.92	0.80

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	557	46	264	306	1639	413
v/c Ratio	0.56	0.08	0.83	0.20	0.91	0.37
Control Delay	28.3	1.1	59.3	16.1	28.5	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.3	1.1	59.3	16.1	28.5	2.5
Queue Length 50th (ft)	120	0	66	48	360	2
Queue Length 95th (ft)	168	5	#126	74	#514	46
Internal Link Dist (ft)	844			267		1109
Turn Bay Length (ft)		100	80			
Base Capacity (vph)	988	564	318	1520	1805	1115
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.08	0.83	0.20	0.91	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	40	1704	2995	896	389	53	74
v/c Ratio	0.62	0.62	1.09	1.03	0.60	0.42	0.21
Control Delay	66.0	21.3	51.3	84.8	37.9	64.2	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.0	21.3	51.3	84.8	37.9	64.2	13.3
Queue Length 50th (ft)	23	330	~881	~384	254	40	3
Queue Length 95th (ft)	#82	377	m35	#511	363	83	47
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	64	2742	2745	866	652	136	348
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.62	1.09	1.03	0.60	0.39	0.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	341	1902	489	702	91	427
v/c Ratio	0.65	0.80	0.28	0.37	0.16	0.71
Control Delay	55.6	20.3	20.7	0.6	32.7	39.7
Queue Delay	0.0	47.7	0.0	0.0	0.0	0.0
Total Delay	55.6	67.9	20.7	0.6	32.7	39.7
Queue Length 50th (ft)	127	516	115	0	52	254
Queue Length 95th (ft)	175	613	151	0	95	374
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	522	2375	1741	1900	554	599
Starvation Cap Reductn	0	839	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	1.24	0.28	0.37	0.16	0.71

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	SBR
Lane Group Flow (vph)	1643	624	1073	715	291
v/c Ratio	0.87	0.55	0.85	0.22	0.45
Control Delay	33.0	10.0	32.7	0.8	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	10.0	32.7	0.8	2.3
Queue Length 50th (ft)	544	120	279	15	0
Queue Length 95th (ft)	676	234	375	18	0
Internal Link Dist (ft)	658			955	
Turn Bay Length (ft)					
Base Capacity (vph)	1896	1132	1267	3290	1395
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.87	0.55	0.85	0.22	0.21

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	767	112	650	215	853	448
v/c Ratio	0.60	0.16	0.89	0.09	0.91	0.56
Control Delay	20.2	4.0	42.7	5.7	40.2	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	4.0	42.7	5.7	40.2	5.5
Queue Length 50th (ft)	123	0	127	16	164	1
Queue Length 95th (ft)	173	27	#212	27	#264	63
Internal Link Dist (ft)	844			267		1109
Turn Bay Length (ft)		100	80			
Base Capacity (vph)	1286	720	730	2280	935	803
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.16	0.89	0.09	0.91	0.56

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	2657	2860	146	94	118	69
v/c Ratio	0.44	0.72	0.78	0.64	0.30	0.89	0.22
Control Delay	43.2	22.5	15.5	68.6	39.6	108.2	41.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	22.5	15.5	68.6	39.6	108.2	41.7
Queue Length 50th (ft)	15	581	677	58	53	92	43
Queue Length 95th (ft)	m38	630	m754	#94	105	#206	87
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	63	3687	3675	227	310	133	316
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.72	0.78	0.64	0.30	0.89	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	596	1115	856	1711	58	237
v/c Ratio	0.28	0.37	1.13	0.91	0.24	0.61
Control Delay	14.0	4.1	93.7	20.0	50.4	22.4
Queue Delay	1.3	1.7	0.0	0.0	0.0	0.0
Total Delay	15.3	5.8	93.7	20.0	50.4	22.4
Queue Length 50th (ft)	114	104	~378	491	41	46
Queue Length 95th (ft)	145	125	m#393	m515	83	127
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	2137	3008	760	1877	237	388
Starvation Cap Reductn	1275	1652	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.82	1.13	0.91	0.24	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 6.15:

OPENING YEAR CUMULATIVE (2020) WITHOUT PROJECT CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 w/o Project - W/ IMPROV

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3749	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	9
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.957

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	5	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	852	pc/h/ln
S	70.0	mph
D = v_p / S	12.2	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 w/o Project - W/ IMPROV

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4178	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	11
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.948

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	5	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	958	pc/h/ln
S	70.0	mph
D = v_p / S	13.7	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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APPENDIX 6.16:

OPENING YEAR CUMULATIVE (2020) WITH PROJECT CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 w/ Project - W/ IMPROV

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	3785	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	10
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.952

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	5	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	864	pc/h/ln
S	70.0	mph
D = v_p / S	12.3	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	2020 w/ Project - W/ IMPROV

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4357	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	13
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.939

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	5	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1009	pc/h/ln
S	70.0	mph
D = v_p / S	14.4	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

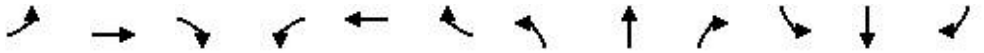
E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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APPENDIX 7.1:

GENERAL PLAN BUILDOUT (POST 2035) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

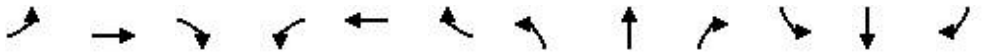
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰	↑↑				↱			↱
Volume (vph)	0	1062	675	931	1838	0	0	0	886	0	0	1001
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5	4.0	5.5				5.6			4.0
Lane Util. Factor		*1.00	1.00	1.00	*1.00				1.00			1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	1.00	1.00	1.00				1.00			1.00
Flt Protected		1.00	1.00	1.00	1.00				1.00			1.00
Satd. Flow (prot)		3800	1900	1900	3800				1900			1900
Flt Permitted		1.00	1.00	1.00	1.00				1.00			1.00
Satd. Flow (perm)		3800	1900	1900	3800				1900			1900
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1118	711	980	1935	0	0	0	933	0	0	1054
RTOR Reduction (vph)	0	0	404	0	0	0	0	0	433	0	0	40
Lane Group Flow (vph)	0	1118	307	980	1935	0	0	0	500	0	0	1014
Confl. Bikes (#/hr)									2			2
Turn Type		NA	Perm	Prot	NA				Prot			Prot
Protected Phases		2		1	6				3			7
Permitted Phases			2									
Actuated Green, G (s)		29.5	29.5	39.0	72.5				36.4			38.0
Effective Green, g (s)		29.5	29.5	39.0	72.5				36.4			38.0
Actuated g/C Ratio		0.25	0.25	0.32	0.60				0.30			0.32
Clearance Time (s)		5.5	5.5	4.0	5.5				5.6			4.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0				2.0			2.0
Lane Grp Cap (vph)		934	467	617	2295				576			601
v/s Ratio Prot		c0.29		c0.52	0.51				0.26			c0.53
v/s Ratio Perm			0.16									
v/c Ratio		1.20	0.66	1.59	0.84				0.87			1.69
Uniform Delay, d1		45.2	40.7	40.5	19.2				39.5			41.0
Progression Factor		1.00	1.00	1.00	1.00				1.00			1.00
Incremental Delay, d2		99.1	7.1	272.4	4.0				12.6			316.2
Delay (s)		144.4	47.8	312.9	23.2				52.1			357.2
Level of Service		F	D	F	C				D			F
Approach Delay (s)		106.8			120.6			52.1			357.2	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	144.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	120.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



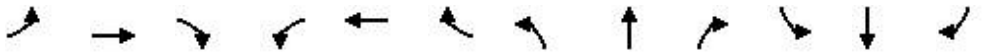
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	886	142	239	516	0	0	0	0	1449	2	707
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	943	146	254	549	0				1541	2	688
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	887	377	422	1932	0				994	1	888
Arrive On Green	0.00	0.23	0.23	0.23	0.51	0.00				0.55	0.55	0.55
Sat Flow, veh/h	0	3800	1615	1810	3800	0				1807	2	1615
Grp Volume(v), veh/h	0	943	146	254	549	0				1543	0	688
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1615
Q Serve(g_s), s	0.0	28.0	9.1	15.0	10.0	0.0				66.0	0.0	40.1
Cycle Q Clear(g_c), s	0.0	28.0	9.1	15.0	10.0	0.0				66.0	0.0	40.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	887	377	422	1932	0				995	0	888
V/C Ratio(X)	0.00	1.06	0.39	0.60	0.28	0.00				1.55	0.00	0.77
Avail Cap(c_a), veh/h	0	887	377	422	1932	0				995	0	888
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.72	0.72	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	46.0	38.8	41.0	17.0	0.0				27.0	0.0	21.2
Incr Delay (d2), s/veh	0.0	48.6	3.0	1.2	0.3	0.0				252.6	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	20.6	4.4	7.6	5.3	0.0				102.5	0.0	18.8
LnGrp Delay(d),s/veh	0.0	94.6	41.8	42.3	17.2	0.0				279.6	0.0	25.5
LnGrp LOS		F	D	D	B					F		C
Approach Vol, veh/h		1089			803						2231	
Approach Delay, s/veh		87.5			25.1						201.3	
Approach LOS		F			C						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	33.5	33.0		71.0		66.5		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	11.5	* 28		66.0		44.0		
Max Q Clear Time (g_c+I1), s	17.0	30.0		68.0		12.0		
Green Ext Time (p_c), s	0.0	0.0		0.0		2.5		

Intersection Summary	
HCM 2010 Ctrl Delay	136.9
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	147	1395	406	0	2613	437	853	967	32	230	0	280
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		0.99	1.00		0.99
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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	150	1423	408	0	2666	402	870	987	33	235	0	281
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	1	1	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	80	1434	396	0	1620	238	368	711	24	80	0	620
Arrive On Green	0.50	0.50	0.50	0.00	0.50	0.50	0.39	0.39	0.39	0.39	0.00	0.39
Sat Flow, veh/h	75	2869	791	0	3240	476	1116	1827	61	562	0	1594
Grp Volume(v), veh/h	150	924	907	0	1534	1534	870	0	1020	235	0	281
Grp Sat Flow(s),veh/h/ln	75	1900	1760	0	1900	1816	1116	0	1888	562	0	1594
Q Serve(g_s), s	0.0	42.6	45.0	0.0	45.0	45.0	23.2	0.0	35.0	0.0	0.0	11.8
Cycle Q Clear(g_c), s	45.0	42.6	45.0	0.0	45.0	45.0	35.0	0.0	35.0	35.0	0.0	11.8
Prop In Lane	1.00		0.45	0.00		0.26	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	80	950	880	0	950	908	368	0	734	80	0	620
V/C Ratio(X)	1.87	0.97	1.03	0.00	1.61	1.69	2.36	0.00	1.39	2.94	0.00	0.45
Avail Cap(c_a), veh/h	80	950	880	0	950	908	368	0	734	80	0	620
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.0	21.9	22.5	0.0	22.5	22.5	35.9	0.0	27.5	45.0	0.0	20.4
Incr Delay (d2), s/veh	437.2	23.2	38.6	0.0	281.5	315.0	622.5	0.0	183.4	904.7	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	28.2	30.9	0.0	97.5	101.9	72.7	0.0	55.6	22.1	0.0	5.6
LnGrp Delay(d),s/veh	482.2	45.1	61.1	0.0	304.0	337.5	658.4	0.0	210.9	949.7	0.0	22.8
LnGrp LOS	F	D	F		F	F	F		F	F		C
Approach Vol, veh/h		1981			3068			1890			516	
Approach Delay, s/veh		85.5			320.8			416.9			444.9	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		50.0		40.0		50.0		40.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		45.0		35.0		45.0		35.0
Max Q Clear Time (g_c+I1), s		47.0		37.0		47.0		37.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	291.2
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	587	1748	0	0	594	628	162	0	426	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	638	1900	0	0	646	648	176	0	377			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	653	2491	0	0	971	413	422	0	377			
Arrive On Green	0.36	0.66	0.00	0.00	0.26	0.26	0.23	0.00	0.23			
Sat Flow, veh/h	1810	3800	0	0	3800	1615	1810	0	1615			
Grp Volume(v), veh/h	638	1900	0	0	646	648	176	0	377			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1810	0	1615			
Q Serve(g_s), s	31.3	31.0	0.0	0.0	13.7	23.0	7.4	0.0	21.0			
Cycle Q Clear(g_c), s	31.3	31.0	0.0	0.0	13.7	23.0	7.4	0.0	21.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	653	2491	0	0	971	413	422	0	377			
V/C Ratio(X)	0.98	0.76	0.00	0.00	0.67	1.57	0.42	0.00	1.00			
Avail Cap(c_a), veh/h	653	2491	0	0	971	413	422	0	377			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.4	10.7	0.0	0.0	30.0	33.5	29.3	0.0	34.5			
Incr Delay (d2), s/veh	6.2	0.2	0.0	0.0	3.6	268.0	3.0	0.0	46.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	16.7	16.2	0.0	0.0	7.7	40.9	4.1	0.0	14.2			
LnGrp Delay(d),s/veh	34.6	10.9	0.0	0.0	33.6	301.5	32.3	0.0	81.0			
LnGrp LOS	C	B			C	F	C		F			
Approach Vol, veh/h		2538			1294			553				
Approach Delay, s/veh		16.8			167.8			65.5				
Approach LOS		B			F			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		64.0			36.0	28.0		26.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		59.0			32.5	23.0		21.0
Max Q Clear Time (g_c+I1), s		33.0			33.3	25.0		23.0
Green Ext Time (p_c), s		17.2			0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	67.5
HCM 2010 LOS	E

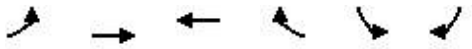
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	202	2004	384	121	2801	222	58	186	21	155	152	141
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	213	2109	0	127	2948	226	61	196	1	162	162	95
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	1	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	113	2361	669	98	2313	655	445	464	2	201	211	277
Arrive On Green	0.06	0.41	0.00	0.05	0.41	0.41	0.25	0.25	0.25	0.11	0.11	0.11
Sat Flow, veh/h	1810	5700	1615	1810	5700	1615	1810	1889	10	1810	1900	1592
Grp Volume(v), veh/h	213	2109	0	127	2948	226	61	0	197	162	162	95
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1898	1810	1900	1592
Q Serve(g_s), s	7.5	41.3	0.0	6.5	48.7	11.6	3.2	0.0	10.5	10.5	9.9	6.3
Cycle Q Clear(g_c), s	7.5	41.3	0.0	6.5	48.7	11.6	3.2	0.0	10.5	10.5	9.9	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	113	2361	669	98	2313	655	445	0	467	201	211	277
V/C Ratio(X)	1.88	0.89	0.00	1.30	1.27	0.34	0.14	0.00	0.42	0.81	0.77	0.34
Avail Cap(c_a), veh/h	113	2361	669	98	2313	655	445	0	467	445	467	492
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	32.7	0.0	56.8	35.6	24.6	35.3	0.0	38.1	52.1	51.9	43.6
Incr Delay (d2), s/veh	429.0	5.7	0.0	189.6	127.0	0.1	0.6	0.0	2.8	2.9	2.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.2	22.7	0.0	8.4	52.7	5.2	1.7	0.0	5.8	5.4	5.4	2.8
LnGrp Delay(d),s/veh	485.2	38.4	0.0	246.3	162.6	24.7	36.0	0.0	40.9	55.0	54.1	43.9
LnGrp LOS	F	D		F	F	C	D		D	E	D	D
Approach Vol, veh/h		2322			3301			258			419	
Approach Delay, s/veh		79.4			156.4			39.7			52.1	
Approach LOS		E			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.0	55.2		18.8	12.0	54.2		35.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	6.5	33.5		29.5	7.5	32.5		29.5
Max Q Clear Time (g_c+I1), s	8.5	43.3		12.5	9.5	50.7		12.5
Green Ext Time (p_c), s	0.0	0.0		0.8	0.0	0.0		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	116.3
HCM 2010 LOS	F

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	142	1895	2838	198	207	71
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	154	2060	3085	205	225	22
Adj No. of Lanes	1	2	3	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	156	2487	3005	833	888	536
Arrive On Green	0.09	0.65	0.53	0.53	0.25	0.25
Sat Flow, veh/h	1810	3800	5700	1580	3619	1615
Grp Volume(v), veh/h	154	2060	3085	205	225	22
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1580	1810	1615
Q Serve(g_s), s	9.3	45.0	58.0	7.8	5.5	1.0
Cycle Q Clear(g_c), s	9.3	45.0	58.0	7.8	5.5	1.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	156	2487	3005	833	888	536
V/C Ratio(X)	0.99	0.83	1.03	0.25	0.25	0.04
Avail Cap(c_a), veh/h	156	2487	3005	833	888	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	50.2	14.3	26.0	14.1	33.4	24.9
Incr Delay (d2), s/veh	67.3	3.3	13.7	0.1	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	24.3	33.9	3.4	2.8	1.1
LnGrp Delay(d),s/veh	117.5	17.7	39.7	14.2	34.1	25.0
LnGrp LOS	F	B	F	B	C	C
Approach Vol, veh/h		2214	3290		247	
Approach Delay, s/veh		24.6	38.1		33.3	
Approach LOS		C	D		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		77.5		32.5	14.0	63.5		
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		
Max Green Setting (Gmax), s		72.0		27.0	9.5	58.0		
Max Q Clear Time (g_c+I1), s		47.0		7.5	11.3	60.0		
Green Ext Time (p_c), s		24.2		0.4	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	86	2089	1186	35	11	36
Conflicting Peds, #/hr	0	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	93	2271	1289	38	12	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1289	0	-	0	2611	645
Stage 1	-	-	-	-	1289	-
Stage 2	-	-	-	-	1322	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	545	-	-	-	*42	420
Stage 1	-	-	-	-	*226	-
Stage 2	-	-	-	-	*214	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	545	-	-	-	*42	420
Mov Cap-2 Maneuver	-	-	-	-	*42	-
Stage 1	-	-	-	-	*226	-
Stage 2	-	-	-	-	*214	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	47.1
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	545	-	-	-	135
HCM Lane V/C Ratio	0.172	-	-	-	0.378
HCM Control Delay (s)	13	0	-	-	47.1
HCM Lane LOS	B	A	-	-	E
HCM 95th %tile Q(veh)	0.6	-	-	-	1.6

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	192	1732	289	29	2601	192	390	202	18	105	140	111
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		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	206	1862	0	31	2797	204	419	217	16	113	151	84
Adj No. of Lanes	1	2	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1074	3824	1625	40	2241	159	299	864	63	127	925	1346
Arrive On Green	0.59	1.00	0.00	0.02	0.43	0.43	0.08	0.25	0.25	0.07	0.24	0.24
Sat Flow, veh/h	1810	3800	1615	1810	5260	374	3619	3498	256	1810	3800	1593
Grp Volume(v), veh/h	206	1862	0	31	2001	1000	419	117	116	113	151	84
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1834	1810	1900	1854	1810	1900	1593
Q Serve(g_s), s	6.0	0.0	0.0	2.0	49.0	49.0	9.5	5.7	5.8	7.1	3.6	0.8
Cycle Q Clear(g_c), s	6.0	0.0	0.0	2.0	49.0	49.0	9.5	5.7	5.8	7.1	3.6	0.8
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	1074	3824	1625	40	1619	781	299	469	458	127	925	1346
V/C Ratio(X)	0.19	0.49	0.00	0.78	1.24	1.28	1.40	0.25	0.25	0.89	0.16	0.06
Avail Cap(c_a), veh/h	1074	3824	1625	63	1619	781	299	469	458	127	925	1346
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)	0.55	0.55	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.7	0.0	0.0	56.0	33.0	33.0	52.7	34.7	34.8	53.0	34.3	14.5
Incr Delay (d2), s/veh	0.0	0.2	0.0	1.2	106.6	127.0	199.7	1.3	1.3	46.0	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.1	0.0	1.0	49.6	52.3	13.0	3.2	3.1	5.2	1.9	1.4
LnGrp Delay(d),s/veh	10.7	0.2	0.0	57.1	139.6	160.0	252.4	36.0	36.1	99.0	34.6	14.6
LnGrp LOS	B	A		E	F	F	F	D	D	F	C	B
Approach Vol, veh/h		2068			3032			652			348	
Approach Delay, s/veh		1.3			145.5			175.1			50.7	
Approach LOS		A			F			F			D	

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	7.0	121.8	14.0	33.5	74.4	54.5	13.6	33.9
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.0	54.5	9.5	27.0	9.5	* 49	8.1	* 28
Max Q Clear Time (g_c+I1), s	4.0	2.0	11.5	5.6	8.0	51.0	9.1	7.8
Green Ext Time (p_c), s	0.0	13.1	0.0	0.8	0.1	0.0	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	94.3
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	1837	107	14	1159	6	172	4	26	1	4	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	1934	113	15	1220	6	181	4	27	1	4	15
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	22	1243	1056	24	1237	6	304	5	37	87	323	329
Arrive On Green	0.01	0.65	0.65	0.01	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1810	1900	1615	1810	1889	9	1221	27	182	251	1586	1615
Grp Volume(v), veh/h	14	1934	113	15	0	1226	212	0	0	5	0	15
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1898	1430	0	0	1837	0	1615
Q Serve(g_s), s	0.9	78.5	3.1	1.0	0.0	75.5	16.5	0.0	0.0	0.0	0.0	0.9
Cycle Q Clear(g_c), s	0.9	78.5	3.1	1.0	0.0	75.5	16.7	0.0	0.0	0.3	0.0	0.9
Prop In Lane	1.00		1.00	1.00		0.00	0.85		0.13	0.20		1.00
Lane Grp Cap(c), veh/h	22	1243	1056	24	0	1243	347	0	0	410	0	329
V/C Ratio(X)	0.62	1.56	0.11	0.63	0.00	0.99	0.61	0.00	0.00	0.01	0.00	0.05
Avail Cap(c_a), veh/h	60	1243	1056	60	0	1243	347	0	0	410	0	329
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.0	20.8	7.7	58.9	0.0	20.2	44.8	0.0	0.0	38.2	0.0	38.4
Incr Delay (d2), s/veh	10.0	254.2	0.0	9.9	0.0	22.1	7.8	0.0	0.0	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	128.5	1.4	0.6	0.0	46.8	7.3	0.0	0.0	0.1	0.0	0.4
LnGrp Delay(d),s/veh	69.0	274.9	7.7	68.8	0.0	42.3	52.7	0.0	0.0	38.2	0.0	38.7
LnGrp LOS	E	F	A	E		D	D			D		D
Approach Vol, veh/h		2061			1241			212			20	
Approach Delay, s/veh		258.9			42.6			52.7			38.6	
Approach LOS		F			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.9	6.1	84.0		29.9	6.0	84.1
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	78.5		22.0	4.0	78.5
Max Q Clear Time (g_c+I1), s		18.7	3.0	80.5		2.9	2.9	77.5
Green Ext Time (p_c), s		0.3	0.0	0.0		0.8	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	169.3
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	162	1104	468	17	1752	153	962	716	10	82	354	70
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	176	1200	432	18	1904	157	1046	778	9	89	385	60
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	113	2745	1165	27	2341	190	588	1189	14	112	670	103
Arrive On Green	0.06	0.72	0.72	0.02	0.68	0.68	0.16	0.32	0.32	0.06	0.21	0.21
Sat Flow, veh/h	1810	3800	1613	1810	3468	282	3619	3748	43	1810	3214	497
Grp Volume(v), veh/h	176	1200	432	18	1031	1031	1046	394	393	89	226	219
Grp Sat Flow(s),veh/h/ln	1810	1900	1613	1810	1900	1850	1810	1900	1891	1810	1900	1811
Q Serve(g_s), s	7.5	15.4	13.5	1.2	46.2	49.0	19.5	21.5	21.5	5.8	12.8	13.1
Cycle Q Clear(g_c), s	7.5	15.4	13.5	1.2	46.2	49.0	19.5	21.5	21.5	5.8	12.8	13.1
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.02	1.00		0.27
Lane Grp Cap(c), veh/h	113	2745	1165	27	1283	1249	588	603	600	112	396	377
V/C Ratio(X)	1.56	0.44	0.37	0.66	0.80	0.83	1.78	0.65	0.65	0.79	0.57	0.58
Avail Cap(c_a), veh/h	113	2745	1165	65	1283	1249	588	603	600	133	396	377
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)	0.17	0.17	0.17	1.00	1.00	1.00	0.68	0.68	0.68	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	6.8	7.7	58.8	13.8	14.3	50.3	35.3	35.3	55.5	42.7	42.8
Incr Delay (d2), s/veh	257.6	0.1	0.2	9.7	5.4	6.3	355.1	3.7	3.8	20.1	5.9	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	8.0	6.0	0.7	26.0	26.8	38.7	11.9	11.9	3.5	7.4	7.2
LnGrp Delay(d),s/veh	313.9	6.8	7.9	68.5	19.3	20.6	405.3	39.0	39.0	75.7	48.6	49.1
LnGrp LOS	F	A	A	E	B	C	F	D	D	E	D	D
Approach Vol, veh/h		1808			2079			1833			534	
Approach Delay, s/veh		37.0			20.3			248.0			53.3	
Approach LOS		D			C			F			D	

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	6.3	93.2	25.0	30.5	12.0	87.5	11.9	43.6
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	1.3	51.2	19.5	* 25	7.5	48.0	8.8	35.7
Max Q Clear Time (g_c+I1), s	13.2	17.4	21.5	15.1	9.5	51.0	7.8	23.5
Green Ext Time (p_c), s	0.0	24.2	0.0	1.1	0.0	0.0	0.0	4.4

Intersection Summary	
HCM 2010 Ctrl Delay	94.7
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	93	177	82	181	333	142	1155	93	181	495	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.95	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	101	147	89	197	201	154	1255	86	197	538	28
Adj No. of Lanes	1	1	1	1	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	27	242	206	114	334	282	188	1271	512	437	1836	770
Arrive On Green	0.01	0.13	0.13	0.06	0.18	0.18	0.10	0.33	0.33	0.24	0.48	0.48
Sat Flow, veh/h	1810	1900	1615	1810	1900	1601	1810	3800	1532	1810	3800	1594
Grp Volume(v), veh/h	16	101	147	89	197	201	154	1255	86	197	538	28
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1601	1810	1900	1532	1810	1900	1594
Q Serve(g_s), s	0.8	4.4	7.9	4.4	8.6	10.6	7.5	29.5	2.6	8.3	7.7	0.8
Cycle Q Clear(g_c), s	0.8	4.4	7.9	4.4	8.6	10.6	7.5	29.5	2.6	8.3	7.7	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	27	242	206	114	334	282	188	1271	512	437	1836	770
V/C Ratio(X)	0.60	0.42	0.72	0.78	0.59	0.71	0.82	0.99	0.17	0.45	0.29	0.04
Avail Cap(c_a), veh/h	80	433	368	191	549	463	290	1271	512	437	1836	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	44.1	36.2	37.7	41.5	34.1	35.0	39.5	29.8	11.5	29.0	14.0	12.2
Incr Delay (d2), s/veh	7.9	0.4	1.7	4.2	0.6	1.3	5.6	22.4	0.7	0.2	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.3	3.6	2.3	4.5	4.8	4.1	19.3	1.2	4.2	4.1	0.4
LnGrp Delay(d),s/veh	52.0	36.6	39.4	45.8	34.7	36.2	45.0	52.2	12.2	29.3	14.3	12.3
LnGrp LOS	D	D	D	D	C	D	D	D	B	C	B	B
Approach Vol, veh/h		264			487			1495			763	
Approach Delay, s/veh		39.1			37.4			49.2			18.1	
Approach LOS		D			D			D			B	

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	7.3	35.6	10.2	17.0	13.9	49.0	5.8	21.3
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	9.9	* 30	9.5	20.5	14.4	25.6	4.0	26.0
Max Q Clear Time (g_c+I1), s	10.3	31.5	6.4	9.9	9.5	9.7	2.8	12.6
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.1	2.1	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	38.5
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	6	139	1128	5	94	729
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	0	-	65	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	146	1187	5	99	767

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2152	1187	0	0	1187	0
Stage 1	1187	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	54	232	-	-	595	-
Stage 1	292	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	45	232	-	-	595	-
Mov Cap-2 Maneuver	45	-	-	-	-	-
Stage 1	292	-	-	-	-	-
Stage 2	311	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	46	0	1.4
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	45	232	595	-
HCM Lane V/C Ratio	-	-	0.14	0.631	0.166	-
HCM Control Delay (s)	-	-	97.6	43.8	12.3	-
HCM Lane LOS	-	-	F	E	B	-
HCM 95th %tile Q(veh)	-	-	0.4	3.8	0.6	-

Intersection	
Intersection Delay, s/veh	60.8
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Vol, veh/h	0	374	520	0	420	233	0	298	649
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	398	553	0	447	248	0	317	690
Number of Lanes	0	1	1	0	1	0	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	60.1	67	57.1
HCM LOS	F	F	F

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	64%	0%	0%	0%	100%
Vol Right, %	36%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	653	374	520	298	649
LT Vol	0	374	0	298	0
Through Vol	420	0	0	0	649
RT Vol	233	0	520	0	0
Lane Flow Rate	695	398	553	317	690
Geometry Grp	4	7	7	7	7
Degree of Util (X)	1	0.908	1	0.725	1
Departure Headway (Hd)	7.175	8.217	7.018	8.237	7.736
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	514	442	520	441	476
Service Time	5.174	5.938	4.739	5.975	5.475
HCM Lane V/C Ratio	1.352	0.9	1.063	0.719	1.45
HCM Control Delay	67	51.8	66	29.9	69.6
HCM Lane LOS	F	F	F	D	F
HCM 95th-tile Q	13.7	9.9	13.8	5.7	13.2



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	128	146	663	285	285	761
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	139	159	721	310	310	827
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	219	196	941	800	382	1437
Arrive On Green	0.12	0.12	0.50	0.50	0.21	0.76
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	139	159	721	310	310	827
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	6.6	8.6	27.8	10.8	14.7	16.9
Cycle Q Clear(g_c), s	6.6	8.6	27.8	10.8	14.7	16.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	219	196	941	800	382	1437
V/C Ratio(X)	0.63	0.81	0.77	0.39	0.81	0.58
Avail Cap(c_a), veh/h	342	305	941	800	382	1437
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	37.6	38.5	18.5	14.2	33.8	4.7
Incr Delay (d2), s/veh	1.1	4.5	5.9	1.4	16.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	4.1	16.0	5.1	9.1	9.4
LnGrp Delay(d),s/veh	38.8	43.0	24.4	15.6	50.7	6.4
LnGrp LOS	D	D	C	B	D	A
Approach Vol, veh/h	298		1031			1137
Approach Delay, s/veh	41.0		21.8			18.5
Approach LOS	D		C			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.5	50.1				73.6		16.4
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	19.0	38.5				62.0		17.0
Max Q Clear Time (g_c+I1), s	16.7	29.8				18.9		10.6
Green Ext Time (p_c), s	0.1	4.6				8.0		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	22.6
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	1	946	3	5	884
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	0	-	0	140	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	1	1028	3	5	961

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2000	514	0	0	1028	0
Stage 1	1028	-	-	-	-	-
Stage 2	972	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	60	511	-	-	683	-
Stage 1	310	-	-	-	-	-
Stage 2	370	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	60	511	-	-	683	-
Mov Cap-2 Maneuver	231	-	-	-	-	-
Stage 1	310	-	-	-	-	-
Stage 2	367	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	511	683	-
HCM Lane V/C Ratio	-	-	-	0.002	0.008	-
HCM Control Delay (s)	-	-	0	12.1	10.3	-
HCM Lane LOS	-	-	A	B	B	-
HCM 95th %tile Q(veh)	-	-	-	0	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	31	84	4	44	341	592	1	323	13	444	388	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	34	91	2	48	371	589	1	351	14	483	422	56
Adj No. of Lanes	1	1	1	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	43	130	110	351	452	385	2	534	454	465	1038	882
Arrive On Green	0.02	0.07	0.07	0.19	0.24	0.24	0.00	0.28	0.28	0.26	0.55	0.55
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Grp Volume(v), veh/h	34	91	2	48	371	589	1	351	14	483	422	56
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	2.0	4.9	0.1	2.3	19.4	25.0	0.1	17.1	0.7	27.0	13.6	1.3
Cycle Q Clear(g_c), s	2.0	4.9	0.1	2.3	19.4	25.0	0.1	17.1	0.7	27.0	13.6	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	130	110	351	452	385	2	534	454	465	1038	882
V/C Ratio(X)	0.79	0.70	0.02	0.14	0.82	1.53	0.50	0.66	0.03	1.04	0.41	0.06
Avail Cap(c_a), veh/h	86	456	388	351	452	385	69	534	454	465	1038	882
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	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.0	47.9	36.7	35.1	37.9	40.0	52.4	33.3	27.4	39.0	13.9	6.1
Incr Delay (d2), s/veh	11.0	2.6	0.0	0.0	1.1	240.5	58.8	6.2	0.1	52.1	1.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.7	0.0	1.1	10.3	36.8	0.1	9.9	0.3	20.2	7.5	0.6
LnGrp Delay(d),s/veh	61.9	50.4	36.7	35.1	38.9	280.5	111.2	39.5	27.5	91.1	15.1	6.2
LnGrp LOS	E	D	D	D	D	F	F	D	C	F	B	A
Approach Vol, veh/h		127			1008			366			961	
Approach Delay, s/veh		53.3			179.9			39.3			52.7	
Approach LOS		D			F			D			D	

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	32.5	35.0	24.8	12.7	4.6	62.9	7.0	30.5
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	25.5	* 30	4.8	25.2	4.0	51.0	5.0	25.0
Max Q Clear Time (g_c+I1), s	29.0	19.1	4.3	6.9	2.1	15.6	4.0	27.0
Green Ext Time (p_c), s	0.0	0.8	0.0	0.3	0.0	2.1	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	102.8
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	10	68	269	2	153	283
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	72	286	2	163	301

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	914	287	0	0	288	0
Stage 1	287	-	-	-	-	-
Stage 2	627	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	298	757	-	-	1286	-
Stage 1	766	-	-	-	-	-
Stage 2	540	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	260	757	-	-	1286	-
Mov Cap-2 Maneuver	425	-	-	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	471	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	2.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	425	757	1286	-
HCM Lane V/C Ratio	-	-	0.025	0.096	0.127	-
HCM Control Delay (s)	-	-	13.7	10.3	8.2	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.3	0.4	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	942	5	11	1470	5	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1024	5	12	1598	5	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1029	0	2649	1027
Stage 1	-	-	-	-	1027	-
Stage 2	-	-	-	-	1622	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	*471	-	*26	*314
Stage 1	-	-	-	-	*296	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	*471	-	*20	*314
Mov Cap-2 Maneuver	-	-	-	-	*20	-
Stage 1	-	-	-	-	*296	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	17.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	314	-	-	* 471	-
HCM Lane V/C Ratio	0.055	-	-	0.025	-
HCM Control Delay (s)	17.1	-	-	12.8	0
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Notes

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

Intersection	
Int Delay, s/veh	10.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	97	45	128	0	10	0	131	6	7	3	1	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	0	200	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	118	55	156	0	12	0	160	7	9	4	1	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	376	370	35	475	404	7	70	0	0	7	0	0
Stage 1	43	43	-	327	327	-	-	-	-	-	-	-
Stage 2	333	327	-	148	77	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	585	563	1044	503	539	1081	1544	-	-	1627	-	-
Stage 1	976	863	-	690	651	-	-	-	-	-	-	-
Stage 2	685	651	-	859	835	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	528	503	1044	364	482	1081	1544	-	-	1627	-	-
Mov Cap-2 Maneuver	565	548	-	467	539	-	-	-	-	-	-	-
Stage 1	875	861	-	618	584	-	-	-	-	-	-	-
Stage 2	601	584	-	682	833	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.2	11.8	6.9	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1544	-	-	717	539	1627	-	-
HCM Lane V/C Ratio	0.103	-	-	0.459	0.023	0.002	-	-
HCM Control Delay (s)	7.6	-	-	14.2	11.8	7.2	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	2.4	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	67.8
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	14	32	165	0	92	150	324	0	339	473	140
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	15	35	179	0	100	163	352	0	368	514	152
Number of Lanes	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	3
HCM Control Delay	39.8	59.5	76.4
HCM LOS	E	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	16%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	84%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	339	473	140	14	197	92	150	324	239	357	61
LT Vol	339	0	0	14	0	92	0	0	239	0	0
Through Vol	0	473	0	0	32	0	150	0	0	357	0
RT Vol	0	0	140	0	165	0	0	324	0	0	61
Lane Flow Rate	368	514	152	15	214	100	163	352	260	388	66
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	1	1	0.444	0.056	0.724	0.344	0.539	1	0.878	1	0.202
Departure Headway (Hd)	11.689	11.195	10.503	13.249	12.173	12.401	11.904	11.208	12.169	11.671	10.975
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	313	329	344	270	298	291	305	328	299	314	328
Service Time	9.409	8.915	8.223	11.029	9.953	10.122	9.624	8.928	9.886	9.389	8.693
HCM Lane V/C Ratio	1.176	1.562	0.442	0.056	0.718	0.344	0.534	1.073	0.87	1.236	0.201
HCM Control Delay	87	85	21.4	16.8	41.4	21.5	27.7	85	62.1	86.9	16.5
HCM Lane LOS	F	F	C	C	E	C	D	F	F	F	C
HCM 95th-tile Q	10.7	11	2.2	0.2	5.2	1.5	3	11	7.9	10.7	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	158	304	281	696	341	1026	815	295	127	411	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	62	172	320	305	757	369	1115	886	296	138	447	55
Adj No. of Lanes	1	1	1	1	2	1	2	1	1	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	80	343	723	228	997	407	967	863	734	118	802	98
Arrive On Green	0.04	0.18	0.18	0.13	0.26	0.26	0.27	0.45	0.45	0.07	0.24	0.24
Sat Flow, veh/h	1810	1900	1615	1810	3800	1551	3619	1900	1615	1810	3295	403
Grp Volume(v), veh/h	62	172	320	305	757	369	1115	886	296	138	256	246
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1551	1810	1900	1615	1810	1900	1798
Q Serve(g_s), s	3.9	9.4	4.7	14.5	21.1	26.5	30.7	52.2	14.1	7.5	13.6	13.8
Cycle Q Clear(g_c), s	3.9	9.4	4.7	14.5	21.1	26.5	30.7	52.2	14.1	7.5	13.6	13.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	80	343	723	228	997	407	967	863	734	118	463	438
V/C Ratio(X)	0.77	0.50	0.44	1.34	0.76	0.91	1.15	1.03	0.40	1.17	0.55	0.56
Avail Cap(c_a), veh/h	142	430	797	228	1041	425	967	863	734	118	463	438
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)	0.28	0.28	0.28	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	42.5	8.0	50.2	39.1	41.1	42.1	31.4	21.0	53.8	38.0	38.1
Incr Delay (d2), s/veh	1.7	0.1	0.0	178.2	2.8	21.6	70.0	17.1	0.1	135.5	4.7	5.1
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	2.0	4.9	3.7	18.5	11.4	13.8	24.7	31.4	6.3	8.2	7.7	7.4
LnGrp Delay(d),s/veh	56.1	42.6	8.1	228.4	41.8	62.6	112.1	48.4	21.1	189.2	42.8	43.2
LnGrp LOS	E	D	A	F	D	E	F	F	C	F	D	D
Approach Vol, veh/h		554			1431			2297			640	
Approach Delay, s/veh		24.2			87.0			75.8			74.5	
Approach LOS		C			F			E			E	

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	57.7	19.0	26.3	36.2	33.5	9.6	35.7
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	7.5	47.0	14.5	26.0	26.5	* 28	9.0	31.5
Max Q Clear Time (g_c+I1), s	9.5	54.2	16.5	11.4	32.7	15.8	5.9	28.5
Green Ext Time (p_c), s	0.0	0.0	0.0	4.6	0.0	1.3	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	73.1
HCM 2010 LOS	E

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	40	395	188	85	108	465	1817	353	107	630	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	43	377	204	92	115	505	1975	382	116	685	51
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	37	380	323	158	508	432	505	1527	284	98	932	69
Arrive On Green	0.02	0.20	0.20	0.09	0.27	0.27	0.28	0.49	0.49	0.05	0.27	0.27
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3105	578	1810	3494	260
Grp Volume(v), veh/h	28	43	377	204	92	115	505	1179	1179	116	372	364
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1784	1810	1900	1854
Q Serve(g_s), s	1.8	2.2	24.0	10.5	4.5	6.7	33.5	59.0	59.0	6.5	21.4	21.5
Cycle Q Clear(g_c), s	1.8	2.2	24.0	10.5	4.5	6.7	33.5	59.0	59.0	6.5	21.4	21.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		0.14
Lane Grp Cap(c), veh/h	37	380	323	158	508	432	505	934	877	98	507	494
V/C Ratio(X)	0.77	0.11	1.17	1.29	0.18	0.27	1.00	1.26	1.34	1.18	0.73	0.74
Avail Cap(c_a), veh/h	87	380	323	158	508	432	505	934	877	98	507	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.71	0.71	0.71
Uniform Delay (d), s/veh	58.5	39.3	48.0	54.8	33.9	34.7	43.2	30.5	30.5	56.8	40.1	40.1
Incr Delay (d2), s/veh	11.6	0.0	103.5	168.8	0.1	0.1	40.0	126.4	162.4	134.3	6.6	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.2	20.0	12.7	2.4	3.0	22.3	63.7	68.5	6.9	12.2	11.9
LnGrp Delay(d),s/veh	70.1	39.3	151.5	223.6	33.9	34.8	83.2	156.9	192.9	191.1	46.8	47.0
LnGrp LOS	E	D	F	F	C	C	F	F	F	F	D	D
Approach Vol, veh/h		448			411			2862			852	
Approach Delay, s/veh		135.7			128.3			158.7			66.5	
Approach LOS		F			F			F			E	

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	11.0	64.5	15.0	29.5	38.0	37.5	6.9	37.6
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	6.5	59.0	10.5	24.0	33.5	32.0	5.8	28.7
Max Q Clear Time (g_c+I1), s	12.5	61.0	12.5	26.0	35.5	23.5	3.8	8.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	7.3	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	136.5
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1028	594	254	108	1126	438	156	1121	114	229	638	488
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1094	632	253	115	1198	464	166	1193	117	244	679	452
Adj No. of Lanes	1	1	1	1	2	0	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1361	1926	1637	132	858	320	126	1107	470	142	612	406
Arrive On Green	0.75	1.00	1.00	0.07	0.33	0.33	0.03	0.29	0.29	0.04	0.29	0.29
Sat Flow, veh/h	1810	1900	1615	1810	2630	982	3619	3800	1615	3619	2134	1416
Grp Volume(v), veh/h	1094	632	253	115	853	809	166	1193	117	244	604	527
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1712	1810	1900	1615	1810	1900	1650
Q Serve(g_s), s	43.6	0.0	0.0	7.2	37.5	37.5	4.0	33.5	6.4	4.5	33.0	33.0
Cycle Q Clear(g_c), s	43.6	0.0	0.0	7.2	37.5	37.5	4.0	33.5	6.4	4.5	33.0	33.0
Prop In Lane	1.00		1.00	1.00		0.57	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	1361	1926	1637	132	620	558	126	1107	470	142	545	474
V/C Ratio(X)	0.80	0.33	0.15	0.87	1.38	1.45	1.32	1.08	0.25	1.72	1.11	1.11
Avail Cap(c_a), veh/h	1361	1926	1637	132	620	558	126	1107	470	142	545	474
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	8.9	0.0	0.0	52.8	38.8	38.8	55.5	40.8	31.1	55.3	41.0	41.0
Incr Delay (d2), s/veh	3.3	0.5	0.2	40.9	179.7	212.0	188.5	50.6	1.3	353.2	71.7	75.7
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	22.5	0.2	0.1	5.1	50.5	50.5	5.3	25.3	3.0	9.2	28.1	24.9
LnGrp Delay(d),s/veh	12.3	0.5	0.2	93.6	218.4	250.7	244.0	91.3	32.4	408.5	112.7	116.7
LnGrp LOS	B	A	A	F	F	F	F	F	C	F	F	F
Approach Vol, veh/h		1979			1777			1476			1375	
Approach Delay, s/veh		7.0			225.0			103.8			166.7	
Approach LOS		A			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	12.9	124.1	9.5	38.5	94.0	43.0	9.0	39.0
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	8.4	49.6	4.0	* 33	20.5	* 38	4.5	32.5
Max Q Clear Time (g_c+I1), s	9.2	2.0	6.0	35.0	45.6	39.5	6.5	35.5
Green Ext Time (p_c), s	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	120.5
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	262	675	297	269	1132	143	394	1484	295	228	1178	293
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		0.99	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	285	734	307	292	1230	146	428	1613	309	248	1280	308
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	188	731	305	1030	2534	300	279	1532	291	173	998	418
Arrive On Green	0.10	0.29	0.29	0.57	0.76	0.76	0.15	0.33	0.33	0.10	0.26	0.26
Sat Flow, veh/h	1810	2541	1062	1810	3330	394	1810	4653	885	1810	3800	1591
Grp Volume(v), veh/h	285	549	492	292	700	676	428	1315	607	248	1280	308
Grp Sat Flow(s),veh/h/ln	1810	1900	1703	1810	1900	1824	1810	1900	1738	1810	1900	1591
Q Serve(g_s), s	12.5	34.5	34.5	10.0	16.7	16.9	18.5	39.5	39.5	11.5	31.5	29.0
Cycle Q Clear(g_c), s	12.5	34.5	34.5	10.0	16.7	16.9	18.5	39.5	39.5	11.5	31.5	29.0
Prop In Lane	1.00		0.62	1.00		0.22	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	188	546	490	1030	1445	1388	279	1251	572	173	998	418
V/C Ratio(X)	1.51	1.00	1.01	0.28	0.48	0.49	1.53	1.05	1.06	1.43	1.28	0.74
Avail Cap(c_a), veh/h	188	546	490	1030	1445	1388	279	1251	572	173	998	418
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	53.8	42.8	42.8	13.3	5.4	5.5	50.8	40.3	40.3	54.3	44.3	75.4
Incr Delay (d2), s/veh	255.8	39.7	41.9	0.1	1.2	1.2	257.7	40.1	54.7	223.4	135.2	11.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.6	24.1	21.9	5.0	9.2	8.9	29.2	27.6	27.6	16.5	35.2	14.0
LnGrp Delay(d),s/veh	309.6	82.4	84.7	13.3	6.6	6.7	308.4	80.4	95.0	277.7	179.4	86.5
LnGrp LOS	F	F	F	B	A	A	F	F	F	F	F	F
Approach Vol, veh/h		1326			1668			2350			1836	
Approach Delay, s/veh		132.1			7.8			125.7			177.1	
Approach LOS		F			A			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	34.8	40.0	24.0	37.0	17.0	97.8	16.0	45.0
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	15.5	* 35	18.5	* 32	12.5	37.5	11.5	38.5
Max Q Clear Time (g_c+I1), s	12.0	36.5	20.5	33.5	14.5	18.9	13.5	41.5
Green Ext Time (p_c), s	2.2	0.0	0.0	0.0	0.0	6.3	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	112.6
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	83	277	215	360	415	242	121	1526	313	139	1531	63
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	90	301	218	391	451	164	132	1659	315	151	1664	66
Adj No. of Lanes	0	1	1	0	2	1	1	3	0	1	3	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	98	328	366	452	475	397	83	1366	257	98	1644	65
Arrive On Green	0.23	0.23	0.23	0.25	0.25	0.25	0.05	0.29	0.29	0.05	0.30	0.30
Sat Flow, veh/h	432	1446	1613	1810	1900	1587	1810	4653	875	1810	5443	216
Grp Volume(v), veh/h	391	0	218	391	451	164	132	1352	622	151	1161	569
Grp Sat Flow(s),veh/h/ln	1878	0	1613	1810	1900	1587	1810	1900	1728	1810	1900	1859
Q Serve(g_s), s	24.4	0.0	14.5	24.8	28.0	10.4	5.5	35.2	35.2	6.5	36.2	36.2
Cycle Q Clear(g_c), s	24.4	0.0	14.5	24.8	28.0	10.4	5.5	35.2	35.2	6.5	36.2	36.2
Prop In Lane	0.23		1.00	1.00		1.00	1.00		0.51	1.00		0.12
Lane Grp Cap(c), veh/h	427	0	366	452	475	397	83	1116	507	98	1148	561
V/C Ratio(X)	0.92	0.00	0.60	0.86	0.95	0.41	1.59	1.21	1.23	1.54	1.01	1.01
Avail Cap(c_a), veh/h	470	0	403	452	475	397	83	1116	507	98	1148	561
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	0.0	41.4	43.1	44.3	37.6	57.3	42.4	42.4	56.8	41.9	41.9
Incr Delay (d2), s/veh	20.7	0.0	1.1	15.2	28.6	0.3	315.5	103.7	118.0	287.5	29.6	41.2
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	15.0	0.0	6.6	14.3	18.4	4.6	10.0	34.5	33.4	11.1	23.7	25.0
LnGrp Delay(d),s/veh	65.9	0.0	42.5	58.3	72.9	37.9	372.7	146.1	160.4	344.3	71.5	83.1
LnGrp LOS	E		D	E	E	D	F	F	F	F	F	F
Approach Vol, veh/h		609			1006			2106			1881	
Approach Delay, s/veh		57.5			61.5			164.5			96.9	
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	11.0	40.7		32.8	10.0	41.7		35.5
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	6.5	32.5		30.0	5.5	33.5		30.0
Max Q Clear Time (g_c+I1), s	12.5	37.2		26.4	7.5	38.2		30.0
Green Ext Time (p_c), s	0.0	0.0		0.8	0.0	0.0		0.0

Intersection Summary		
HCM 2010 Ctrl Delay	111.7	
HCM 2010 LOS	F	

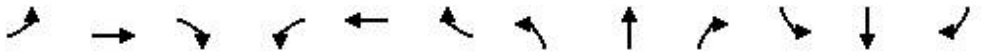
Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2100	802	1355	1751	0	0	0	977	0	0	425
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	0	1900	1900	1900	1900	0	0	0	1900	0	0	1900
Adj Flow Rate, veh/h	0	2211	836	1426	1843	0	0	0	0	0	0	325
Adj No. of Lanes	0	2	1	1	2	0	0	0	1	0	0	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2011	855	709	3626	0	0	0	0	0	0	0
Arrive On Green	0.00	0.53	0.53	0.39	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3800	1615	1810	3800	0		0			0	
Grp Volume(v), veh/h	0	2211	836	1426	1843	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0						
Q Serve(g_s), s	0.0	63.5	60.6	47.0	5.2	0.0						
Cycle Q Clear(g_c), s	0.0	63.5	60.6	47.0	5.2	0.0						
Prop In Lane	0.00		1.00	1.00		0.00						
Lane Grp Cap(c), veh/h	0	2011	855	709	3626	0						
V/C Ratio(X)	0.00	1.10	0.98	2.01	0.51	0.00						
Avail Cap(c_a), veh/h	0	2011	855	709	3626	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	28.3	27.6	36.5	0.2	0.0						
Incr Delay (d2), s/veh	0.0	53.1	25.9	460.4	0.5	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	47.8	46.9	114.1	2.6	0.0						
LnGrp Delay(d),s/veh	0.0	81.4	53.5	496.9	0.8	0.0						
LnGrp LOS		F	D	F	A							
Approach Vol, veh/h		3047			3269							
Approach Delay, s/veh		73.7			217.2							
Approach LOS		E			F							

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		
Phs Duration (G+Y+Rc), s	51.0	69.0				120.0		
Change Period (Y+Rc), s	4.0	5.5				5.5		
Max Green Setting (Gmax), s	47.0	44.5				95.5		
Max Q Clear Time (g_c+I1), s	49.0	65.5				7.2		
Green Ext Time (p_c), s	0.0	0.0				70.0		

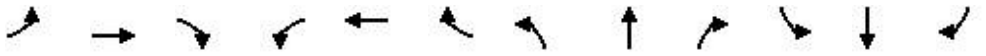
Intersection Summary	
HCM 2010 Ctrl Delay	148.0
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	891	194	666	953	0	0	0	0	796	2	748
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	948	206	709	1014	0				847	2	719
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	918	390	520	2153	0				632	1	565
Arrive On Green	0.00	0.24	0.24	0.38	0.75	0.00				0.35	0.35	0.35
Sat Flow, veh/h	0	3800	1615	1810	3800	0				1805	4	1615
Grp Volume(v), veh/h	0	948	206	709	1014	0				849	0	719
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1615
Q Serve(g_s), s	0.0	29.0	13.3	34.5	12.2	0.0				42.0	0.0	42.0
Cycle Q Clear(g_c), s	0.0	29.0	13.3	34.5	12.2	0.0				42.0	0.0	42.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	918	390	520	2153	0				633	0	565
V/C Ratio(X)	0.00	1.03	0.53	1.36	0.47	0.00				1.34	0.00	1.27
Avail Cap(c_a), veh/h	0	918	390	520	2153	0				633	0	565
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.59	0.59	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	45.5	39.5	37.1	7.9	0.0				39.0	0.0	39.0
Incr Delay (d2), s/veh	0.0	38.3	5.0	170.6	0.4	0.0				163.6	0.0	135.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	20.1	6.5	41.8	6.4	0.0				49.7	0.0	40.0
LnGrp Delay(d),s/veh	0.0	83.8	44.6	207.7	8.4	0.0				202.6	0.0	174.8
LnGrp LOS		F	D	F	A					F		F
Approach Vol, veh/h		1154			1723						1568	
Approach Delay, s/veh		76.8			90.4						189.9	
Approach LOS		E			F						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	39.0	34.0		47.0		73.0		
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0		
Max Green Setting (Gmax), s	34.5	29.0		42.0		68.0		
Max Q Clear Time (g_c+I1), s	36.5	31.0		44.0		14.2		
Green Ext Time (p_c), s	0.0	0.0		0.0		12.6		

Intersection Summary	
HCM 2010 Ctrl Delay	122.0
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	512	1720	846	0	3160	155	260	693	31	318	0	995
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		0.98	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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	528	1773	868	0	3258	151	268	714	32	328	0	1011
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	1	1	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	1371	611	0	1997	92	111	528	24	111	0	472
Arrive On Green	0.55	0.55	0.55	0.00	0.55	0.55	0.29	0.29	0.29	0.29	0.00	0.29
Sat Flow, veh/h	53	2475	1103	0	3605	166	566	1805	81	726	0	1615
Grp Volume(v), veh/h	528	1321	1321	0	1705	1705	268	0	746	328	0	1011
Grp Sat Flow(s),veh/h/ln	53	1900	1678	0	1900	1871	566	0	1886	726	0	1615
Q Serve(g_s), s	0.0	36.0	36.0	0.0	36.0	36.0	0.0	0.0	19.0	0.0	0.0	19.0
Cycle Q Clear(g_c), s	36.0	36.0	36.0	0.0	36.0	36.0	19.0	0.0	19.0	19.0	0.0	19.0
Prop In Lane	1.00		0.66	0.00		0.09	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	111	1052	929	0	1052	1036	111	0	551	111	0	472
V/C Ratio(X)	4.77	1.25	1.42	0.00	1.62	1.65	2.42	0.00	1.35	2.96	0.00	2.14
Avail Cap(c_a), veh/h	111	1052	929	0	1052	1036	111	0	551	111	0	472
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	14.5	14.5	0.0	14.5	14.5	32.5	0.0	23.0	32.5	0.0	23.0
Incr Delay (d2), s/veh	1715.3	122.6	195.7	0.0	283.3	294.7	665.3	0.0	170.7	906.4	0.0	520.8
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	54.7	54.2	66.8	0.0	101.2	102.9	22.4	0.0	35.9	29.9	0.0	76.7
LnGrp Delay(d),s/veh	1747.8	137.1	210.2	0.0	297.8	309.2	697.8	0.0	193.7	938.9	0.0	543.8
LnGrp LOS	F	F	F		F	F	F		F	F		F
Approach Vol, veh/h		3169			3409			1014			1339	
Approach Delay, s/veh		435.9			303.5			326.9			640.6	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.0		24.0		41.0		24.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		36.0		19.0		36.0		19.0
Max Q Clear Time (g_c+I1), s		38.0		21.0		38.0		21.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	403.7
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	679	1007	0	0	1252	1555	367	3	227	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	738	1095	0	0	1361	1666	399	3	142			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	430	2850	0	0	1837	780	299	2	269			
Arrive On Green	0.47	1.00	0.00	0.00	0.48	0.48	0.17	0.17	0.17			
Sat Flow, veh/h	1810	3800	0	0	3800	1614	1797	14	1615			
Grp Volume(v), veh/h	738	1095	0	0	1361	1666	402	0	142			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1614	1810	0	1615			
Q Serve(g_s), s	28.5	0.0	0.0	0.0	34.6	58.0	20.0	0.0	9.6			
Cycle Q Clear(g_c), s	28.5	0.0	0.0	0.0	34.6	58.0	20.0	0.0	9.6			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	430	2850	0	0	1837	780	302	0	269			
V/C Ratio(X)	1.72	0.38	0.00	0.00	0.74	2.14	1.33	0.00	0.53			
Avail Cap(c_a), veh/h	430	2850	0	0	1837	780	302	0	269			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	31.5	0.0	0.0	0.0	25.0	31.0	50.0	0.0	45.7			
Incr Delay (d2), s/veh	323.7	0.0	0.0	0.0	2.7	515.3	170.6	0.0	7.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	52.7	0.0	0.0	0.0	18.8	137.5	24.3	0.0	4.8			
LnGrp Delay(d),s/veh	355.2	0.0	0.0	0.0	27.7	546.3	220.6	0.0	52.9			
LnGrp LOS	F	A			C	F	F		D			
Approach Vol, veh/h		1833			3027			544				
Approach Delay, s/veh		143.0			313.1			176.8				
Approach LOS		F			F			F				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		95.0			32.0	63.0		25.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		90.0			28.5	58.0		20.0
Max Q Clear Time (g_c+I1), s		2.0			30.5	60.0		22.0
Green Ext Time (p_c), s		54.1			0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	241.7
HCM 2010 LOS	F

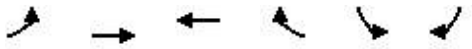
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	226	2566	36	33	2216	217	482	125	200	201	27	252
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	233	2645	0	34	2285	193	389	280	152	227	0	153
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	128	2551	723	43	2284	634	445	285	155	390	0	288
Arrive On Green	0.07	0.45	0.00	0.02	0.40	0.40	0.25	0.25	0.25	0.11	0.00	0.11
Sat Flow, veh/h	1810	5700	1615	1810	5700	1581	1810	1159	629	3619	0	1615
Grp Volume(v), veh/h	233	2645	0	34	2285	193	389	0	432	227	0	153
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1581	1810	0	1788	1810	0	1615
Q Serve(g_s), s	8.5	53.7	0.0	2.2	48.1	10.0	24.8	0.0	28.8	7.2	0.0	10.3
Cycle Q Clear(g_c), s	8.5	53.7	0.0	2.2	48.1	10.0	24.8	0.0	28.8	7.2	0.0	10.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	128	2551	723	43	2284	634	445	0	440	390	0	288
V/C Ratio(X)	1.82	1.04	0.00	0.78	1.00	0.30	0.87	0.00	0.98	0.58	0.00	0.53
Avail Cap(c_a), veh/h	128	2551	723	92	2284	634	445	0	440	890	0	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.8	33.1	0.0	58.3	36.0	24.5	43.5	0.0	45.0	51.0	0.0	44.7
Incr Delay (d2), s/veh	397.0	28.3	0.0	10.8	19.0	0.1	20.6	0.0	38.9	0.5	0.0	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	18.4	34.8	0.0	1.3	29.2	4.4	15.0	0.0	19.0	3.6	0.0	4.7
LnGrp Delay(d),s/veh	452.7	61.4	0.0	69.1	54.9	24.6	64.1	0.0	83.9	51.5	0.0	45.3
LnGrp LOS	F	F		E	F	C	E		F	D		D
Approach Vol, veh/h		2878			2512			821			380	
Approach Delay, s/veh		93.1			52.8			74.5			49.0	
Approach LOS		F			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.4	59.2		18.4	13.0	53.6		35.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	6.1	33.9		29.5	8.5	31.5		29.5
Max Q Clear Time (g_c+I1), s	4.2	55.7		12.3	10.5	50.1		30.8
Green Ext Time (p_c), s	0.0	0.0		0.6	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	72.9
HCM 2010 LOS	E

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	131	2799	2251	278	541	169
Number	5	2	6	16	7	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	135	2886	2321	279	558	115
Adj No. of Lanes	1	2	3	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	162	2597	3172	899	814	508
Arrive On Green	0.09	0.68	0.56	0.56	0.22	0.22
Sat Flow, veh/h	1810	3800	5700	1615	3619	1615
Grp Volume(v), veh/h	135	2886	2321	279	558	115
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1615	1810	1615
Q Serve(g_s), s	8.8	82.0	36.6	11.1	17.0	6.3
Cycle Q Clear(g_c), s	8.8	82.0	36.6	11.1	17.0	6.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	162	2597	3172	899	814	508
V/C Ratio(X)	0.84	1.11	0.73	0.31	0.69	0.23
Avail Cap(c_a), veh/h	188	2597	3172	899	814	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.16	0.16	1.00	1.00
Uniform Delay (d), s/veh	53.8	19.0	19.9	14.3	42.6	30.4
Incr Delay (d2), s/veh	21.1	56.3	0.3	0.1	4.7	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	62.5	19.2	5.0	9.0	6.6
LnGrp Delay(d),s/veh	74.8	75.3	20.2	14.4	47.3	31.4
LnGrp LOS	E	F	C	B	D	C
Approach Vol, veh/h		3021	2600		673	
Approach Delay, s/veh		75.3	19.5		44.6	
Approach LOS		E	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		87.5		32.5	15.2	72.3		
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		
Max Green Setting (Gmax), s		82.0		27.0	12.5	65.0		
Max Q Clear Time (g_c+I1), s		84.0		19.0	10.8	38.6		
Green Ext Time (p_c), s		0.0		0.9	0.0	25.7		

Intersection Summary	
HCM 2010 Ctrl Delay	49.0
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	242

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	41	1193	2730	20	17	77
Conflicting Peds, #/hr	0	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	45	1297	2967	22	18	84

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	2967	0	-	0	3705	1484
Stage 1	-	-	-	-	2967	-
Stage 2	-	-	-	-	738	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	121	-	-	-	*~ 1	116
Stage 1	-	-	-	-	*26	-
Stage 2	-	-	-	-	*562	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	121	-	-	-	*~ 1	116
Mov Cap-2 Maneuver	-	-	-	-	*~ 1	-
Stage 1	-	-	-	-	*26	-
Stage 2	-	-	-	-	*562	-

Approach	EB	WB	SB
HCM Control Delay, s	24.8	0	$ 10171.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	121	-	-	-	5
HCM Lane V/C Ratio	0.368	-	-	-	20.435
HCM Control Delay (s)	51.2	23.9	-	$	10171.5
HCM Lane LOS	F	C	-	-	F
HCM 95th %tile Q(veh)	1.5	-	-	-	14.7

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	240	2964	873	25	1633	119	353	139	28	259	264	356
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		0.99	1.00		1.00	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	261	3222	0	27	1775	125	384	151	25	282	287	309
Adj No. of Lanes	1	2	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	272	2980	1267	36	3439	242	205	749	122	134	991	659
Arrive On Green	0.15	0.78	0.00	0.02	0.65	0.65	0.06	0.23	0.23	0.07	0.26	0.26
Sat Flow, veh/h	1810	3800	1615	1810	5259	369	3619	3190	518	1810	3800	1594
Grp Volume(v), veh/h	261	3222	0	27	1281	619	384	89	87	282	287	309
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1829	1810	1900	1809	1810	1900	1594
Q Serve(g_s), s	16.5	90.2	0.0	1.7	20.2	20.3	6.5	4.3	4.5	8.5	6.9	16.3
Cycle Q Clear(g_c), s	16.5	90.2	0.0	1.7	20.2	20.3	6.5	4.3	4.5	8.5	6.9	16.3
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	272	2980	1267	36	2485	1196	205	446	425	134	991	659
V/C Ratio(X)	0.96	1.08	0.00	0.74	0.52	0.52	1.88	0.20	0.21	2.11	0.29	0.47
Avail Cap(c_a), veh/h	272	2980	1267	63	2485	1196	205	446	425	134	991	659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.5	12.4	0.0	56.0	10.4	10.4	54.3	35.3	35.4	53.3	34.0	24.7
Incr Delay (d2), s/veh	8.7	37.2	0.0	1.0	0.1	0.1	412.8	1.0	1.1	523.2	0.7	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	61.4	0.0	0.9	10.5	10.2	15.0	2.4	2.4	23.7	3.7	7.6
LnGrp Delay(d),s/veh	57.2	49.6	0.0	57.1	10.5	10.6	467.0	36.3	36.5	576.5	34.7	27.1
LnGrp LOS	E	F		E	B	B	F	D	D	F	C	C
Approach Vol, veh/h		3483			1927			560			878	
Approach Delay, s/veh		50.2			11.1			331.7			206.0	
Approach LOS		D			B			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	6.8	96.7	11.0	35.5	21.8	81.7	14.0	32.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.3	55.5	6.5	29.0	17.3	42.2	8.5	* 27
Max Q Clear Time (g_c+I1), s	3.7	92.2	8.5	18.3	18.5	22.3	10.5	6.5
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	19.4	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	82.2
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	1269	71	25	2252	6	134	5	63	18	5	107
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	1379	77	27	2448	7	146	5	68	20	5	116
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	37	1244	1057	36	1239	4	219	9	80	265	61	317
Arrive On Green	0.02	0.65	0.65	0.02	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1810	1900	1615	1810	1894	5	862	45	409	1075	309	1615
Grp Volume(v), veh/h	28	1379	77	27	0	2455	219	0	0	25	0	116
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1899	1316	0	0	1384	0	1615
Q Serve(g_s), s	1.8	78.6	2.1	1.8	0.0	78.5	17.9	0.0	0.0	0.0	0.0	7.5
Cycle Q Clear(g_c), s	1.8	78.6	2.1	1.8	0.0	78.5	19.5	0.0	0.0	1.6	0.0	7.5
Prop In Lane	1.00		1.00	1.00		0.00	0.67		0.31	0.80		1.00
Lane Grp Cap(c), veh/h	37	1244	1057	36	0	1242	309	0	0	326	0	317
V/C Ratio(X)	0.77	1.11	0.07	0.75	0.00	1.98	0.71	0.00	0.00	0.08	0.00	0.37
Avail Cap(c_a), veh/h	60	1244	1057	60	0	1242	309	0	0	326	0	317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	58.5	20.7	7.5	58.5	0.0	20.8	47.1	0.0	0.0	39.3	0.0	41.7
Incr Delay (d2), s/veh	11.6	60.8	0.0	11.2	0.0	442.2	13.0	0.0	0.0	0.5	0.0	3.2
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	1.0	61.8	0.9	1.0	0.0	193.3	8.1	0.0	0.0	0.7	0.0	3.6
LnGrp Delay(d),s/veh	70.1	81.5	7.5	69.8	0.0	462.9	60.1	0.0	0.0	39.8	0.0	45.0
LnGrp LOS	E	F	A	E		F	E			D		D
Approach Vol, veh/h		1484			2482			219			141	
Approach Delay, s/veh		77.5			458.7			60.1			44.1	
Approach LOS		E			F			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.1	6.9	84.1		29.1	6.9	84.0
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	78.5		22.0	4.0	78.5
Max Q Clear Time (g_c+I1), s		21.5	3.8	80.6		9.5	3.8	80.5
Green Ext Time (p_c), s		0.1	0.0	0.0		1.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	294.2
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	152	2028	1131	22	933	143	653	586	25	179	744	141
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	162	2157	1188	23	993	146	695	623	23	190	791	143
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	189	1769	752	32	1227	180	467	864	32	204	666	120
Arrive On Green	0.10	0.47	0.47	0.02	0.38	0.38	0.13	0.24	0.24	0.11	0.21	0.21
Sat Flow, veh/h	1810	3800	1615	1810	3240	476	3619	3639	134	1810	3134	566
Grp Volume(v), veh/h	162	2157	1188	23	582	557	695	325	321	190	480	454
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1816	1810	1900	1873	1810	1900	1800
Q Serve(g_s), s	10.6	55.9	32.8	1.5	32.9	33.0	15.5	18.9	18.9	12.5	25.5	25.5
Cycle Q Clear(g_c), s	10.6	55.9	32.8	1.5	32.9	33.0	15.5	18.9	18.9	12.5	25.5	25.5
Prop In Lane	1.00		1.00	1.00		0.26	1.00		0.07	1.00		0.31
Lane Grp Cap(c), veh/h	189	1769	752	32	720	688	467	451	445	204	404	383
V/C Ratio(X)	0.86	1.22	1.58	0.71	0.81	0.81	1.49	0.72	0.72	0.93	1.19	1.19
Avail Cap(c_a), veh/h	214	1769	752	60	720	688	467	451	445	204	404	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)	0.09	0.09	0.09	1.00	1.00	1.00	0.73	0.73	0.73	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	32.1	11.0	58.6	33.4	33.4	52.3	42.1	42.1	52.8	47.2	47.3
Incr Delay (d2), s/veh	2.7	99.3	261.7	10.3	9.5	10.0	227.3	7.1	7.3	44.0	106.8	107.9
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	5.4	53.6	69.0	0.9	19.2	18.5	22.5	10.8	10.7	8.7	25.3	24.1
LnGrp Delay(d),s/veh	55.6	131.3	272.8	68.9	42.9	43.4	279.6	49.2	49.3	96.8	154.1	155.1
LnGrp LOS	E	F	F	E	D	D	F	D	D	F	F	F
Approach Vol, veh/h		3507			1162			1341			1124	
Approach Delay, s/veh		175.7			43.6			168.6			144.8	
Approach LOS		F			D			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	6.6	61.4	21.0	31.0	17.0	51.0	18.0	34.0
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	55.0	15.5	* 26	14.2	44.8	13.5	27.5
Max Q Clear Time (g_c+I1), s	12.5	57.9	17.5	27.5	12.6	35.0	14.5	20.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	9.2	0.0	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	148.0
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	48	284	297	57	185	318	222	741	142	513	1108	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.96	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	51	302	202	61	197	241	236	788	133	546	1179	71
Adj No. of Lanes	1	1	1	1	2	0	1	2	1	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	81	348	296	79	346	291	248	969	396	558	1657	704
Arrive On Green	0.05	0.18	0.18	0.04	0.18	0.18	0.14	0.25	0.25	0.31	0.44	0.44
Sat Flow, veh/h	1810	1900	1615	1810	1900	1602	1810	3800	1552	1810	3800	1615
Grp Volume(v), veh/h	51	302	202	61	197	241	236	788	133	546	1179	71
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1602	1810	1900	1552	1810	1900	1615
Q Serve(g_s), s	2.8	15.4	8.3	3.3	9.5	14.5	12.9	19.5	7.0	29.9	25.4	1.9
Cycle Q Clear(g_c), s	2.8	15.4	8.3	3.3	9.5	14.5	12.9	19.5	7.0	29.9	25.4	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	81	348	296	79	346	291	248	969	396	558	1657	704
V/C Ratio(X)	0.63	0.87	0.68	0.77	0.57	0.83	0.95	0.81	0.34	0.98	0.71	0.10
Avail Cap(c_a), veh/h	81	460	391	105	494	416	248	969	396	558	1657	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	46.9	39.7	19.2	47.3	37.3	39.4	42.8	35.0	30.4	34.3	23.0	9.2
Incr Delay (d2), s/veh	10.8	10.6	1.4	15.5	0.6	6.2	43.5	7.4	2.3	7.4	0.2	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	9.1	3.8	2.0	5.0	6.9	9.5	11.2	3.2	16.0	13.3	0.9
LnGrp Delay(d),s/veh	57.7	50.2	20.6	62.9	37.9	45.6	86.4	42.4	32.6	41.6	23.3	9.2
LnGrp LOS	E	D	C	E	D	D	F	D	C	D	C	A
Approach Vol, veh/h		555			499			1157			1796	
Approach Delay, s/veh		40.2			44.7			50.3			28.3	
Approach LOS		D			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	36.3	31.0	8.9	23.8	18.2	49.1	9.0	23.7
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	24.5	* 26	5.8	24.2	13.7	36.3	4.0	26.0
Max Q Clear Time (g_c+I1), s	31.9	21.5	5.3	17.4	14.9	27.4	4.8	16.5
Green Ext Time (p_c), s	0.0	1.4	0.0	0.9	0.0	4.2	0.0	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	38.3
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	5	81	1013	13	162	1518
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	0	-	65	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	87	1089	14	174	1632

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3070	1089	0	0	1089	0
Stage 1	1089	-	-	-	-	-
Stage 2	1981	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	14	264	-	-	648	-
Stage 1	326	-	-	-	-	-
Stage 2	119	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	10	264	-	-	648	-
Mov Cap-2 Maneuver	10	-	-	-	-	-
Stage 1	326	-	-	-	-	-
Stage 2	87	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	57.1	0	1.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	10	264	648	-
HCM Lane V/C Ratio	-	-	0.538	0.33	0.269	-
HCM Control Delay (s)	-	-	$ 573.9	25.2	12.6	-
HCM Lane LOS	-	-	F	D	B	-
HCM 95th %tile Q(veh)	-	-	1.2	1.4	1.1	-

Intersection	
Intersection Delay, s/veh	60.6
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Vol, veh/h	0	260	373	0	830	382	0	677	762
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	283	405	0	902	415	0	736	828
Number of Lanes	0	1	1	0	1	0	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	29.4	66.4	69.5
HCM LOS	D	F	F

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	68%	0%	0%	0%	100%
Vol Right, %	32%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1212	260	373	677	762
LT Vol	0	260	0	677	0
Through Vol	830	0	0	0	762
RT Vol	382	0	373	0	0
Lane Flow Rate	1317	283	405	736	828
Geometry Grp	4	7	7	7	7
Degree of Util (X)	1	0.651	0.799	1	1
Departure Headway (Hd)	7.026	8.297	7.097	7.989	7.488
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	527	438	515	456	489
Service Time	5.054	5.997	4.797	5.726	5.226
HCM Lane V/C Ratio	2.499	0.646	0.786	1.614	1.693
HCM Control Delay	66.4	25.2	32.4	70.8	68.4
HCM Lane LOS	F	D	D	F	F
HCM 95th-tile Q	13.8	4.5	7.5	13	13.4



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	253	138	824	115	93	798
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	275	132	896	125	101	867
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	312	278	844	718	382	1341
Arrive On Green	0.17	0.17	0.44	0.44	0.21	0.71
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	275	132	896	125	101	867
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	13.4	6.6	40.0	4.2	4.2	22.2
Cycle Q Clear(g_c), s	13.4	6.6	40.0	4.2	4.2	22.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	312	278	844	718	382	1341
V/C Ratio(X)	0.88	0.47	1.06	0.17	0.26	0.65
Avail Cap(c_a), veh/h	342	305	844	718	382	1341
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	36.4	33.6	25.0	15.1	29.7	7.2
Incr Delay (d2), s/veh	20.1	0.5	48.5	0.5	1.7	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	3.0	32.2	2.0	2.3	12.5
LnGrp Delay(d),s/veh	56.5	34.0	73.5	15.6	31.3	9.6
LnGrp LOS	E	C	F	B	C	A
Approach Vol, veh/h	407		1021			968
Approach Delay, s/veh	49.2		66.4			11.9
Approach LOS	D		E			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.5	45.5				69.0		21.0
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	19.0	38.5				62.0		17.0
Max Q Clear Time (g_c+I1), s	6.2	42.0				24.2		15.4
Green Ext Time (p_c), s	0.1	0.0				9.4		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	41.4
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	1	3	936	0	0	1051
Conflicting Peds, #/hr	0	0	0	3	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	140	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	3	1017	0	0	1142

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2159	509	0	0	1017	0
Stage 1	1017	-	-	-	-	-
Stage 2	1142	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	47	515	-	-	690	-
Stage 1	315	-	-	-	-	-
Stage 2	307	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	47	515	-	-	690	-
Mov Cap-2 Maneuver	211	-	-	-	-	-
Stage 1	315	-	-	-	-	-
Stage 2	306	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	211	515	690	-
HCM Lane V/C Ratio	-	-	0.005	0.006	-	-
HCM Control Delay (s)	-	-	22.2	12	0	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	347	106	120	102	636	0	242	40	700	315	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	62	377	115	130	111	691	0	263	40	761	342	38
Adj No. of Lanes	1	1	1	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	80	405	343	102	428	364	2	504	422	527	1131	962
Arrive On Green	0.04	0.21	0.21	0.06	0.23	0.23	0.00	0.27	0.27	0.29	0.60	0.60
Sat Flow, veh/h	1810	1900	1611	1810	1900	1615	1810	1900	1593	1810	1900	1615
Grp Volume(v), veh/h	62	377	115	130	111	691	0	263	40	761	342	38
Grp Sat Flow(s),veh/h/ln	1810	1900	1611	1810	1900	1615	1810	1900	1593	1810	1900	1615
Q Serve(g_s), s	3.9	22.4	7.0	6.5	5.5	25.9	0.0	13.6	2.2	33.5	10.2	1.1
Cycle Q Clear(g_c), s	3.9	22.4	7.0	6.5	5.5	25.9	0.0	13.6	2.2	33.5	10.2	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	80	405	343	102	428	364	2	504	422	527	1131	962
V/C Ratio(X)	0.77	0.93	0.33	1.27	0.26	1.90	0.00	0.52	0.09	1.44	0.30	0.04
Avail Cap(c_a), veh/h	98	413	350	102	428	364	63	504	422	527	1131	962
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	0.09	0.09	0.09	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	44.4	38.3	54.3	36.6	44.5	0.0	36.0	31.9	40.8	11.5	9.6
Incr Delay (d2), s/veh	21.1	26.9	0.2	129.0	0.0	404.9	0.0	3.8	0.4	210.2	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	14.8	3.1	6.9	2.9	52.5	0.0	7.7	1.0	47.5	5.5	0.5
LnGrp Delay(d),s/veh	75.5	71.3	38.5	183.2	36.6	449.4	0.0	39.9	32.3	251.0	12.2	9.7
LnGrp LOS	E	E	D	F	D	F		D	C	F	B	A
Approach Vol, veh/h		554			932			303			1141	
Approach Delay, s/veh		65.0			363.1			38.9			171.4	
Approach LOS		E			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	38.0	36.0	11.0	30.0	0.0	74.0	9.6	31.4
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	33.5	30.0	6.5	25.0	4.0	59.5	6.2	25.3
Max Q Clear Time (g_c+I1), s	35.5	15.6	8.5	24.4	0.0	12.2	5.9	27.9
Green Ext Time (p_c), s	0.0	1.8	0.0	0.1	0.0	2.0	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		198.5
HCM 2010 LOS		F

Intersection	
Int Delay, s/veh	4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	10	132	150	10	268	273
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	143	163	11	291	297

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1047	168	0	0	174	0
Stage 1	168	-	-	-	-	-
Stage 2	879	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	238	881	-	-	1415	-
Stage 1	867	-	-	-	-	-
Stage 2	387	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	189	881	-	-	1415	-
Mov Cap-2 Maneuver	289	-	-	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	307	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	4.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	289	881	1415	-
HCM Lane V/C Ratio	-	-	0.038	0.163	0.206	-
HCM Control Delay (s)	-	-	17.9	9.9	8.2	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.6	0.8	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1662	20	30	1183	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1807	22	33	1286	5	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1828	0	3168	1817
Stage 1	-	-	-	-	1817	-
Stage 2	-	-	-	-	1351	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	-	-	*12	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	*87	-
Platoon blocked, %	-	-	2	-		2
Mov Cap-1 Maneuver	-	-	-	-	*12	-
Mov Cap-2 Maneuver	-	-	-	-	*12	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	*87	-

Approach	EB	WB	NB
HCM Control Delay, s	0		
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Notes

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

Intersection	
Int Delay, s/veh	9.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	54	33	112	0	23	0	167	5	0	3	6	122
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	0	200	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	78	48	162	0	33	0	242	7	0	4	9	177

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	614	597	97	702	685	7	186	0	0	7	0	0
Stage 1	106	106	-	491	491	-	-	-	-	-	-	-
Stage 2	508	491	-	211	194	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	407	419	965	355	373	1081	1401	-	-	1627	-	-
Stage 1	905	811	-	563	552	-	-	-	-	-	-	-
Stage 2	551	552	-	796	744	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	330	346	965	234	308	1081	1401	-	-	1627	-	-
Mov Cap-2 Maneuver	395	426	-	333	398	-	-	-	-	-	-	-
Stage 1	749	809	-	466	457	-	-	-	-	-	-	-
Stage 2	423	457	-	621	742	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.3	14.9	7.9	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1401	-	-	603	398	1627	-	-
HCM Lane V/C Ratio	0.173	-	-	0.478	0.084	0.003	-	-
HCM Control Delay (s)	8.1	-	-	16.3	14.9	7.2	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	2.6	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	72.4
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	105	179	467	0	200	59	82	0	259	572	184
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	114	195	508	0	217	64	89	0	282	622	200
Number of Lanes	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	3
HCM Control Delay	79.3	40	73.5
HCM LOS	F	E	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	28%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	72%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	259	572	184	105	646	200	59	82	265	523	127
LT Vol	259	0	0	105	0	200	0	0	265	0	0
Through Vol	0	572	0	0	179	0	59	0	0	523	0
RT Vol	0	0	184	0	467	0	0	82	0	0	127
Lane Flow Rate	282	622	200	114	702	217	64	89	288	568	138
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.946	1	0.607	0.409	1	0.804	0.228	0.3	0.98	1	0.424
Departure Headway (Hd)	12.1	11.607	10.917	12.915	11.937	13.321	12.825	12.132	12.252	11.759	11.069
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	301	317	330	280	309	272	281	297	297	313	326
Service Time	9.859	9.366	8.676	10.673	9.696	11.068	10.572	9.879	10.014	9.521	8.831
HCM Lane V/C Ratio	0.937	1.962	0.606	0.407	2.272	0.798	0.228	0.3	0.97	1.815	0.423
HCM Control Delay	75.7	86.8	29.3	24.4	88.2	54.3	19.3	20	84.3	87.5	21.8
HCM Lane LOS	F	F	D	C	F	F	C	C	F	F	C
HCM 95th-tile Q	9.3	10.8	3.8	1.9	10.6	6.3	0.9	1.2	10	10.7	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	87	721	1283	262	474	234	684	794	292	436	886	93
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		0.64
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	95	784	1345	285	515	238	743	863	256	474	963	92
Adj No. of Lanes	1	1	1	1	2	1	2	1	1	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	120	553	602	149	1170	494	330	636	540	212	1166	111
Arrive On Green	0.07	0.29	0.29	0.08	0.31	0.31	0.09	0.33	0.33	0.12	0.36	0.36
Sat Flow, veh/h	1810	1900	1559	1810	3800	1605	3619	1900	1613	1810	3230	308
Grp Volume(v), veh/h	95	784	1345	285	515	238	743	863	256	474	566	489
Grp Sat Flow(s),veh/h/ln	1810	1900	1559	1810	1900	1605	1810	1900	1613	1810	1900	1638
Q Serve(g_s), s	6.0	33.5	27.2	9.5	12.5	9.8	10.5	38.5	10.8	13.5	31.2	31.3
Cycle Q Clear(g_c), s	6.0	33.5	27.2	9.5	12.5	9.8	10.5	38.5	10.8	13.5	31.2	31.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	120	553	602	149	1170	494	330	636	540	212	686	591
V/C Ratio(X)	0.79	1.42	2.24	1.91	0.44	0.48	2.25	1.36	0.47	2.23	0.83	0.83
Avail Cap(c_a), veh/h	187	553	602	149	1170	494	330	636	540	212	686	591
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)	0.09	0.09	0.09	1.00	1.00	1.00	0.16	0.16	0.16	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.9	40.8	22.6	52.7	31.9	16.1	52.3	38.3	16.8	50.8	33.5	33.5
Incr Delay (d2), s/veh	0.5	188.4	556.3	431.9	0.1	0.3	563.4	162.3	0.5	569.1	10.9	12.5
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	3.0	46.5	104.6	22.7	6.5	4.3	31.1	48.8	4.8	40.3	18.4	16.2
LnGrp Delay(d),s/veh	53.4	229.2	579.0	484.6	32.0	16.3	615.7	200.5	17.3	619.8	44.4	46.0
LnGrp LOS	D	F	F	F	C	B	F	F	B	F	D	D
Approach Vol, veh/h		2224			1038			1862			1529	
Approach Delay, s/veh		433.2			152.7			341.0			223.3	
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	18.0	44.0	14.0	39.0	15.0	47.0	12.1	40.9
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	13.5	38.5	9.5	33.5	10.5	41.5	11.9	31.1
Max Q Clear Time (g_c+I1), s	15.5	40.5	11.5	35.5	12.5	33.3	8.0	14.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.7	0.0	10.2

Intersection Summary	
HCM 2010 Ctrl Delay	315.4
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	79	172	877	403	80	22	473	1140	351	117	1620	142
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	86	187	861	438	87	10	514	1239	379	127	1761	150
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	350	275	234	204	121	103	234	1490	445	83	1546	130
Arrive On Green	0.19	0.14	0.14	0.11	0.06	0.06	0.13	0.53	0.53	0.05	0.45	0.45
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	2810	840	1810	3458	291
Grp Volume(v), veh/h	86	187	861	438	87	10	514	828	790	127	956	955
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1750	1810	1900	1849
Q Serve(g_s), s	4.8	11.2	13.0	13.5	5.4	0.6	15.5	43.5	46.4	5.5	53.6	53.6
Cycle Q Clear(g_c), s	4.8	11.2	13.0	13.5	5.4	0.6	15.5	43.5	46.4	5.5	53.6	53.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		0.16
Lane Grp Cap(c), veh/h	350	275	234	204	121	103	234	1008	928	83	849	826
V/C Ratio(X)	0.25	0.68	3.68	2.15	0.72	0.10	2.20	0.82	0.85	1.53	1.13	1.16
Avail Cap(c_a), veh/h	350	499	424	204	529	450	234	1008	928	83	849	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	41.0	48.7	29.0	53.3	55.1	39.3	52.3	23.5	24.1	57.3	33.2	33.2
Incr Delay (d2), s/veh	0.1	1.1	1218.6	534.2	3.0	0.2	553.4	7.5	9.7	244.6	58.4	71.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	6.0	84.9	36.9	2.9	0.3	43.7	24.9	24.7	8.4	41.9	43.7
LnGrp Delay(d),s/veh	41.1	49.8	1247.6	587.5	58.2	39.5	605.6	31.0	33.8	301.8	91.6	104.4
LnGrp LOS	D	D	F	F	E	D	F	C	C	F	F	F
Approach Vol, veh/h		1134			535			2132			2038	
Approach Delay, s/veh		958.6			491.2			170.6			110.7	
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	10.0	69.1	18.0	22.9	20.0	59.1	27.7	13.1
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	5.5	49.5	13.5	31.5	15.5	39.5	11.6	33.4
Max Q Clear Time (g_c+I1), s	7.5	48.4	15.5	15.0	17.5	55.6	6.8	7.4
Green Ext Time (p_c), s	0.0	1.1	0.0	2.3	0.0	0.0	0.4	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	332.1
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	532	1341	199	204	916	366	285	1090	172	633	1379	882
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	578	1458	216	222	996	398	310	1185	187	688	1499	955
Adj No. of Lanes	1	1	1	1	2	0	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1204	1875	1594	87	933	368	142	1206	513	236	760	435
Arrive On Green	0.67	0.99	0.99	0.05	0.36	0.36	0.04	0.32	0.32	0.07	0.33	0.33
Sat Flow, veh/h	1810	1900	1615	1810	2586	1019	3619	3800	1615	3619	2270	1300
Grp Volume(v), veh/h	578	1458	216	222	728	666	310	1185	187	688	1227	1227
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1705	1810	1900	1615	1810	1900	1671
Q Serve(g_s), s	18.1	4.9	8.3	5.5	41.5	41.5	4.5	35.6	10.3	7.5	38.5	38.5
Cycle Q Clear(g_c), s	18.1	4.9	8.3	5.5	41.5	41.5	4.5	35.6	10.3	7.5	38.5	38.5
Prop In Lane	1.00		1.00	1.00		0.60	1.00		1.00	1.00		0.78
Lane Grp Cap(c), veh/h	1204	1875	1594	87	686	615	142	1206	513	236	636	559
V/C Ratio(X)	0.48	0.78	0.14	2.57	1.06	1.08	2.19	0.98	0.36	2.91	1.93	2.19
Avail Cap(c_a), veh/h	1204	1875	1594	87	686	615	142	1206	513	236	636	559
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	9.5	0.0	14.6	54.8	36.8	36.8	55.3	38.9	30.3	53.8	38.3	38.3
Incr Delay (d2), s/veh	0.1	3.2	0.2	736.9	51.9	60.6	557.5	22.1	2.0	873.2	423.8	543.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	2.9	3.8	20.5	31.6	29.8	13.2	22.3	4.9	32.4	95.0	102.1
LnGrp Delay(d),s/veh	9.6	3.3	14.8	791.7	88.7	97.4	612.8	61.0	32.3	926.9	462.1	581.4
LnGrp LOS	A	A	B	F	F	F	F	E	C	F	F	F
Approach Vol, veh/h		2252			1616			1682			3142	
Approach Delay, s/veh		6.0			188.8			159.5			610.5	
Approach LOS		A			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	10.0	121.0	10.0	44.0	84.0	47.0	12.0	42.0
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	5.5	46.5	4.5	* 39	10.5	* 42	7.5	35.5
Max Q Clear Time (g_c+I1), s	7.5	10.3	6.5	40.5	20.1	43.5	9.5	37.6
Green Ext Time (p_c), s	0.0	15.1	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	288.2
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	350	1270	499	164	712	190	293	1421	233	248	1878	260
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	357	1296	488	167	727	185	299	1450	227	253	1916	254
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	204	923	332	1093	2465	627	173	1480	231	228	1251	532
Arrive On Green	0.11	0.35	0.35	0.60	0.85	0.85	0.10	0.31	0.31	0.13	0.33	0.33
Sat Flow, veh/h	1810	2668	960	1810	2916	742	1810	4814	753	1810	3800	1615
Grp Volume(v), veh/h	357	905	879	167	474	438	299	1144	533	253	1916	254
Grp Sat Flow(s),veh/h/ln	1810	1900	1728	1810	1900	1757	1810	1900	1766	1810	1900	1615
Q Serve(g_s), s	13.5	41.5	41.5	4.8	6.2	6.2	11.5	35.8	35.9	15.1	39.5	23.1
Cycle Q Clear(g_c), s	13.5	41.5	41.5	4.8	6.2	6.2	11.5	35.8	35.9	15.1	39.5	23.1
Prop In Lane	1.00		0.56	1.00		0.42	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	204	657	598	1093	1607	1486	173	1169	543	228	1251	532
V/C Ratio(X)	1.75	1.38	1.47	0.15	0.29	0.29	1.72	0.98	0.98	1.11	1.53	0.48
Avail Cap(c_a), veh/h	204	657	598	1093	1607	1486	173	1169	543	228	1251	532
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	53.2	39.3	39.3	10.4	1.9	1.9	54.3	41.2	41.2	52.5	40.3	76.0
Incr Delay (d2), s/veh	358.6	179.5	220.8	0.0	0.5	0.5	349.0	21.8	34.2	92.7	243.4	3.1
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	27.0	54.5	56.4	2.4	3.4	3.1	22.5	22.3	22.6	13.4	63.0	10.8
LnGrp Delay(d),s/veh	411.9	218.7	260.0	10.4	2.4	2.4	403.2	63.0	75.4	145.1	283.6	79.0
LnGrp LOS	F	F	F	B	A	A	F	E	E	F	F	E
Approach Vol, veh/h		2141			1079			1976			2423	
Approach Delay, s/veh		267.9			3.6			117.8			247.7	
Approach LOS		F			A			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	39.3	47.0	17.0	45.0	18.0	108.3	19.6	42.4
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	7.5	* 42	11.5	* 40	13.5	35.5	15.1	35.9
Max Q Clear Time (g_c+I1), s	16.8	43.5	13.5	41.5	15.5	8.2	17.1	37.9
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		185.1
HCM 2010 LOS		F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	97	242	136	314	184	179	113	1990	227	231	1933	88
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	105	263	121	341	200	141	123	2163	234	251	2101	96
Adj No. of Lanes	0	1	1	0	2	1	1	3	0	1	3	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	116	289	349	386	405	337	68	1727	184	98	1936	88
Arrive On Green	0.22	0.22	0.22	0.21	0.21	0.21	0.04	0.34	0.34	0.05	0.36	0.36
Sat Flow, veh/h	534	1339	1613	1810	1900	1581	1810	5058	538	1810	5406	246
Grp Volume(v), veh/h	368	0	121	341	200	141	123	1616	781	251	1474	723
Grp Sat Flow(s),veh/h/ln	1873	0	1613	1810	1900	1581	1810	1900	1796	1810	1900	1852
Q Serve(g_s), s	23.0	0.0	7.6	21.9	11.1	9.2	4.5	41.0	41.0	6.5	43.0	43.0
Cycle Q Clear(g_c), s	23.0	0.0	7.6	21.9	11.1	9.2	4.5	41.0	41.0	6.5	43.0	43.0
Prop In Lane	0.29		1.00	1.00		1.00	1.00		0.30	1.00		0.13
Lane Grp Cap(c), veh/h	405	0	349	386	405	337	68	1297	613	98	1361	663
V/C Ratio(X)	0.91	0.00	0.35	0.88	0.49	0.42	1.81	1.25	1.27	2.56	1.08	1.09
Avail Cap(c_a), veh/h	468	0	403	452	475	395	68	1297	613	98	1361	663
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	0.0	39.9	45.8	41.5	40.8	57.8	39.5	39.5	56.8	38.5	38.5
Incr Delay (d2), s/veh	18.5	0.0	0.2	15.0	0.3	0.3	417.5	117.1	135.8	731.3	50.3	62.1
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	8.9	0.0	3.4	12.6	5.9	4.1	10.1	42.5	43.4	23.2	32.0	33.4
LnGrp Delay(d),s/veh	64.4	0.0	40.1	60.8	41.8	41.1	475.3	156.7	175.4	788.1	88.8	100.6
LnGrp LOS	E		D	E	D	D	F	F	F	F	F	F
Approach Vol, veh/h		489			682			2520			2448	
Approach Delay, s/veh		58.4			51.2			178.0			164.0	
Approach LOS		E			D			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	11.0	46.5		31.4	9.0	48.5		31.1
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	6.5	32.5		30.0	4.5	34.5		30.0
Max Q Clear Time (g_c+I1), s	12.5	43.0		25.0	6.5	45.0		23.9
Green Ext Time (p_c), s	0.0	0.0		0.9	0.0	0.0		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	148.8
HCM 2010 LOS	F

Notes

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

APPENDIX 7.2:

GENERAL PLAN BUILDOUT (POST 2035) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1062	675	931	1838	0	0	0	1022	0	0	1001
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5	4.0	5.5				5.6			4.0
Lane Util. Factor		*1.00	1.00	1.00	*1.00				1.00			1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	1.00	1.00	1.00				1.00			1.00
Flt Protected		1.00	1.00	1.00	1.00				1.00			1.00
Satd. Flow (prot)		3800	1900	1900	3800				1900			1900
Flt Permitted		1.00	1.00	1.00	1.00				1.00			1.00
Satd. Flow (perm)		3800	1900	1900	3800				1900			1900
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1154	734	1012	1998	0	0	0	1111	0	0	1088
RTOR Reduction (vph)	0	0	403	0	0	0	0	0	433	0	0	40
Lane Group Flow (vph)	0	1154	331	1012	1998	0	0	0	678	0	0	1048
Confl. Bikes (#/hr)									2			2
Turn Type		NA	Perm	Prot	NA				Prot			Prot
Protected Phases		2		1	6				3			7
Permitted Phases			2									
Actuated Green, G (s)		29.5	29.5	39.0	72.5				36.4			38.0
Effective Green, g (s)		29.5	29.5	39.0	72.5				36.4			38.0
Actuated g/C Ratio		0.25	0.25	0.32	0.60				0.30			0.32
Clearance Time (s)		5.5	5.5	4.0	5.5				5.6			4.0
Vehicle Extension (s)		2.0	2.0	2.0	2.0				2.0			2.0
Lane Grp Cap (vph)		934	467	617	2295				576			601
v/s Ratio Prot		c0.30		c0.53	0.53				0.36			c0.55
v/s Ratio Perm			0.17									
v/c Ratio		1.24	0.71	1.64	0.87				1.18			1.74
Uniform Delay, d1		45.2	41.3	40.5	19.8				41.8			41.0
Progression Factor		1.00	1.00	1.00	1.00				1.00			1.00
Incremental Delay, d2		115.3	8.8	295.4	4.9				96.6			341.3
Delay (s)		160.5	50.1	335.9	24.7				138.4			382.3
Level of Service		F	D	F	C				F			F
Approach Delay (s)		117.6			129.3			138.4			382.3	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	166.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.59		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	120.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

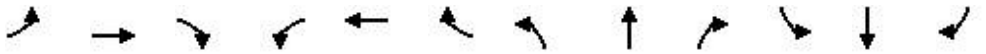
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	886	142	257	516	0	0	0	0	1575	2	707
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	963	149	279	561	0				1712	2	703
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	823	350	437	1900	0				1009	1	902
Arrive On Green	0.00	0.22	0.22	0.24	0.50	0.00				0.56	0.56	0.56
Sat Flow, veh/h	0	3800	1615	1810	3800	0				1808	2	1615
Grp Volume(v), veh/h	0	963	149	279	561	0				1714	0	703
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1615
Q Serve(g_s), s	0.0	26.0	9.6	16.6	10.4	0.0				67.0	0.0	40.9
Cycle Q Clear(g_c), s	0.0	26.0	9.6	16.6	10.4	0.0				67.0	0.0	40.9
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	823	350	437	1900	0				1010	0	902
V/C Ratio(X)	0.00	1.17	0.43	0.64	0.30	0.00				1.70	0.00	0.78
Avail Cap(c_a), veh/h	0	823	350	437	1900	0				1010	0	902
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.60	0.60	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	47.0	40.6	40.8	17.6	0.0				26.5	0.0	20.7
Incr Delay (d2), s/veh	0.0	89.2	3.8	1.4	0.2	0.0				317.7	0.0	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	23.8	4.6	8.5	5.5	0.0				122.3	0.0	19.3
LnGrp Delay(d),s/veh	0.0	136.2	44.3	42.2	17.8	0.0				344.2	0.0	25.2
LnGrp LOS		F	D	D	B					F		C
Approach Vol, veh/h		1112			840						2417	
Approach Delay, s/veh		123.9			25.9						251.4	
Approach LOS		F			C						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	34.5	31.0		72.0		65.5		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	12.5	* 26		67.0		43.0		
Max Q Clear Time (g_c+I1), s	18.6	28.0		69.0		12.4		
Green Ext Time (p_c), s	0.0	0.0		0.0		2.6		

Intersection Summary	
HCM 2010 Ctrl Delay	175.6
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	147	1531	406	0	2644	437	853	967	32	230	0	280
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		0.99	1.00		0.99
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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	160	1664	434	0	2874	428	927	1051	35	250	0	299
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	80	1469	366	0	1623	236	352	711	24	80	0	620
Arrive On Green	0.50	0.50	0.50	0.00	0.50	0.50	0.39	0.39	0.39	0.39	0.00	0.39
Sat Flow, veh/h	59	2938	733	0	3246	471	1097	1827	61	528	0	1594
Grp Volume(v), veh/h	160	1049	1049	0	1651	1651	927	0	1086	250	0	299
Grp Sat Flow(s),veh/h/ln	59	1900	1771	0	1900	1817	1097	0	1888	528	0	1594
Q Serve(g_s), s	0.0	45.0	45.0	0.0	45.0	45.0	22.3	0.0	35.0	0.0	0.0	12.7
Cycle Q Clear(g_c), s	45.0	45.0	45.0	0.0	45.0	45.0	35.0	0.0	35.0	35.0	0.0	12.7
Prop In Lane	1.00		0.41	0.00		0.26	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	80	950	885	0	950	908	352	0	734	80	0	620
V/C Ratio(X)	2.00	1.10	1.18	0.00	1.74	1.82	2.63	0.00	1.48	3.12	0.00	0.48
Avail Cap(c_a), veh/h	80	950	885	0	950	908	352	0	734	80	0	620
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.0	22.5	22.5	0.0	22.5	22.5	36.4	0.0	27.5	45.0	0.0	20.7
Incr Delay (d2), s/veh	491.2	62.1	94.6	0.0	336.5	372.2	743.6	0.0	222.8	988.3	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.9	39.6	45.2	0.0	112.0	116.1	81.4	0.0	63.6	23.9	0.0	6.0
LnGrp Delay(d),s/veh	536.2	84.6	117.1	0.0	359.0	394.7	780.0	0.0	250.3	1033.3	0.0	23.4
LnGrp LOS	F	F	F		F	F	F		F	F		C
Approach Vol, veh/h		2258			3302			2013			549	
Approach Delay, s/veh		131.7			376.8			494.2			483.2	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		50.0		40.0		50.0		40.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		45.0		35.0		45.0		35.0
Max Q Clear Time (g_c+I1), s		47.0		37.0		47.0		37.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	345.0
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	587	1874	0	0	612	656	162	0	507	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	638	2037	0	0	665	678	176	0	465			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	622	2375	0	0	902	384	452	0	404			
Arrive On Green	0.34	0.63	0.00	0.00	0.24	0.24	0.25	0.00	0.25			
Sat Flow, veh/h	1810	3800	0	0	3800	1615	1810	0	1615			
Grp Volume(v), veh/h	638	2037	0	0	665	678	176	0	465			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1810	0	1615			
Q Serve(g_s), s	27.5	34.7	0.0	0.0	12.9	19.0	6.5	0.0	20.0			
Cycle Q Clear(g_c), s	27.5	34.7	0.0	0.0	12.9	19.0	6.5	0.0	20.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	622	2375	0	0	903	384	452	0	404			
V/C Ratio(X)	1.03	0.86	0.00	0.00	0.74	1.77	0.39	0.00	1.15			
Avail Cap(c_a), veh/h	622	2375	0	0	903	384	452	0	404			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	26.3	12.1	0.0	0.0	28.2	30.5	24.9	0.0	30.0			
Incr Delay (d2), s/veh	18.2	0.4	0.0	0.0	5.3	355.9	2.5	0.0	93.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	16.8	18.0	0.0	0.0	7.4	46.3	3.5	0.0	19.3			
LnGrp Delay(d),s/veh	44.4	12.5	0.0	0.0	33.5	386.4	27.4	0.0	123.1			
LnGrp LOS	F	B			C	F	C		F			
Approach Vol, veh/h		2675			1343			641				
Approach Delay, s/veh		20.1			211.7			96.8				
Approach LOS		C			F			F				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		55.0			31.0	24.0		25.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		50.0			27.5	19.0		20.0
Max Q Clear Time (g_c+I1), s		36.7			29.5	21.0		22.0
Green Ext Time (p_c), s		10.9			0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	85.9
HCM 2010 LOS	F

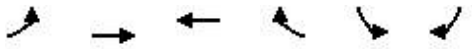
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	202	2140	384	121	2832	222	58	186	21	155	152	141
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	220	2326	0	132	3078	232	63	202	1	166	167	99
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	113	2347	665	98	2300	652	445	464	2	205	215	281
Arrive On Green	0.06	0.41	0.00	0.05	0.40	0.40	0.25	0.25	0.25	0.11	0.11	0.11
Sat Flow, veh/h	1810	5700	1615	1810	5700	1615	1810	1889	9	1810	1900	1592
Grp Volume(v), veh/h	220	2326	0	132	3078	232	63	0	203	166	167	99
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1898	1810	1900	1592
Q Serve(g_s), s	7.5	48.7	0.0	6.5	48.4	12.0	3.3	0.0	10.8	10.7	10.3	6.6
Cycle Q Clear(g_c), s	7.5	48.7	0.0	6.5	48.4	12.0	3.3	0.0	10.8	10.7	10.3	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	113	2347	665	98	2300	652	445	0	467	205	215	281
V/C Ratio(X)	1.95	0.99	0.00	1.35	1.34	0.36	0.14	0.00	0.44	0.81	0.78	0.35
Avail Cap(c_a), veh/h	113	2347	665	98	2300	652	445	0	467	445	467	492
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	35.1	0.0	56.8	35.8	24.9	35.4	0.0	38.2	52.0	51.7	43.5
Incr Delay (d2), s/veh	455.9	16.6	0.0	209.2	155.3	0.1	0.7	0.0	2.9	2.9	2.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.1	29.0	0.0	8.9	58.4	5.4	1.7	0.0	6.1	5.6	5.5	2.9
LnGrp Delay(d),s/veh	512.2	51.6	0.0	266.0	191.1	25.1	36.0	0.0	41.1	54.9	54.0	43.8
LnGrp LOS	F	D		F	F	C	D		D	D	D	D
Approach Vol, veh/h		2546			3442			266			432	
Approach Delay, s/veh		91.4			182.8			39.9			52.0	
Approach LOS		F			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.0	54.9		19.1	12.0	53.9		35.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	6.5	33.5		29.5	7.5	32.5		29.5
Max Q Clear Time (g_c+I1), s	8.5	50.7		12.7	9.5	50.4		12.8
Green Ext Time (p_c), s	0.0	0.0		0.8	0.0	0.0		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	133.8
HCM 2010 LOS	F

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	142	2031	2869	198	207	71
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	154	2208	3118	205	225	22
Adj No. of Lanes	1	2	3	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	148	2487	3031	841	888	529
Arrive On Green	0.08	0.65	0.53	0.53	0.25	0.25
Sat Flow, veh/h	1810	3800	5700	1580	3619	1615
Grp Volume(v), veh/h	154	2208	3118	205	225	22
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1580	1810	1615
Q Serve(g_s), s	9.0	52.7	58.5	7.7	5.5	1.0
Cycle Q Clear(g_c), s	9.0	52.7	58.5	7.7	5.5	1.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	148	2487	3031	841	888	529
V/C Ratio(X)	1.04	0.89	1.03	0.24	0.25	0.04
Avail Cap(c_a), veh/h	148	2487	3031	841	888	529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	50.5	15.7	25.7	13.9	33.4	25.2
Incr Delay (d2), s/veh	85.0	5.2	14.6	0.1	0.7	0.1
Initial Q Delay(d3),s/veh	0.3	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	29.1	34.4	3.4	2.8	1.1
LnGrp Delay(d),s/veh	135.8	20.9	40.3	13.9	34.1	25.4
LnGrp LOS	F	C	F	B	C	C
Approach Vol, veh/h		2362	3323		247	
Approach Delay, s/veh		28.4	38.7		33.3	
Approach LOS		C	D		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		77.5		32.5	13.5	64.0		
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		
Max Green Setting (Gmax), s		72.0		27.0	9.0	58.5		
Max Q Clear Time (g_c+I1), s		54.7		7.5	11.0	60.5		
Green Ext Time (p_c), s		17.0		0.4	0.0	0.0		

Intersection Summary	
HCM 2010 Ctrl Delay	34.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	86	2296	1232	35	11	36
Conflicting Peds, #/hr	0	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	93	2496	1339	38	12	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1339	0	-	0	2774	670
Stage 1	-	-	-	-	1339	-
Stage 2	-	-	-	-	1435	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	521	-	-	-	*30	404
Stage 1	-	-	-	-	*213	-
Stage 2	-	-	-	-	*112	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	521	-	-	-	*30	404
Mov Cap-2 Maneuver	-	-	-	-	*30	-
Stage 1	-	-	-	-	*213	-
Stage 2	-	-	-	-	*112	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	70.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	521	-	-	-	103
HCM Lane V/C Ratio	0.179	-	-	-	0.496
HCM Control Delay (s)	13.4	0	-	-	70.3
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.6	-	-	-	2.2

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	192	1868	289	29	2632	192	390	202	18	105	140	111
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		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	206	2009	0	31	2830	204	419	217	16	113	151	84
Adj No. of Lanes	1	2	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1074	3824	1625	40	2243	158	299	870	64	124	925	1346
Arrive On Green	0.59	1.00	0.00	0.02	0.43	0.43	0.08	0.25	0.25	0.07	0.24	0.24
Sat Flow, veh/h	1810	3800	1615	1810	5265	370	3619	3498	256	1810	3800	1593
Grp Volume(v), veh/h	206	2009	0	31	2023	1011	419	117	116	113	151	84
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1835	1810	1900	1854	1810	1900	1593
Q Serve(g_s), s	6.0	0.0	0.0	2.0	49.0	49.0	9.5	5.7	5.8	7.1	3.6	0.8
Cycle Q Clear(g_c), s	6.0	0.0	0.0	2.0	49.0	49.0	9.5	5.7	5.8	7.1	3.6	0.8
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	1074	3824	1625	40	1619	782	299	473	461	124	925	1346
V/C Ratio(X)	0.19	0.53	0.00	0.78	1.25	1.29	1.40	0.25	0.25	0.91	0.16	0.06
Avail Cap(c_a), veh/h	1074	3824	1625	63	1619	782	299	473	461	124	925	1346
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)	0.45	0.45	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.7	0.0	0.0	56.0	33.0	33.0	52.7	34.6	34.6	53.2	34.3	14.5
Incr Delay (d2), s/veh	0.0	0.2	0.0	1.2	112.7	133.1	199.7	1.3	1.3	52.7	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.1	0.0	1.0	51.0	53.7	13.0	3.2	3.1	5.4	1.9	1.4
LnGrp Delay(d),s/veh	10.7	0.2	0.0	57.1	145.7	166.1	252.4	35.8	35.9	105.9	34.6	14.6
LnGrp LOS	B	A		E	F	F	F	D	D	F	C	B
Approach Vol, veh/h		2215			3065			652			348	
Approach Delay, s/veh		1.2			151.5			175.1			52.9	
Approach LOS		A			F			F			D	

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	7.0	121.8	14.0	33.5	74.3	54.5	13.4	34.1
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.0	54.5	9.5	27.0	9.5	* 49	7.9	* 29
Max Q Clear Time (g_c+I1), s	4.0	2.0	11.5	5.6	8.0	51.0	9.1	7.8
Green Ext Time (p_c), s	0.0	15.4	0.0	0.8	0.1	0.0	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	95.5
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	2044	107	17	1205	6	172	4	42	1	4	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	2152	113	18	1268	6	181	4	44	1	4	15
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	22	1243	1056	27	1241	6	283	5	56	86	318	326
Arrive On Green	0.01	0.65	0.65	0.02	0.66	0.66	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1810	1900	1615	1810	1889	9	1139	25	277	248	1578	1615
Grp Volume(v), veh/h	14	2152	113	18	0	1274	229	0	0	5	0	15
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1898	1441	0	0	1826	0	1615
Q Serve(g_s), s	0.9	78.5	3.1	1.2	0.0	78.8	17.9	0.0	0.0	0.0	0.0	0.9
Cycle Q Clear(g_c), s	0.9	78.5	3.1	1.2	0.0	78.8	18.2	0.0	0.0	0.3	0.0	0.9
Prop In Lane	1.00		1.00	1.00		0.00	0.79		0.19	0.20		1.00
Lane Grp Cap(c), veh/h	22	1243	1056	27	0	1247	344	0	0	404	0	326
V/C Ratio(X)	0.62	1.73	0.11	0.66	0.00	1.02	0.67	0.00	0.00	0.01	0.00	0.05
Avail Cap(c_a), veh/h	60	1243	1056	60	0	1247	344	0	0	404	0	326
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.0	20.8	7.7	58.8	0.0	20.6	45.6	0.0	0.0	38.3	0.0	38.6
Incr Delay (d2), s/veh	10.0	332.5	0.0	9.7	0.0	31.1	9.7	0.0	0.0	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	155.5	1.4	0.7	0.0	51.6	8.1	0.0	0.0	0.1	0.0	0.4
LnGrp Delay(d),s/veh	69.0	353.3	7.7	68.5	0.0	51.7	55.4	0.0	0.0	38.4	0.0	38.9
LnGrp LOS	E	F	A	E		F	E			D		D
Approach Vol, veh/h		2279			1292			229			20	
Approach Delay, s/veh		334.4			52.0			55.4			38.8	
Approach LOS		F			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.7	6.3	84.0		29.7	6.0	84.3
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	78.5		22.0	4.0	78.5
Max Q Clear Time (g_c+I1), s		20.2	3.2	80.5		2.9	2.9	80.8
Green Ext Time (p_c), s		0.2	0.0	0.0		0.9	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	220.6
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	162	1104	604	59	1752	153	993	724	19	82	389	70
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	176	1200	580	64	1904	157	1079	787	19	89	423	60
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	113	1520	645	582	2315	188	618	1202	29	112	679	96
Arrive On Green	0.06	0.40	0.40	0.32	0.67	0.67	0.17	0.33	0.33	0.06	0.21	0.21
Sat Flow, veh/h	1810	3800	1611	1810	3468	282	3619	3693	89	1810	3258	459
Grp Volume(v), veh/h	176	1200	580	64	1031	1031	1079	405	401	89	246	237
Grp Sat Flow(s),veh/h/ln	1810	1900	1611	1810	1900	1850	1810	1900	1882	1810	1900	1817
Q Serve(g_s), s	7.5	33.2	40.5	3.0	47.3	50.2	20.5	21.9	21.9	5.8	14.1	14.3
Cycle Q Clear(g_c), s	7.5	33.2	40.5	3.0	47.3	50.2	20.5	21.9	21.9	5.8	14.1	14.3
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.05	1.00		0.25
Lane Grp Cap(c), veh/h	113	1520	645	582	1268	1235	618	619	613	112	396	379
V/C Ratio(X)	1.56	0.79	0.90	0.11	0.81	0.83	1.75	0.65	0.65	0.79	0.62	0.63
Avail Cap(c_a), veh/h	113	1520	645	582	1268	1235	618	619	613	133	396	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)	0.09	0.09	0.09	1.00	1.00	1.00	0.64	0.64	0.64	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	31.6	33.7	28.6	14.5	15.0	49.8	34.7	34.7	55.5	43.2	43.3
Incr Delay (d2), s/veh	254.2	0.4	2.2	0.0	5.8	6.7	339.7	3.4	3.5	20.1	7.1	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	17.4	18.3	1.5	26.6	27.8	39.4	12.1	12.0	3.5	8.1	8.0
LnGrp Delay(d),s/veh	310.5	32.0	35.9	28.7	20.3	21.7	389.4	38.1	38.2	75.7	50.3	50.9
LnGrp LOS	F	C	D	C	C	C	F	D	D	E	D	D
Approach Vol, veh/h		1956			2125			1885			572	
Approach Delay, s/veh		58.2			21.2			239.2			54.5	
Approach LOS		E			C			F			D	

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	45.1	53.5	26.0	30.5	12.0	86.6	11.9	44.6
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	6.5	* 48	20.5	* 25	7.5	47.0	8.8	36.7
Max Q Clear Time (g_c+I1), s	5.0	42.5	22.5	16.3	9.5	52.2	7.8	23.9
Green Ext Time (p_c), s	1.3	3.1	0.0	1.1	0.0	0.0	0.0	4.6

Intersection Summary	
HCM 2010 Ctrl Delay	98.0
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	15	93	177	92	181	333	142	1202	95	181	707	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.95	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	101	147	100	197	201	154	1307	88	197	768	28
Adj No. of Lanes	1	1	1	1	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	27	240	204	128	346	292	187	1288	519	418	1814	761
Arrive On Green	0.01	0.13	0.13	0.07	0.18	0.18	0.10	0.34	0.34	0.23	0.48	0.48
Sat Flow, veh/h	1810	1900	1615	1810	1900	1602	1810	3800	1533	1810	3800	1594
Grp Volume(v), veh/h	16	101	147	100	197	201	154	1307	88	197	768	28
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1602	1810	1900	1533	1810	1900	1594
Q Serve(g_s), s	0.8	4.4	7.9	4.9	8.5	10.6	7.5	30.5	2.6	8.5	11.9	0.8
Cycle Q Clear(g_c), s	0.8	4.4	7.9	4.9	8.5	10.6	7.5	30.5	2.6	8.5	11.9	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	27	240	204	128	346	292	187	1288	519	418	1814	761
V/C Ratio(X)	0.60	0.42	0.72	0.78	0.57	0.69	0.82	1.01	0.17	0.47	0.42	0.04
Avail Cap(c_a), veh/h	80	403	343	219	549	463	213	1288	519	418	1814	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.70	0.70
Uniform Delay (d), s/veh	44.1	36.3	37.8	41.1	33.6	34.4	39.5	29.8	11.0	29.9	15.4	12.5
Incr Delay (d2), s/veh	7.9	0.4	1.8	3.9	0.5	1.1	17.7	28.8	0.7	0.2	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.4	3.6	2.6	4.5	4.8	4.7	21.1	1.2	4.2	6.3	0.4
LnGrp Delay(d),s/veh	52.0	36.7	39.6	45.0	34.1	35.5	57.3	58.6	11.7	30.1	15.9	12.6
LnGrp LOS	D	D	D	D	C	D	E	F	B	C	B	B
Approach Vol, veh/h		264			498			1549			993	
Approach Delay, s/veh		39.2			36.9			55.8			18.6	
Approach LOS		D			D			E			B	

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	36.3	36.0	10.9	16.9	13.8	48.5	5.8	21.9
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	9.5	* 31	10.9	19.1	10.6	29.4	4.0	26.0
Max Q Clear Time (g_c+I1), s	10.5	32.5	6.9	9.9	9.5	13.9	2.8	12.6
Green Ext Time (p_c), s	0.0	0.0	0.0	1.5	0.0	3.0	0.0	1.7

Intersection Summary	
HCM 2010 Ctrl Delay	40.5
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	6	139	1177	5	94	951
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	0	-	65	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	146	1239	5	99	1001

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2438	1239	0	0	1239	0
Stage 1	1239	-	-	-	-	-
Stage 2	1199	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	35	216	-	-	569	-
Stage 1	276	-	-	-	-	-
Stage 2	288	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	29	216	-	-	569	-
Mov Cap-2 Maneuver	29	-	-	-	-	-
Stage 1	276	-	-	-	-	-
Stage 2	238	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	55.4	0	1.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	29	216	569	-
HCM Lane V/C Ratio	-	-	0.218	0.677	0.174	-
HCM Control Delay (s)	-	-	160.8	50.8	12.7	-
HCM Lane LOS	-	-	F	F	B	-
HCM 95th %tile Q(veh)	-	-	0.7	4.2	0.6	-

Intersection	
Intersection Delay, s/veh	61.7
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Vol, veh/h	0	374	520	0	469	233	0	298	871
Peak Hour Factor	0.92	0.94	0.94	0.92	0.94	0.94	0.92	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	398	553	0	499	248	0	317	927
Number of Lanes	0	1	1	0	1	0	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	60.1	67.1	59.6
HCM LOS	F	F	F

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	67%	0%	0%	0%	100%
Vol Right, %	33%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	702	374	520	298	871
LT Vol	0	374	0	298	0
Through Vol	469	0	0	0	871
RT Vol	233	0	520	0	0
Lane Flow Rate	747	398	553	317	927
Geometry Grp	4	7	7	7	7
Degree of Util (X)	1	0.908	1	0.729	1
Departure Headway (Hd)	7.21	8.218	7.019	8.275	7.774
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	515	442	520	441	473
Service Time	5.189	5.939	4.74	5.975	5.475
HCM Lane V/C Ratio	1.45	0.9	1.063	0.719	1.96
HCM Control Delay	67.1	51.8	66	30.2	69.6
HCM Lane LOS	F	F	F	D	F
HCM 95th-tile Q	13.7	9.9	13.8	5.8	13.2



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	128	173	685	285	405	863
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	139	188	745	310	440	938
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	251	224	855	727	432	1404
Arrive On Green	0.14	0.14	0.45	0.45	0.24	0.74
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	139	188	745	310	440	938
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	6.5	10.2	31.9	11.8	21.5	22.9
Cycle Q Clear(g_c), s	6.5	10.2	31.9	11.8	21.5	22.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	251	224	855	727	432	1404
V/C Ratio(X)	0.55	0.84	0.87	0.43	1.02	0.67
Avail Cap(c_a), veh/h	342	305	855	727	432	1404
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	36.2	37.8	22.4	16.8	34.3	6.0
Incr Delay (d2), s/veh	0.7	10.8	11.8	1.8	47.9	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	5.2	19.4	5.6	16.4	12.7
LnGrp Delay(d),s/veh	36.9	48.5	34.2	18.7	82.1	8.6
LnGrp LOS	D	D	C	B	F	A
Approach Vol, veh/h	327		1055			1378
Approach Delay, s/veh	43.6		29.6			32.1
Approach LOS	D		C			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	26.0	46.0				72.0		18.0
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	21.5	36.0				62.0		17.0
Max Q Clear Time (g_c+I1), s	23.5	33.9				24.9		12.2
Green Ext Time (p_c), s	0.0	1.5				9.3		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	32.5
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	11	6	964	51	28	962
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	7	1048	55	30	1046

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2183	552	0	0	1103	0
Stage 1	1076	-	-	-	-	-
Stage 2	1107	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	45	483	-	-	640	-
Stage 1	293	-	-	-	-	-
Stage 2	319	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	43	483	-	-	640	-
Mov Cap-2 Maneuver	202	-	-	-	-	-
Stage 1	293	-	-	-	-	-
Stage 2	304	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.3	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	254	640	-
HCM Lane V/C Ratio	-	-	0.073	0.048	-
HCM Control Delay (s)	-	-	20.3	10.9	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	11	7	1008	48	30	943
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	8	1096	52	33	1025

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1700	574	0	0	1148	0
Stage 1	1122	-	-	-	-	-
Stage 2	578	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	85	467	-	-	616	-
Stage 1	277	-	-	-	-	-
Stage 2	530	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	80	467	-	-	616	-
Mov Cap-2 Maneuver	239	-	-	-	-	-
Stage 1	277	-	-	-	-	-
Stage 2	502	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.1	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	295	616	-
HCM Lane V/C Ratio	-	-	0.066	0.053	-
HCM Control Delay (s)	-	-	18.1	11.2	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.2	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	10	10	1045	50	48	906
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	0	-	0	140	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	11	1136	54	52	985

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2225	568	0	0	1136	0
Stage 1	1136	-	-	-	-	-
Stage 2	1089	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	43	471	-	-	622	-
Stage 1	272	-	-	-	-	-
Stage 2	326	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	39	471	-	-	622	-
Mov Cap-2 Maneuver	192	-	-	-	-	-
Stage 1	272	-	-	-	-	-
Stage 2	299	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.9	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	192	471	622	-
HCM Lane V/C Ratio	-	-	0.057	0.023	0.084	-
HCM Control Delay (s)	-	-	24.9	12.8	11.3	-
HCM Lane LOS	-	-	C	B	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	0.3	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	31	84	4	44	341	592	1	469	13	444	420	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	34	91	2	48	371	589	1	510	14	483	457	56
Adj No. of Lanes	1	1	1	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	43	130	110	351	452	385	2	534	454	465	1038	882
Arrive On Green	0.02	0.07	0.07	0.19	0.24	0.24	0.00	0.28	0.28	0.26	0.55	0.55
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Grp Volume(v), veh/h	34	91	2	48	371	589	1	510	14	483	457	56
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	2.0	4.9	0.1	2.3	19.4	25.0	0.1	27.7	0.7	27.0	15.1	1.3
Cycle Q Clear(g_c), s	2.0	4.9	0.1	2.3	19.4	25.0	0.1	27.7	0.7	27.0	15.1	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	130	110	351	452	385	2	534	454	465	1038	882
V/C Ratio(X)	0.79	0.70	0.02	0.14	0.82	1.53	0.50	0.96	0.03	1.04	0.44	0.06
Avail Cap(c_a), veh/h	86	456	388	351	452	385	69	534	454	465	1038	882
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	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.0	47.9	36.7	35.1	37.9	40.0	52.4	37.1	27.4	39.0	14.2	6.1
Incr Delay (d2), s/veh	11.0	2.6	0.0	0.0	1.1	240.5	58.8	29.3	0.1	52.1	1.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.7	0.0	1.1	10.3	36.8	0.1	18.8	0.3	20.2	8.3	0.6
LnGrp Delay(d),s/veh	61.9	50.4	36.7	35.1	38.9	280.5	111.2	66.4	27.5	91.1	15.6	6.2
LnGrp LOS	E	D	D	D	D	F	F	E	C	F	B	A
Approach Vol, veh/h		127			1008			525			996	
Approach Delay, s/veh		53.3			179.9			65.5			51.7	
Approach LOS		D			F			E			D	

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	32.5	35.0	24.8	12.7	4.6	62.9	7.0	30.5
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	25.5	* 30	4.8	25.2	4.0	51.0	5.0	25.0
Max Q Clear Time (g_c+I1), s	29.0	29.7	4.3	6.9	2.1	17.1	4.0	27.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.0	2.2	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	103.1
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	10	68	415	2	153	315
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	72	441	2	163	335

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1104	443	0	0	444	0
Stage 1	443	-	-	-	-	-
Stage 2	661	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	214	619	-	-	1127	-
Stage 1	651	-	-	-	-	-
Stage 2	518	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	183	619	-	-	1127	-
Mov Cap-2 Maneuver	380	-	-	-	-	-
Stage 1	651	-	-	-	-	-
Stage 2	443	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	2.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	380	619	1127	-
HCM Lane V/C Ratio	-	-	0.028	0.117	0.144	-
HCM Control Delay (s)	-	-	14.7	11.6	8.7	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.4	0.5	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1019	5	11	1487	5	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1108	5	12	1616	5	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1113	0	2750	1110
Stage 1	-	-	-	-	1110	-
Stage 2	-	-	-	-	1640	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	*355	-	*22	*237
Stage 1	-	-	-	-	*224	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	1	-		1
Mov Cap-1 Maneuver	-	-	*355	-	*15	*237
Mov Cap-2 Maneuver	-	-	-	-	*15	-
Stage 1	-	-	-	-	*224	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	21.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	237	-	-	* 355	-
HCM Lane V/C Ratio	0.073	-	-	0.034	-
HCM Control Delay (s)	21.4	-	-	15.5	0
HCM Lane LOS	C	-	-	C	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Notes

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

Intersection	
Int Delay, s/veh	13.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	97	45	248	0	10	0	158	6	7	3	1	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	0	200	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	118	55	302	0	12	0	193	7	9	4	1	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	442	436	35	614	470	7	70	0	0	7	0	0
Stage 1	43	43	-	393	393	-	-	-	-	-	-	-
Stage 2	399	393	-	221	77	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	529	517	1044	407	495	1081	1544	-	-	1627	-	-
Stage 1	976	863	-	636	609	-	-	-	-	-	-	-
Stage 2	631	609	-	786	835	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	469	451	1044	239	432	1081	1544	-	-	1627	-	-
Mov Cap-2 Maneuver	506	500	-	306	493	-	-	-	-	-	-	-
Stage 1	854	861	-	557	533	-	-	-	-	-	-	-
Stage 2	539	533	-	521	833	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.7	12.5	7.1	0.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1544	-	-	751	493	1627	-	-
HCM Lane V/C Ratio	0.125	-	-	0.633	0.025	0.002	-	-
HCM Control Delay (s)	7.7	-	-	17.7	12.5	7.2	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	4.6	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	3	5	0	0	22	26	156	0	0	12	5
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	3	5	0	0	24	28	170	0	0	13	5
Number of Lanes	0	0	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	8.7	9	8.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	38%	100%	0%	100%	0%
Vol Thru, %	71%	62%	0%	14%	0%	81%
Vol Right, %	29%	0%	0%	86%	0%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	8	22	182	182	67
LT Vol	0	3	22	0	182	0
Through Vol	12	5	0	26	0	54
RT Vol	5	0	0	156	0	13
Lane Flow Rate	18	9	24	198	198	73
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.027	0.014	0.038	0.257	0.306	0.1
Departure Headway (Hd)	5.22	5.604	5.786	4.68	5.571	4.933
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	684	638	620	768	645	725
Service Time	3.268	3.648	3.513	2.407	3.309	2.67
HCM Lane V/C Ratio	0.026	0.014	0.039	0.258	0.307	0.101
HCM Control Delay	8.4	8.7	8.7	9	10.8	8.2
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	0.1	0	0.1	1	1.3	0.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	182	54	13
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	198	59	14
Number of Lanes	0	1	1	0

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

Lane

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	168	25	13	199	6	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	183	27	14	216	7	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	210	0	441	196
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	245	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1373	-	577	850
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	800	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1373	-	571	850
Mov Cap-2 Maneuver	-	-	-	-	695	-
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	792	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	740	-	-	1373	-
HCM Lane V/C Ratio	0.013	-	-	0.01	-
HCM Control Delay (s)	9.9	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	167	3	19	211	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	182	3	21	229	1	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	185	0	454	183
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	271	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1402	-	568	865
Stage 1	-	-	-	-	853	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1402	-	559	865
Mov Cap-2 Maneuver	-	-	-	-	683	-
Stage 1	-	-	-	-	853	-
Stage 2	-	-	-	-	767	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	821	-	-	1402	-
HCM Lane V/C Ratio	0.007	-	-	0.015	-
HCM Control Delay (s)	9.4	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	146	25	16	224	6	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	159	27	17	243	7	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	186	0	450	172
Stage 1	-	-	-	-	172	-
Stage 2	-	-	-	-	278	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1401	-	571	877
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	774	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1401	-	564	877
Mov Cap-2 Maneuver	-	-	-	-	685	-
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	765	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	739	-	-	1401	-
HCM Lane V/C Ratio	0.013	-	-	0.012	-
HCM Control Delay (s)	9.9	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Intersection Delay, s/veh	69.7
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	21	42	168	0	92	198	324	0	355	473	140
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	23	46	183	0	100	215	352	0	386	514	152
Number of Lanes	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	3
HCM Control Delay	46.1	62.3	78.5
HCM LOS	E	F	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	20%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	80%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	355	473	140	21	210	92	198	324	239	357	93
LT Vol	355	0	0	21	0	92	0	0	239	0	0
Through Vol	0	473	0	0	42	0	198	0	0	357	0
RT Vol	0	0	140	0	168	0	0	324	0	0	93
Lane Flow Rate	386	514	152	23	228	100	215	352	260	388	101
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	1	1	0.465	0.085	0.786	0.353	0.73	1	0.898	1	0.316
Departure Headway (Hd)	12.193	11.698	11.007	13.442	12.392	12.7	12.203	11.507	12.556	12.059	11.363
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	301	314	329	267	292	285	297	317	291	303	318
Service Time	9.904	9.409	8.718	11.195	10.144	10.407	9.91	9.214	10.256	9.759	9.063
HCM Lane V/C Ratio	1.282	1.637	0.462	0.086	0.781	0.351	0.724	1.11	0.893	1.281	0.318
HCM Control Delay	89	87	22.9	17.4	49	22.2	41.9	86.2	67.1	88.4	19.2
HCM Lane LOS	F	F	C	C	E	C	E	F	F	F	C
HCM 95th-tile Q	10.5	10.7	2.4	0.3	6.1	1.5	5.3	10.8	8.2	10.6	1.3

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	17	77	968	617	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	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	18	84	1052	671	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1364	335	671	0	-	0
Stage 1	671	-	-	-	-	-
Stage 2	693	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	141	667	929	-	-	-
Stage 1	475	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	128	667	929	-	-	-
Mov Cap-2 Maneuver	322	-	-	-	-	-
Stage 1	475	-	-	-	-	-
Stage 2	421	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	929	-	667	-	-
HCM Lane V/C Ratio	0.09	-	0.028	-	-
HCM Control Delay (s)	9.3	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	158	304	281	696	341	1026	908	295	127	432	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.96	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	62	172	320	305	757	369	1115	987	296	138	470	55
Adj No. of Lanes	1	1	1	1	2	1	2	1	1	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	80	369	681	212	1016	415	823	870	739	102	924	107
Arrive On Green	0.04	0.19	0.19	0.12	0.27	0.27	0.23	0.46	0.46	0.06	0.28	0.28
Sat Flow, veh/h	1810	1900	1615	1810	3800	1552	3619	1900	1615	1810	3320	386
Grp Volume(v), veh/h	62	172	320	305	757	369	1115	987	296	138	268	257
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1552	1810	1900	1615	1810	1900	1806
Q Serve(g_s), s	3.9	9.2	4.4	13.5	21.0	26.3	26.2	52.7	14.0	6.5	13.6	13.8
Cycle Q Clear(g_c), s	3.9	9.2	4.4	13.5	21.0	26.3	26.2	52.7	14.0	6.5	13.6	13.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	80	369	681	212	1016	415	823	870	739	102	529	503
V/C Ratio(X)	0.77	0.47	0.47	1.44	0.74	0.89	1.35	1.13	0.40	1.35	0.51	0.51
Avail Cap(c_a), veh/h	99	430	732	212	1097	448	823	870	739	102	529	503
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)	0.28	0.28	0.28	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	41.0	9.4	50.8	38.5	40.5	44.4	31.2	20.7	54.3	34.9	34.9
Incr Delay (d2), s/veh	6.3	0.1	0.1	220.9	2.2	17.4	160.3	62.1	0.1	208.4	3.4	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	4.8	4.0	19.8	11.3	13.2	31.4	42.5	6.2	9.2	7.6	7.4
LnGrp Delay(d),s/veh	60.7	41.1	9.4	271.7	40.7	57.9	204.7	93.2	20.8	262.7	38.3	38.6
LnGrp LOS	E	D	A	F	D	E	F	F	C	F	D	D
Approach Vol, veh/h		554			1431			2398			663	
Approach Delay, s/veh		25.0			94.4			136.2			85.1	
Approach LOS		C			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	11.0	58.2	18.0	27.8	31.7	37.5	9.6	36.3
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	6.5	49.0	13.5	26.0	23.5	* 32	6.3	33.2
Max Q Clear Time (g_c+I1), s	8.5	54.7	15.5	11.2	28.2	15.8	5.9	28.3
Green Ext Time (p_c), s	0.0	0.0	0.0	4.6	0.0	1.5	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	105.4
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	40	395	188	85	108	465	1910	353	107	651	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	43	377	204	92	115	505	2076	382	116	708	51
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	37	380	323	143	492	418	501	1566	278	98	972	70
Arrive On Green	0.02	0.20	0.20	0.08	0.26	0.26	0.28	0.50	0.50	0.05	0.28	0.28
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3132	556	1810	3503	252
Grp Volume(v), veh/h	28	43	377	204	92	115	505	1229	1229	116	384	375
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1788	1810	1900	1855
Q Serve(g_s), s	1.8	2.2	24.0	9.5	4.5	6.8	33.2	60.0	60.0	6.5	21.9	22.0
Cycle Q Clear(g_c), s	1.8	2.2	24.0	9.5	4.5	6.8	33.2	60.0	60.0	6.5	21.9	22.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.31	1.00		0.14
Lane Grp Cap(c), veh/h	37	380	323	143	492	418	501	950	894	98	527	515
V/C Ratio(X)	0.77	0.11	1.17	1.42	0.19	0.27	1.01	1.29	1.37	1.18	0.73	0.73
Avail Cap(c_a), veh/h	87	380	323	143	492	418	501	950	894	98	527	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.70	0.70
Uniform Delay (d), s/veh	58.5	39.3	48.0	55.3	34.6	35.5	43.4	30.0	30.0	56.8	39.2	39.3
Incr Delay (d2), s/veh	11.6	0.0	103.5	226.4	0.1	0.1	42.4	140.0	175.7	133.6	6.1	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.2	20.0	13.7	2.4	3.0	22.4	68.1	72.9	6.9	12.4	12.1
LnGrp Delay(d),s/veh	70.1	39.3	151.5	281.6	34.7	35.6	85.8	170.0	205.7	190.3	45.3	45.5
LnGrp LOS	E	D	F	F	C	D	F	F	F	F	D	D
Approach Vol, veh/h		448			411			2963			875	
Approach Delay, s/veh		135.7			157.5			170.5			64.6	
Approach LOS		F			F			F			E	

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	11.0	65.5	14.0	29.5	37.7	38.8	6.9	36.6
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	6.5	60.0	9.5	24.0	33.2	33.3	5.8	27.7
Max Q Clear Time (g_c+I1), s	8.5	62.0	11.5	26.0	35.2	24.0	3.8	8.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	8.2	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	146.3
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1105	594	254	108	1126	438	156	1137	114	229	641	505
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1176	632	253	115	1198	464	166	1210	117	244	682	470
Adj No. of Lanes	1	1	1	1	2	0	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1377	1917	1629	141	835	312	126	1107	470	142	603	414
Arrive On Green	0.76	1.00	1.00	0.08	0.32	0.32	0.03	0.29	0.29	0.04	0.29	0.29
Sat Flow, veh/h	1810	1900	1615	1810	2630	982	3619	3800	1615	3619	2102	1443
Grp Volume(v), veh/h	1176	632	253	115	853	809	166	1210	117	244	616	536
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1712	1810	1900	1615	1810	1900	1645
Q Serve(g_s), s	51.0	0.0	0.0	7.2	36.5	36.5	4.0	33.5	6.4	4.5	33.0	33.0
Cycle Q Clear(g_c), s	51.0	0.0	0.0	7.2	36.5	36.5	4.0	33.5	6.4	4.5	33.0	33.0
Prop In Lane	1.00		1.00	1.00		0.57	1.00		1.00	1.00		0.88
Lane Grp Cap(c), veh/h	1377	1917	1629	141	603	543	126	1107	470	142	545	472
V/C Ratio(X)	0.85	0.33	0.16	0.81	1.41	1.49	1.32	1.09	0.25	1.72	1.13	1.14
Avail Cap(c_a), veh/h	1377	1917	1629	159	603	543	126	1107	470	142	545	472
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	9.4	0.0	0.0	52.2	39.3	39.3	55.5	40.8	31.1	55.3	41.0	41.0
Incr Delay (d2), s/veh	5.2	0.5	0.2	21.8	196.3	229.6	188.5	56.1	1.3	353.2	79.6	84.0
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	26.8	0.2	0.1	4.5	52.0	51.9	5.3	26.2	3.0	9.2	29.3	26.0
LnGrp Delay(d),s/veh	14.6	0.5	0.2	74.0	235.6	268.8	244.0	96.9	32.4	408.5	120.6	125.0
LnGrp LOS	B	A	A	E	F	F	F	F	C	F	F	F
Approach Vol, veh/h		2061			1777			1493			1396	
Approach Delay, s/veh		8.5			240.3			108.2			172.6	
Approach LOS		A			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	13.5	123.5	9.5	38.5	95.0	42.0	9.0	39.0
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	10.1	47.9	4.0	* 33	21.5	* 37	4.5	32.5
Max Q Clear Time (g_c+I1), s	9.2	2.0	6.0	35.0	53.0	38.5	6.5	35.5
Green Ext Time (p_c), s	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	125.9
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	267	678	297	269	1148	143	394	1484	295	228	1178	319
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		0.99	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	290	737	307	292	1248	146	428	1613	309	248	1280	337
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	188	702	292	985	2417	282	279	1532	291	173	998	418
Arrive On Green	0.10	0.28	0.28	0.54	0.72	0.72	0.15	0.33	0.33	0.10	0.26	0.26
Sat Flow, veh/h	1810	2544	1059	1810	3336	389	1810	4653	885	1810	3800	1591
Grp Volume(v), veh/h	290	550	494	292	708	686	428	1315	607	248	1280	337
Grp Sat Flow(s),veh/h/ln	1810	1900	1703	1810	1900	1825	1810	1900	1738	1810	1900	1591
Q Serve(g_s), s	12.5	33.1	33.1	10.5	19.7	19.9	18.5	39.5	39.5	11.5	31.5	31.3
Cycle Q Clear(g_c), s	12.5	33.1	33.1	10.5	19.7	19.9	18.5	39.5	39.5	11.5	31.5	31.3
Prop In Lane	1.00		0.62	1.00		0.21	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	188	524	470	985	1377	1322	279	1251	572	173	998	418
V/C Ratio(X)	1.54	1.05	1.05	0.30	0.51	0.52	1.53	1.05	1.06	1.43	1.28	0.81
Avail Cap(c_a), veh/h	188	524	470	985	1377	1322	279	1251	572	173	998	418
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	53.8	43.5	43.5	14.8	7.3	7.3	50.8	40.3	40.3	54.3	44.3	71.7
Incr Delay (d2), s/veh	267.1	53.1	55.5	0.1	1.4	1.5	257.7	40.1	54.7	223.4	135.2	15.3
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	20.2	25.1	22.8	5.3	10.8	10.4	29.2	27.6	27.6	16.5	35.2	15.6
LnGrp Delay(d),s/veh	320.8	96.5	98.9	14.9	8.6	8.7	308.4	80.4	95.0	277.7	179.4	87.0
LnGrp LOS	F	F	F	B	A	A	F	F	F	F	F	F
Approach Vol, veh/h		1334			1686			2350			1865	
Approach Delay, s/veh		146.2			9.8			125.7			175.8	
Approach LOS		F			A			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	31.8	38.6	24.0	37.0	17.0	93.4	16.0	45.0
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	16.9	* 33	18.5	* 32	12.5	37.5	11.5	38.5
Max Q Clear Time (g_c+I1), s	12.5	35.1	20.5	33.5	14.5	21.9	13.5	41.5
Green Ext Time (p_c), s	2.6	0.0	0.0	0.0	0.0	6.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	115.4
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	86	277	222	360	415	242	153	1526	313	139	1531	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	93	301	225	391	451	164	166	1659	315	151	1664	84
Adj No. of Lanes	0	1	1	0	2	1	1	3	0	1	3	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	101	328	369	452	475	397	98	1360	256	98	1571	79
Arrive On Green	0.23	0.23	0.23	0.25	0.25	0.25	0.05	0.29	0.29	0.05	0.29	0.29
Sat Flow, veh/h	443	1435	1613	1810	1900	1587	1810	4653	875	1810	5377	271
Grp Volume(v), veh/h	394	0	225	391	451	164	166	1352	622	151	1176	572
Grp Sat Flow(s),veh/h/ln	1878	0	1613	1810	1900	1587	1810	1900	1728	1810	1900	1848
Q Serve(g_s), s	24.6	0.0	15.0	24.8	28.0	10.4	6.5	35.1	35.1	6.5	35.1	35.1
Cycle Q Clear(g_c), s	24.6	0.0	15.0	24.8	28.0	10.4	6.5	35.1	35.1	6.5	35.1	35.1
Prop In Lane	0.24		1.00	1.00		1.00	1.00		0.51	1.00		0.15
Lane Grp Cap(c), veh/h	429	0	369	452	475	397	98	1110	505	98	1110	540
V/C Ratio(X)	0.92	0.00	0.61	0.86	0.95	0.41	1.69	1.22	1.23	1.54	1.06	1.06
Avail Cap(c_a), veh/h	469	0	403	452	475	397	98	1110	505	98	1110	540
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.2	0.0	41.5	43.1	44.3	37.6	56.8	42.5	42.5	56.8	42.5	42.5
Incr Delay (d2), s/veh	21.0	0.0	1.4	15.2	28.6	0.3	351.9	106.3	120.6	287.5	44.0	55.5
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	15.2	0.0	6.8	14.3	18.4	4.6	12.8	34.7	33.6	11.1	25.1	26.2
LnGrp Delay(d),s/veh	66.2	0.0	42.9	58.3	72.9	37.9	408.6	148.8	163.0	344.3	86.4	98.0
LnGrp LOS	E		D	E	E	D	F	F	F	F	F	F
Approach Vol, veh/h		619			1006			2140			1899	
Approach Delay, s/veh		57.7			61.5			173.1			110.4	
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	11.0	40.6		32.9	11.0	40.6		35.5
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	6.5	32.5		30.0	6.5	32.5		30.0
Max Q Clear Time (g_c+I1), s	8.5	37.1		26.6	8.5	37.1		30.0
Green Ext Time (p_c), s	0.0	0.0		0.8	0.0	0.0		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		119.6
HCM 2010 LOS		F

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2100	802	1355	1751	0	0	0	1013	0	0	425
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	0	1900	1900	1900	1900	0	0	0	1900	0	0	1900
Adj Flow Rate, veh/h	0	2211	836	1426	1843	0	0	0	0	0	0	325
Adj No. of Lanes	0	2	1	1	2	0	0	0	1	0	0	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	0	2011	855	709	3626	0	0	0	0	0	0	0
Arrive On Green	0.00	0.53	0.53	0.39	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	3800	1615	1810	3800	0		0			0	
Grp Volume(v), veh/h	0	2211	836	1426	1843	0		0.0			0.0	
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0						
Q Serve(g_s), s	0.0	63.5	60.6	47.0	5.2	0.0						
Cycle Q Clear(g_c), s	0.0	63.5	60.6	47.0	5.2	0.0						
Prop In Lane	0.00		1.00	1.00		0.00						
Lane Grp Cap(c), veh/h	0	2011	855	709	3626	0						
V/C Ratio(X)	0.00	1.10	0.98	2.01	0.51	0.00						
Avail Cap(c_a), veh/h	0	2011	855	709	3626	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	28.3	27.6	36.5	0.2	0.0						
Incr Delay (d2), s/veh	0.0	53.1	25.9	460.4	0.5	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	47.8	46.9	114.1	2.6	0.0						
LnGrp Delay(d),s/veh	0.0	81.4	53.5	496.9	0.8	0.0						
LnGrp LOS		F	D	F	A							
Approach Vol, veh/h		3047			3269							
Approach Delay, s/veh		73.7			217.2							
Approach LOS		E			F							

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		
Phs Duration (G+Y+Rc), s	51.0	69.0				120.0		
Change Period (Y+Rc), s	4.0	5.5				5.5		
Max Green Setting (Gmax), s	47.0	45.5				96.5		
Max Q Clear Time (g_c+I1), s	49.0	65.5				7.2		
Green Ext Time (p_c), s	0.0	0.0				70.7		

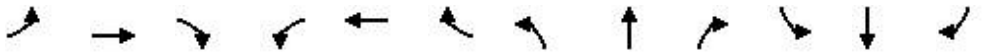
Intersection Summary	
HCM 2010 Ctrl Delay	148.0
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	891	194	753	953	0	0	0	0	829	2	748
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	948	206	801	1014	0				882	2	719
Adj No. of Lanes	0	2	1	1	2	0				0	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	855	363	550	2153	0				632	1	565
Arrive On Green	0.00	0.22	0.22	0.40	0.75	0.00				0.35	0.35	0.35
Sat Flow, veh/h	0	3800	1615	1810	3800	0				1806	4	1615
Grp Volume(v), veh/h	0	948	206	801	1014	0				884	0	719
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1615
Q Serve(g_s), s	0.0	27.0	13.6	36.5	12.2	0.0				42.0	0.0	42.0
Cycle Q Clear(g_c), s	0.0	27.0	13.6	36.5	12.2	0.0				42.0	0.0	42.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	855	363	550	2153	0				633	0	565
V/C Ratio(X)	0.00	1.11	0.57	1.46	0.47	0.00				1.40	0.00	1.27
Avail Cap(c_a), veh/h	0	855	363	550	2153	0				633	0	565
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.55	0.55	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	46.5	41.3	35.7	7.9	0.0				39.0	0.0	39.0
Incr Delay (d2), s/veh	0.0	65.1	6.3	210.5	0.4	0.0				187.6	0.0	135.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	21.9	6.7	50.3	6.3	0.0				53.9	0.0	40.0
LnGrp Delay(d),s/veh	0.0	111.6	47.6	246.3	8.3	0.0				226.6	0.0	174.8
LnGrp LOS		F	D	F	A					F		F
Approach Vol, veh/h		1154			1815						1603	
Approach Delay, s/veh		100.2			113.3						203.4	
Approach LOS		F			F						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	41.0	32.0		47.0		73.0		
Change Period (Y+Rc), s	4.5	5.0		5.0		5.0		
Max Green Setting (Gmax), s	36.5	27.0		42.0		68.0		
Max Q Clear Time (g_c+I1), s	38.5	29.0		44.0		14.2		
Green Ext Time (p_c), s	0.0	0.0		0.0		12.6		

Intersection Summary	
HCM 2010 Ctrl Delay	141.6
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	512	1756	846	0	3310	155	260	693	31	318	0	995
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		0.98	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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	528	1810	868	0	3412	151	268	714	32	328	0	1011
Adj No. of Lanes	1	2	0	0	2	0	1	1	0	1	1	0
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	1380	603	0	2001	88	111	528	24	111	0	472
Arrive On Green	0.55	0.55	0.55	0.00	0.55	0.55	0.29	0.29	0.29	0.29	0.00	0.29
Sat Flow, veh/h	45	2491	1089	0	3613	159	566	1805	81	726	0	1615
Grp Volume(v), veh/h	528	1339	1339	0	1782	1782	268	0	746	328	0	1011
Grp Sat Flow(s),veh/h/ln	45	1900	1681	0	1900	1872	566	0	1886	726	0	1615
Q Serve(g_s), s	0.0	36.0	36.0	0.0	36.0	36.0	0.0	0.0	19.0	0.0	0.0	19.0
Cycle Q Clear(g_c), s	36.0	36.0	36.0	0.0	36.0	36.0	19.0	0.0	19.0	19.0	0.0	19.0
Prop In Lane	1.00		0.65	0.00		0.08	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	111	1052	931	0	1052	1037	111	0	551	111	0	472
V/C Ratio(X)	4.77	1.27	1.44	0.00	1.69	1.72	2.42	0.00	1.35	2.96	0.00	2.14
Avail Cap(c_a), veh/h	111	1052	931	0	1052	1037	111	0	551	111	0	472
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.5	14.5	14.5	0.0	14.5	14.5	32.5	0.0	23.0	32.5	0.0	23.0
Incr Delay (d2), s/veh	1715.3	130.1	203.5	0.0	316.0	327.3	665.3	0.0	170.7	906.4	0.0	520.8
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	54.7	56.5	68.9	0.0	110.8	112.4	22.4	0.0	35.9	29.9	0.0	76.7
LnGrp Delay(d),s/veh	1747.8	144.6	218.0	0.0	330.5	341.8	697.8	0.0	193.7	938.9	0.0	543.8
LnGrp LOS	F	F	F		F	F	F		F	F		F
Approach Vol, veh/h		3206			3563			1014			1339	
Approach Delay, s/veh		439.3			336.1			326.9			640.6	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.0		24.0		41.0		24.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		36.0		19.0		36.0		19.0
Max Q Clear Time (g_c+I1), s		38.0		21.0		38.0		21.0
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	416.1
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	679	1040	0	0	1339	1693	367	3	247	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	738	1130	0	0	1455	1816	399	3	163			
Adj No. of Lanes	1	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	400	2850	0	0	1900	807	299	2	269			
Arrive On Green	0.44	1.00	0.00	0.00	0.50	0.50	0.17	0.17	0.17			
Sat Flow, veh/h	1810	3800	0	0	3800	1614	1797	14	1615			
Grp Volume(v), veh/h	738	1130	0	0	1455	1816	402	0	163			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1614	1810	0	1615			
Q Serve(g_s), s	26.5	0.0	0.0	0.0	37.2	60.0	20.0	0.0	11.2			
Cycle Q Clear(g_c), s	26.5	0.0	0.0	0.0	37.2	60.0	20.0	0.0	11.2			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	400	2850	0	0	1900	807	302	0	269			
V/C Ratio(X)	1.85	0.40	0.00	0.00	0.77	2.25	1.33	0.00	0.61			
Avail Cap(c_a), veh/h	400	2850	0	0	1900	807	302	0	269			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	33.5	0.0	0.0	0.0	24.3	30.0	50.0	0.0	46.3			
Incr Delay (d2), s/veh	382.0	0.0	0.0	0.0	3.0	566.6	170.6	0.0	9.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	55.5	0.0	0.0	0.0	20.2	153.7	24.3	0.0	5.8			
LnGrp Delay(d),s/veh	415.5	0.0	0.0	0.0	27.3	596.6	220.6	0.0	56.1			
LnGrp LOS	F	A			C	F	F		E			
Approach Vol, veh/h		1868			3271			565				
Approach Delay, s/veh		164.2			343.4			173.1				
Approach LOS		F			F			F				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		95.0			30.0	65.0		25.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		90.0			26.5	60.0		20.0
Max Q Clear Time (g_c+I1), s		2.0			28.5	62.0		22.0
Green Ext Time (p_c), s		66.6			0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	267.8
HCM 2010 LOS	F

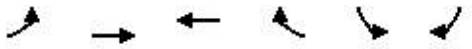
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	226	2602	36	33	2366	217	482	125	200	201	27	252
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	233	2682	0	34	2439	193	389	280	152	227	0	153
Adj No. of Lanes	1	3	1	1	3	1	1	1	0	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	128	2551	723	43	2284	634	445	285	155	390	0	288
Arrive On Green	0.07	0.45	0.00	0.02	0.40	0.40	0.25	0.25	0.25	0.11	0.00	0.11
Sat Flow, veh/h	1810	5700	1615	1810	5700	1581	1810	1159	629	3619	0	1615
Grp Volume(v), veh/h	233	2682	0	34	2439	193	389	0	432	227	0	153
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1581	1810	0	1788	1810	0	1615
Q Serve(g_s), s	8.5	53.7	0.0	2.2	48.1	10.0	24.8	0.0	28.8	7.2	0.0	10.3
Cycle Q Clear(g_c), s	8.5	53.7	0.0	2.2	48.1	10.0	24.8	0.0	28.8	7.2	0.0	10.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	128	2551	723	43	2284	634	445	0	440	390	0	288
V/C Ratio(X)	1.82	1.05	0.00	0.78	1.07	0.30	0.87	0.00	0.98	0.58	0.00	0.53
Avail Cap(c_a), veh/h	128	2551	723	92	2284	634	445	0	440	890	0	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.8	33.1	0.0	58.3	36.0	24.5	43.5	0.0	45.0	51.0	0.0	44.7
Incr Delay (d2), s/veh	397.0	33.2	0.0	10.8	40.0	0.1	20.6	0.0	38.9	0.5	0.0	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	18.4	35.9	0.0	1.3	33.6	4.4	15.0	0.0	19.0	3.6	0.0	4.7
LnGrp Delay(d),s/veh	452.7	66.3	0.0	69.1	76.0	24.6	64.1	0.0	83.9	51.5	0.0	45.3
LnGrp LOS	F	F		E	F	C	E		F	D		D
Approach Vol, veh/h		2915			2666			821			380	
Approach Delay, s/veh		97.2			72.2			74.5			49.0	
Approach LOS		F			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.4	59.2		18.4	13.0	53.6		35.0
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	6.1	33.9		29.5	8.5	31.5		29.5
Max Q Clear Time (g_c+I1), s	4.2	55.7		12.3	10.5	50.1		30.8
Green Ext Time (p_c), s	0.0	0.0		0.6	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	81.9
HCM 2010 LOS	F

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	130	2835	2400	278	540	169
Number	5	2	6	16	7	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	134	2923	2474	279	557	115
Adj No. of Lanes	1	2	3	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	160	2597	3176	900	814	507
Arrive On Green	0.09	0.68	0.56	0.56	0.22	0.22
Sat Flow, veh/h	1810	3800	5700	1615	3619	1615
Grp Volume(v), veh/h	134	2923	2474	279	557	115
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1615	1810	1615
Q Serve(g_s), s	8.7	82.0	40.8	11.1	16.9	6.3
Cycle Q Clear(g_c), s	8.7	82.0	40.8	11.1	16.9	6.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	160	2597	3176	900	814	507
V/C Ratio(X)	0.84	1.13	0.78	0.31	0.68	0.23
Avail Cap(c_a), veh/h	176	2597	3176	900	814	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	53.8	19.0	20.8	14.2	42.6	30.4
Incr Delay (d2), s/veh	24.0	62.2	0.2	0.1	4.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	64.6	21.4	5.0	9.0	6.6
LnGrp Delay(d),s/veh	77.8	81.2	21.0	14.3	47.2	31.5
LnGrp LOS	E	F	C	B	D	C
Approach Vol, veh/h		3057	2753		672	
Approach Delay, s/veh		81.1	20.3		44.5	
Approach LOS		F	C		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		87.5		32.5	15.1	72.4		
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		
Max Green Setting (Gmax), s		82.0		27.0	11.7	65.8		
Max Q Clear Time (g_c+I1), s		84.0		18.9	10.7	42.8		
Green Ext Time (p_c), s		0.0		0.9	0.0	22.6		

Intersection Summary	
HCM 2010 Ctrl Delay	51.5
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	14.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	41	1246	2956	20	17	77
Conflicting Peds, #/hr	0	0	0	9	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	45	1354	3213	22	18	84

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	3213	0	-	0	3979	1607
Stage 1	-	-	-	-	3213	-
Stage 2	-	-	-	-	766	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	96	-	-	-	*0	96
Stage 1	-	-	-	-	*19	-
Stage 2	-	-	-	-	*538	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	96	-	-	-	*0	96
Mov Cap-2 Maneuver	-	-	-	-	*0	-
Stage 1	-	-	-	-	*19	-
Stage 2	-	-	-	-	*538	-

Approach	EB	WB	SB
HCM Control Delay, s	34.7	0	191.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	96	-	-	-	96
HCM Lane V/C Ratio	0.464	-	-	-	1.064
HCM Control Delay (s)	71.5	33.5	-	-	191.8
HCM Lane LOS	F	D	-	-	F
HCM 95th %tile Q(veh)	2	-	-	-	6.6

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	240	3000	873	25	1782	118	352	138	27	258	264	356
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		0.99	1.00		1.00	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	261	3261	0	27	1937	124	383	150	24	280	287	309
Adj No. of Lanes	1	2	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	260	2980	1267	36	3501	223	205	753	118	134	991	648
Arrive On Green	0.14	0.78	0.00	0.02	0.66	0.66	0.06	0.23	0.23	0.07	0.26	0.26
Sat Flow, veh/h	1810	3800	1615	1810	5297	338	3619	3208	504	1810	3800	1594
Grp Volume(v), veh/h	261	3261	0	27	1387	674	383	88	86	280	287	309
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1835	1810	1900	1811	1810	1900	1594
Q Serve(g_s), s	16.5	90.2	0.0	1.7	22.4	22.6	6.5	4.3	4.4	8.5	6.9	16.5
Cycle Q Clear(g_c), s	16.5	90.2	0.0	1.7	22.4	22.6	6.5	4.3	4.4	8.5	6.9	16.5
Prop In Lane	1.00		1.00	1.00		0.18	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	260	2980	1267	36	2511	1213	205	446	425	134	991	648
V/C Ratio(X)	1.01	1.09	0.00	0.74	0.55	0.56	1.87	0.20	0.20	2.09	0.29	0.48
Avail Cap(c_a), veh/h	260	2980	1267	63	2511	1213	205	446	425	134	991	648
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)	0.09	0.09	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	12.4	0.0	56.0	10.4	10.5	54.3	35.3	35.4	53.3	34.0	25.3
Incr Delay (d2), s/veh	18.0	43.0	0.0	1.0	0.1	0.2	410.6	1.0	1.1	516.6	0.7	2.5
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	9.5	63.8	0.0	0.9	11.6	11.5	14.9	2.4	2.3	23.4	3.7	7.7
LnGrp Delay(d),s/veh	67.3	55.4	0.0	57.1	10.5	10.6	464.9	36.3	36.4	569.9	34.7	27.8
LnGrp LOS	F	F		E	B	B	F	D	D	F	C	C
Approach Vol, veh/h		3522			2088			557			876	
Approach Delay, s/veh		56.3			11.1			331.0			203.3	
Approach LOS		E			B			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	6.8	96.7	11.0	35.5	21.0	82.5	14.0	32.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.3	55.5	6.5	29.0	16.5	43.0	8.5	* 27
Max Q Clear Time (g_c+I1), s	3.7	92.2	8.5	18.5	18.5	24.6	10.5	6.4
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	18.1	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	82.9
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	1322	71	42	2478	6	134	5	67	18	5	107
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	28	1437	77	46	2693	7	146	5	73	20	5	116
Adj No. of Lanes	1	1	1	1	1	0	0	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	44	687	584	63	704	2	408	31	168	513	118	590
Arrive On Green	0.02	0.36	0.36	0.03	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1810	1900	1615	1810	1894	5	866	84	459	1133	323	1615
Grp Volume(v), veh/h	28	1437	77	46	0	2700	224	0	0	25	0	116
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	0	1899	1410	0	0	1456	0	1615
Q Serve(g_s), s	1.0	23.5	2.1	1.6	0.0	24.2	6.5	0.0	0.0	0.0	0.0	3.2
Cycle Q Clear(g_c), s	1.0	23.5	2.1	1.6	0.0	24.2	7.5	0.0	0.0	0.6	0.0	3.2
Prop In Lane	1.00		1.00	1.00		0.00	0.65		0.33	0.80		1.00
Lane Grp Cap(c), veh/h	44	687	584	63	0	706	606	0	0	632	0	590
V/C Ratio(X)	0.63	2.09	0.13	0.73	0.00	3.82	0.37	0.00	0.00	0.04	0.00	0.20
Avail Cap(c_a), veh/h	111	687	584	111	0	706	606	0	0	632	0	590
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.4	20.8	13.9	31.1	0.0	20.4	15.4	0.0	0.0	13.3	0.0	14.1
Incr Delay (d2), s/veh	5.5	496.3	0.0	6.0	0.0	1274.0	1.7	0.0	0.0	0.1	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	106.9	0.9	0.9	0.0	262.5	3.3	0.0	0.0	0.3	0.0	1.5
LnGrp Delay(d),s/veh	36.9	517.1	13.9	37.1	0.0	1294.4	17.1	0.0	0.0	13.4	0.0	14.9
LnGrp LOS	D	F	B	D		F	B			B		B
Approach Vol, veh/h		1542			2746			224			141	
Approach Delay, s/veh		483.2			1273.3			17.1			14.6	
Approach LOS		F			F			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.2	6.8	29.0		29.2	6.1	29.7
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	23.5		22.0	4.0	23.5
Max Q Clear Time (g_c+I1), s		9.5	3.6	25.5		5.2	3.0	26.2
Green Ext Time (p_c), s		1.1	0.0	0.0		1.2	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	912.9
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	152	2027	1166	30	932	143	802	623	68	178	752	141
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	162	2156	1225	32	991	146	853	663	68	189	800	143
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	176	1725	733	41	1228	181	558	798	82	222	668	119
Arrive On Green	0.10	0.45	0.45	0.02	0.38	0.38	0.15	0.24	0.24	0.12	0.21	0.21
Sat Flow, veh/h	1810	3800	1615	1810	3239	477	3619	3385	347	1810	3140	561
Grp Volume(v), veh/h	162	2156	1225	32	581	556	853	372	359	189	484	459
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1815	1810	1900	1831	1810	1900	1801
Q Serve(g_s), s	10.6	54.5	54.5	2.1	32.8	32.9	18.5	22.3	22.4	12.3	25.5	25.5
Cycle Q Clear(g_c), s	10.6	54.5	54.5	2.1	32.8	32.9	18.5	22.3	22.4	12.3	25.5	25.5
Prop In Lane	1.00		1.00	1.00		0.26	1.00		0.19	1.00		0.31
Lane Grp Cap(c), veh/h	176	1725	733	41	720	688	558	448	432	222	404	383
V/C Ratio(X)	0.92	1.25	1.67	0.79	0.81	0.81	1.53	0.83	0.83	0.85	1.20	1.20
Avail Cap(c_a), veh/h	176	1725	733	60	720	688	558	448	432	237	404	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)	0.09	0.09	0.09	1.00	1.00	1.00	0.42	0.42	0.42	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	32.8	32.8	58.4	33.3	33.3	50.8	43.6	43.6	51.6	47.2	47.2
Incr Delay (d2), s/veh	7.3	112.8	302.3	18.7	9.4	9.9	241.9	7.6	7.9	21.9	110.5	111.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	55.5	85.7	1.3	19.2	18.4	28.0	12.6	12.2	7.5	25.8	24.5
LnGrp Delay(d),s/veh	61.0	145.5	335.0	77.0	42.8	43.2	292.6	51.1	51.5	73.4	157.7	158.8
LnGrp LOS	E	F	F	E	D	D	F	D	D	E	F	F
Approach Vol, veh/h		3543			1169			1584			1132	
Approach Delay, s/veh		207.2			43.9			181.3			144.1	
Approach LOS		F			D			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	7.2	60.0	23.0	31.0	16.2	51.0	20.2	33.8
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.0	52.0	18.5	25.5	11.7	44.3	15.7	* 28
Max Q Clear Time (g_c+I1), s	4.1	56.5	20.5	27.5	12.6	34.9	14.3	24.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	8.8	0.5	1.1

Intersection Summary	
HCM 2010 Ctrl Delay	166.3
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	48	283	297	59	185	318	222	972	152	512	1162	77
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.96	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	51	301	202	63	197	241	236	1034	144	545	1236	70
Adj No. of Lanes	1	1	1	1	2	0	1	2	1	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	84	340	289	81	338	285	265	1019	417	573	1700	723
Arrive On Green	0.05	0.18	0.18	0.04	0.18	0.18	0.15	0.27	0.27	0.32	0.45	0.45
Sat Flow, veh/h	1810	1900	1615	1810	1900	1601	1810	3800	1554	1810	3800	1615
Grp Volume(v), veh/h	51	301	202	63	197	241	236	1034	144	545	1236	70
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1601	1810	1900	1554	1810	1900	1615
Q Serve(g_s), s	3.0	17.0	9.2	3.8	10.5	16.0	14.1	29.5	8.2	32.4	29.3	2.1
Cycle Q Clear(g_c), s	3.0	17.0	9.2	3.8	10.5	16.0	14.1	29.5	8.2	32.4	29.3	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	84	340	289	81	338	285	265	1019	417	573	1700	723
V/C Ratio(X)	0.61	0.88	0.70	0.77	0.58	0.85	0.89	1.01	0.35	0.95	0.73	0.10
Avail Cap(c_a), veh/h	84	411	349	102	449	379	290	1019	417	573	1700	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	51.5	44.0	21.4	52.0	41.5	43.8	46.1	40.3	32.5	36.7	24.9	9.9
Incr Delay (d2), s/veh	8.9	15.7	3.1	19.0	0.6	10.1	24.3	31.9	2.3	4.2	0.3	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	1.7	10.4	4.4	2.3	5.5	7.9	8.8	19.9	3.8	16.9	15.3	0.9
LnGrp Delay(d),s/veh	60.3	59.8	24.5	70.9	42.1	53.8	70.4	72.1	34.7	40.9	25.1	9.9
LnGrp LOS	E	E	C	E	D	D	E	F	C	D	C	A
Approach Vol, veh/h		554			501			1414			1851	
Approach Delay, s/veh		47.0			51.4			68.0			29.2	
Approach LOS		D			D			E			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	40.3	35.0	9.4	25.2	20.6	54.7	9.6	25.1
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	30.5	* 30	6.2	23.8	17.6	42.4	4.0	26.0
Max Q Clear Time (g_c+I1), s	34.4	31.5	5.8	19.0	16.1	31.3	5.0	18.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.1	5.0	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	46.8
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	5	81	1254	13	161	1574
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	0	-	65	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	87	1348	14	173	1692

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3387	1348	0	0	1348	0
Stage 1	1348	-	-	-	-	-
Stage 2	2039	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	9	186	-	-	517	-
Stage 1	244	-	-	-	-	-
Stage 2	111	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	6	186	-	-	517	-
Mov Cap-2 Maneuver	6	-	-	-	-	-
Stage 1	244	-	-	-	-	-
Stage 2	74	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	100.4	0	1.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	6	186	517	-
HCM Lane V/C Ratio	-	-	0.896	0.468	0.335	-
HCM Control Delay (s)	-	-	$ 1074	40.3	15.4	-
HCM Lane LOS	-	-	F	E	C	-
HCM 95th %tile Q(veh)	-	-	1.4	2.2	1.5	-

Intersection	
Intersection Delay, s/veh	61.2
Intersection LOS	F

Movement	WBU	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Vol, veh/h	0	259	373	0	1071	381	0	676	818
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	282	405	0	1164	414	0	735	889
Number of Lanes	0	1	1	0	1	0	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	29.4	66.5	69.5
HCM LOS	D	F	F

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	74%	0%	0%	0%	100%
Vol Right, %	26%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1452	259	373	676	818
LT Vol	0	259	0	676	0
Through Vol	1071	0	0	0	818
RT Vol	381	0	373	0	0
Lane Flow Rate	1578	282	405	735	889
Geometry Grp	4	7	7	7	7
Degree of Util (X)	1	0.649	0.799	1	1
Departure Headway (Hd)	7.06	8.297	7.097	7.992	7.491
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	537	439	515	463	489
Service Time	5.085	5.997	4.797	5.725	5.224
HCM Lane V/C Ratio	2.939	0.642	0.786	1.587	1.818
HCM Control Delay	66.5	25.1	32.4	70.8	68.4
HCM Lane LOS	F	D	D	F	F
HCM 95th-tile Q	13.8	4.5	7.5	13	13.4



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	253	271	932	115	125	822
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	275	295	1013	125	136	893
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	280	250	1010	859	313	1416
Arrive On Green	0.15	0.15	0.53	0.53	0.17	0.75
Sat Flow, veh/h	1810	1615	1900	1615	1810	1900
Grp Volume(v), veh/h	275	295	1013	125	136	893
Grp Sat Flow(s),veh/h/ln	1810	1615	1900	1615	1810	1900
Q Serve(g_s), s	16.7	17.0	58.5	4.3	7.4	24.8
Cycle Q Clear(g_c), s	16.7	17.0	58.5	4.3	7.4	24.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	280	250	1010	859	313	1416
V/C Ratio(X)	0.98	1.18	1.00	0.15	0.44	0.63
Avail Cap(c_a), veh/h	280	250	1010	859	313	1416
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	46.4	46.5	25.7	13.1	40.7	6.7
Incr Delay (d2), s/veh	48.9	115.2	28.9	0.4	4.4	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	15.5	38.4	2.0	4.1	13.5
LnGrp Delay(d),s/veh	95.3	161.7	54.7	13.4	45.1	8.9
LnGrp LOS	F	F	F	B	D	A
Approach Vol, veh/h	570		1138			1029
Approach Delay, s/veh	129.6		50.1			13.6
Approach LOS	F		D			B

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	23.5	64.0				87.5		22.5
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	19.0	58.5				82.0		17.0
Max Q Clear Time (g_c+I1), s	9.4	60.5				26.8		19.0
Green Ext Time (p_c), s	0.1	0.0				11.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	53.0
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	55	30	1017	12	7	1068
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	60	33	1105	13	8	1161

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2288	559	0	0	1118	0
Stage 1	1112	-	-	-	-	-
Stage 2	1176	-	-	-	-	-
Critical Hdwy	5.3	5.3	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	88	612	-	-	632	-
Stage 1	281	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	87	612	-	-	632	-
Mov Cap-2 Maneuver	209	-	-	-	-	-
Stage 1	281	-	-	-	-	-
Stage 2	292	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.9	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	272	632	-
HCM Lane V/C Ratio	-	-	0.34	0.012	-
HCM Control Delay (s)	-	-	24.9	10.8	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	1.4	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	52	32	997	13	7	1116
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	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	57	35	1084	14	8	1213

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1713	549	0	0	1098	0
Stage 1	1091	-	-	-	-	-
Stage 2	622	-	-	-	-	-
Critical Hdwy	5.8	5.8	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	134	573	-	-	643	-
Stage 1	288	-	-	-	-	-
Stage 2	503	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	132	573	-	-	643	-
Mov Cap-2 Maneuver	257	-	-	-	-	-
Stage 1	288	-	-	-	-	-
Stage 2	497	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.3	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	325	643	-
HCM Lane V/C Ratio	-	-	0.281	0.012	-
HCM Control Delay (s)	-	-	20.3	10.7	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	1.1	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	52	49	961	12	10	1158
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	0	-	0	140	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	57	53	1045	13	11	1259

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2325	522	0	0	1045	0
Stage 1	1045	-	-	-	-	-
Stage 2	1280	-	-	-	-	-
Critical Hdwy	6.6	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	~ 37	505	-	-	673	-
Stage 1	304	-	-	-	-	-
Stage 2	264	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 36	505	-	-	673	-
Mov Cap-2 Maneuver	188	-	-	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	260	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.9	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	188	505	673	-
HCM Lane V/C Ratio	-	-	0.301	0.105	0.016	-
HCM Control Delay (s)	-	-	32.2	13	10.4	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	1.2	0.4	0	-

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	347	106	120	102	636	0	279	40	700	473	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	62	377	115	130	111	691	0	303	40	761	514	38
Adj No. of Lanes	1	1	1	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	80	432	367	113	467	397	2	565	474	445	1103	938
Arrive On Green	0.04	0.23	0.23	0.06	0.25	0.25	0.00	0.30	0.30	0.25	0.58	0.58
Sat Flow, veh/h	1810	1900	1611	1810	1900	1615	1810	1900	1593	1810	1900	1615
Grp Volume(v), veh/h	62	377	115	130	111	691	0	303	40	761	514	38
Grp Sat Flow(s),veh/h/ln	1810	1900	1611	1810	1900	1615	1810	1900	1593	1810	1900	1615
Q Serve(g_s), s	4.1	22.9	7.1	7.5	5.6	29.5	0.0	16.0	2.2	29.5	18.7	1.2
Cycle Q Clear(g_c), s	4.1	22.9	7.1	7.5	5.6	29.5	0.0	16.0	2.2	29.5	18.7	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	80	432	367	113	467	397	2	565	474	445	1103	938
V/C Ratio(X)	0.77	0.87	0.31	1.15	0.24	1.74	0.00	0.54	0.08	1.71	0.47	0.04
Avail Cap(c_a), veh/h	113	467	396	113	467	397	60	565	474	445	1103	938
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	0.46	0.46	0.46	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	44.7	38.6	56.3	36.2	45.3	0.0	35.2	30.4	45.3	14.5	10.8
Incr Delay (d2), s/veh	11.7	14.6	0.2	103.5	0.0	338.0	0.0	3.6	0.3	329.3	1.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	13.8	3.2	7.0	3.0	50.5	0.0	9.0	1.0	55.4	10.1	0.6
LnGrp Delay(d),s/veh	68.5	59.3	38.7	159.7	36.3	383.2	0.0	38.9	30.7	374.5	15.9	10.9
LnGrp LOS	E	E	D	F	D	F		D	C	F	B	B
Approach Vol, veh/h		554			932			343			1313	
Approach Delay, s/veh		56.0			310.7			37.9			223.6	
Approach LOS		E			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	34.0	41.2	12.0	32.8	0.0	75.2	9.8	35.0
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	29.5	33.5	7.5	29.5	4.0	59.0	7.5	29.5
Max Q Clear Time (g_c+I1), s	31.5	18.0	9.5	24.9	0.0	20.7	6.1	31.5
Green Ext Time (p_c), s	0.0	2.6	0.0	1.8	0.0	2.9	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	199.6
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	10	132	187	10	268	431
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	115	0	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	143	203	11	291	468

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1260	209	0	0	214	0
Stage 1	209	-	-	-	-	-
Stage 2	1051	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	152	836	-	-	1368	-
Stage 1	831	-	-	-	-	-
Stage 2	291	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	120	836	-	-	1368	-
Mov Cap-2 Maneuver	215	-	-	-	-	-
Stage 1	831	-	-	-	-	-
Stage 2	229	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	3.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	215	836	1368	-
HCM Lane V/C Ratio	-	-	0.051	0.172	0.213	-
HCM Control Delay (s)	-	-	22.6	10.2	8.3	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.6	0.8	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1682	20	30	1267	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1828	22	33	1377	5	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1850	0	3281	1839
Stage 1	-	-	-	-	1839	-
Stage 2	-	-	-	-	1442	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	-	-	10	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	39	-
Platoon blocked, %	-	-	2	-		2
Mov Cap-1 Maneuver	-	-	-	-	10	-
Mov Cap-2 Maneuver	-	-	-	-	10	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	39	-

Approach	EB	WB	NB
HCM Control Delay, s	0		
HCM LOS			-

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection	
Int Delay, s/veh	11.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	54	33	144	0	23	0	300	5	0	3	6	122
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	0	200	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	66	40	176	0	28	0	366	6	0	4	7	149

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	841	827	82	935	901	6	156	0	0	6	0	0
Stage 1	89	89	-	738	738	-	-	-	-	-	-	-
Stage 2	752	738	-	197	163	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	287	309	983	248	280	1083	1436	-	-	1628	-	-
Stage 1	923	825	-	413	427	-	-	-	-	-	-	-
Stage 2	405	427	-	809	767	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	214	230	983	147	208	1083	1436	-	-	1628	-	-
Mov Cap-2 Maneuver	257	297	-	225	284	-	-	-	-	-	-	-
Stage 1	688	823	-	308	318	-	-	-	-	-	-	-
Stage 2	275	318	-	630	765	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.5	19.1	8.2	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1436	-	-	494	284	1628	-	-
HCM Lane V/C Ratio	0.255	-	-	0.57	0.099	0.002	-	-
HCM Control Delay (s)	8.4	-	-	21.5	19.1	7.2	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	1	-	-	3.5	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	13	27	0	0	5	6	233	0	0	60	23
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	14	29	0	0	5	7	253	0	0	65	25
Number of Lanes	0	0	1	0	0	1	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	2	2
HCM Control Delay	9.1	9.6	9.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	33%	100%	0%	100%	0%
Vol Thru, %	72%	68%	0%	3%	0%	83%
Vol Right, %	28%	0%	0%	97%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	40	5	239	133	18
LT Vol	0	13	5	0	133	0
Through Vol	60	27	0	6	0	15
RT Vol	23	0	0	233	0	3
Lane Flow Rate	90	43	5	260	145	20
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.133	0.068	0.009	0.33	0.234	0.028
Departure Headway (Hd)	5.306	5.591	5.758	4.568	5.827	5.206
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	671	637	621	785	613	684
Service Time	3.372	3.652	3.497	2.307	3.588	2.967
HCM Lane V/C Ratio	0.134	0.068	0.008	0.331	0.237	0.029
HCM Control Delay	9.2	9.1	8.5	9.6	10.4	8.1
HCM Lane LOS	A	A	A	A	B	A
HCM 95th-tile Q	0.5	0.2	0	1.4	0.9	0.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Vol, veh/h	0	133	15	3
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0
Mvmt Flow	0	145	16	3
Number of Lanes	0	1	1	0

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

Lane

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	176	7	3	215	28	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	191	8	3	234	30	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	199	0	435	195
Stage 1	-	-	-	-	195	-
Stage 2	-	-	-	-	240	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1385	-	582	851
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	805	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1385	-	581	851
Mov Cap-2 Maneuver	-	-	-	-	703	-
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	803	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	744	-	-	1385	-
HCM Lane V/C Ratio	0.06	-	-	0.002	-
HCM Control Delay (s)	10.1	-	-	7.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	188	1	4	215	3	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	204	1	4	234	3	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	205	0	447	205
Stage 1	-	-	-	-	205	-
Stage 2	-	-	-	-	242	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1378	-	573	841
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	803	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1378	-	571	841
Mov Cap-2 Maneuver	-	-	-	-	697	-
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	801	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	819	-	-	1378	-
HCM Lane V/C Ratio	0.031	-	-	0.003	-
HCM Control Delay (s)	9.5	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	201	7	4	191	28	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	218	8	4	208	30	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	226	0	438	222
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	216	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1354	-	580	823
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	825	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1354	-	578	823
Mov Cap-2 Maneuver	-	-	-	-	703	-
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	823	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	744	-	-	1354	-
HCM Lane V/C Ratio	0.066	-	-	0.003	-
HCM Control Delay (s)	10.2	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Intersection Delay, s/veh	74.9
Intersection LOS	F

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Vol, veh/h	0	138	229	484	0	200	70	82	0	263	572	184
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	150	249	526	0	217	76	89	0	286	622	200
Number of Lanes	0	1	1	0	0	1	1	1	0	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	3	2	3
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	3	3	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	3	3	3
HCM Control Delay	80	41.2	78
HCM LOS	F	E	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	32%	0%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	100%	0%	68%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	263	572	184	138	713	200	70	82	265	523	134
LT Vol	263	0	0	138	0	200	0	0	265	0	0
Through Vol	0	572	0	0	229	0	70	0	0	523	0
RT Vol	0	0	184	0	484	0	0	82	0	0	134
Lane Flow Rate	286	622	200	150	775	217	76	89	288	568	146
Geometry Grp	8	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.992	1	0.628	0.552	1	0.818	0.274	0.303	1	1	0.458
Departure Headway (Hd)	12.497	12.001	11.306	13.251	12.29	13.546	13.064	12.367	12.598	12.105	11.416
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	292	311	320	273	302	270	277	292	291	307	318
Service Time	10.216	9.719	9.024	10.97	10.009	11.261	10.764	10.067	10.298	9.805	9.116
HCM Lane V/C Ratio	0.979	2	0.625	0.549	2.566	0.804	0.274	0.305	0.99	1.85	0.459
HCM Control Delay	88.2	88.3	31.3	31.2	89.4	57	20.6	20.4	90.6	88.6	23.4
HCM Lane LOS	F	F	D	D	F	F	C	C	F	F	C
HCM 95th-tile Q	10.2	10.6	4	3.1	10.5	6.5	1.1	1.2	10.4	10.6	2.3

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	84	20	1019	1207	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	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	91	22	1108	1312	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1909	656	1312	0	-	0
Stage 1	1312	-	-	-	-	-
Stage 2	597	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	61	413	534	-	-	-
Stage 1	220	-	-	-	-	-
Stage 2	518	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	58	413	534	-	-	-
Mov Cap-2 Maneuver	195	-	-	-	-	-
Stage 1	220	-	-	-	-	-
Stage 2	497	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.2	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	534	-	413	-	-
HCM Lane V/C Ratio	0.041	-	0.221	-	-
HCM Control Delay (s)	12	-	16.2	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	87	721	1283	262	474	234	684	817	292	436	987	93
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.99	1.00		1.00	1.00		0.49
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	95	784	1345	285	515	238	743	888	256	474	1073	92
Adj No. of Lanes	1	1	1	1	2	1	2	1	1	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	83	420	656	312	1320	558	703	515	437	306	776	66
Arrive On Green	0.06	0.29	0.29	0.17	0.35	0.35	0.19	0.27	0.27	0.17	0.25	0.25
Sat Flow, veh/h	1810	1900	1548	1810	3800	1606	3619	1900	1612	1810	3155	269
Grp Volume(v), veh/h	95	784	1345	285	515	238	743	888	256	474	644	521
Grp Sat Flow(s),veh/h/ln	1810	1900	1548	1810	1900	1606	1810	1900	1612	1810	1900	1524
Q Serve(g_s), s	5.5	26.5	22.1	18.6	12.3	8.4	23.3	32.5	10.7	20.3	29.5	29.5
Cycle Q Clear(g_c), s	5.5	26.5	22.1	18.6	12.3	8.4	23.3	32.5	10.7	20.3	29.5	29.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	83	420	656	312	1320	558	703	515	437	306	467	375
V/C Ratio(X)	1.15	1.87	2.05	0.91	0.39	0.43	1.06	1.73	0.59	1.55	1.38	1.39
Avail Cap(c_a), veh/h	83	420	656	354	1409	595	703	515	437	306	467	375
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	42.4	11.8	48.8	29.6	11.3	48.3	43.7	16.0	49.8	45.3	45.3
Incr Delay (d2), s/veh	78.3	391.7	473.8	24.1	0.1	0.2	29.4	327.3	0.5	262.2	183.6	191.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	59.5	95.3	11.3	6.5	3.7	14.5	63.8	4.8	32.4	39.3	32.3
LnGrp Delay(d),s/veh	134.7	434.0	485.6	72.8	29.6	11.5	77.7	371.0	16.5	312.0	228.9	236.4
LnGrp LOS	F	F	F	E	C	B	F	F	B	F	F	F
Approach Vol, veh/h		2224			1038			1887			1639	
Approach Delay, s/veh		452.4			37.3			207.5			255.3	
Approach LOS		F			D			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	24.8	38.0	25.2	32.0	27.8	35.0	10.0	47.2
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	17.5	32.5	23.5	26.5	20.5	29.5	5.5	44.5
Max Q Clear Time (g_c+I1), s	22.3	34.5	20.6	28.5	25.3	31.5	7.5	14.3
Green Ext Time (p_c), s	0.0	0.0	0.1	0.0	0.0	0.0	0.0	14.1

Intersection Summary	
HCM 2010 Ctrl Delay	273.3
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	79	172	877	403	80	22	473	1163	351	117	1721	142
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	86	187	861	438	87	10	514	1264	379	127	1871	150
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	353	410	348	97	140	119	109	1142	334	109	1406	111
Arrive On Green	0.20	0.22	0.22	0.05	0.07	0.07	0.06	0.40	0.40	0.06	0.40	0.40
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	2826	826	1810	3477	275
Grp Volume(v), veh/h	86	187	861	438	87	10	514	839	804	127	1010	1011
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1752	1810	1900	1851
Q Serve(g_s), s	3.0	6.4	12.2	4.0	3.3	0.3	4.5	30.3	30.3	4.5	30.3	30.3
Cycle Q Clear(g_c), s	3.0	6.4	12.2	4.0	3.3	0.3	4.5	30.3	30.3	4.5	30.3	30.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		0.15
Lane Grp Cap(c), veh/h	353	410	348	97	140	119	109	768	708	109	768	749
V/C Ratio(X)	0.24	0.46	2.47	4.54	0.62	0.08	4.73	1.09	1.13	1.17	1.32	1.35
Avail Cap(c_a), veh/h	353	608	517	97	608	517	109	768	708	109	768	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	25.5	25.6	16.7	35.5	33.7	20.3	35.3	22.3	22.3	35.3	22.3	22.3
Incr Delay (d2), s/veh	0.1	0.3	670.9	1615.9	1.7	0.1	1701.2	60.7	77.4	85.6	142.8	158.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.4	70.3	45.3	1.8	0.2	53.5	28.7	29.8	4.8	46.3	48.3
LnGrp Delay(d),s/veh	25.6	25.9	687.5	1651.4	35.4	20.4	1736.4	83.0	99.7	120.8	165.2	180.6
LnGrp LOS	C	C	F	F	D	C	F	F	F	F	F	F
Approach Vol, veh/h		1134			535			2157			2148	
Approach Delay, s/veh		528.2			1358.1			483.2			169.8	
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	9.0	35.8	8.5	21.7	9.0	35.8	19.1	11.0
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	4.5	22.5	4.0	24.0	4.5	22.5	4.0	24.0
Max Q Clear Time (g_c+I1), s	6.5	32.3	6.0	14.2	6.5	32.3	5.0	5.3
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	457.4
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	552	1341	199	204	916	366	285	1094	172	633	1396	966
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	600	1458	216	222	996	398	310	1189	187	688	1517	1046
Adj No. of Lanes	1	1	1	1	2	0	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1381	2016	1714	99	885	349	152	1320	561	152	743	457
Arrive On Green	0.76	1.00	1.00	0.05	0.34	0.34	0.04	0.35	0.35	0.04	0.34	0.34
Sat Flow, veh/h	1810	1900	1615	1810	2586	1019	3619	3800	1615	3619	2205	1356
Grp Volume(v), veh/h	600	1458	216	222	728	666	310	1189	187	688	1282	1282
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1705	1810	1900	1615	1810	1900	1661
Q Serve(g_s), s	11.2	0.0	0.0	5.2	32.5	32.5	4.0	28.2	8.1	4.0	32.0	32.0
Cycle Q Clear(g_c), s	11.2	0.0	0.0	5.2	32.5	32.5	4.0	28.2	8.1	4.0	32.0	32.0
Prop In Lane	1.00		1.00	1.00		0.60	1.00		1.00	1.00		0.82
Lane Grp Cap(c), veh/h	1381	2016	1714	99	650	583	152	1320	561	152	640	559
V/C Ratio(X)	0.43	0.72	0.13	2.24	1.12	1.14	2.03	0.90	0.33	4.51	2.00	2.29
Avail Cap(c_a), veh/h	1381	2016	1714	99	650	583	152	1320	561	152	640	559
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	4.0	0.0	0.0	44.9	31.3	31.3	45.5	29.4	22.9	45.5	31.5	31.5
Incr Delay (d2), s/veh	0.1	2.3	0.2	589.7	73.1	83.0	487.6	10.1	1.6	1596.8	456.6	586.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	1.3	0.1	18.8	30.2	28.7	12.3	16.5	3.8	35.8	97.9	105.7
LnGrp Delay(d),s/veh	4.1	2.3	0.2	634.6	104.3	114.2	533.1	39.5	24.5	1642.3	488.1	618.0
LnGrp LOS	A	A	A	F	F	F	F	D	C	F	F	F
Approach Vol, veh/h		2274			1616			1686			3251	
Approach Delay, s/veh		2.6			181.3			128.6			783.6	
Approach LOS		A			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	9.7	108.3	9.5	37.5	80.0	38.0	8.5	38.5
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	5.2	33.8	4.0	* 32	6.5	* 33	4.0	32.0
Max Q Clear Time (g_c+I1), s	7.2	2.0	6.0	34.0	13.2	34.5	6.0	30.2
Green Ext Time (p_c), s	0.0	14.4	0.0	0.0	0.0	0.0	0.0	1.2

Intersection Summary	
HCM 2010 Ctrl Delay	347.0
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	376	1286	499	164	715	189	293	1421	233	248	1878	265
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	384	1312	488	167	730	184	299	1450	227	253	1916	259
Adj No. of Lanes	1	2	0	1	2	0	1	3	0	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	219	926	329	1093	2446	617	173	1416	221	252	1251	532
Arrive On Green	0.12	0.35	0.35	0.60	0.84	0.84	0.10	0.29	0.29	0.14	0.33	0.33
Sat Flow, veh/h	1810	2679	951	1810	2922	736	1810	4814	753	1810	3800	1615
Grp Volume(v), veh/h	384	912	888	167	475	439	299	1144	533	253	1916	259
Grp Sat Flow(s),veh/h/ln	1810	1900	1729	1810	1900	1758	1810	1900	1766	1810	1900	1615
Q Serve(g_s), s	14.5	41.5	41.5	4.8	6.5	6.5	11.5	35.3	35.3	16.7	39.5	23.5
Cycle Q Clear(g_c), s	14.5	41.5	41.5	4.8	6.5	6.5	11.5	35.3	35.3	16.7	39.5	23.5
Prop In Lane	1.00		0.55	1.00		0.42	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	219	657	598	1093	1591	1472	173	1118	520	252	1251	532
V/C Ratio(X)	1.76	1.39	1.48	0.15	0.30	0.30	1.72	1.02	1.03	1.00	1.53	0.49
Avail Cap(c_a), veh/h	219	657	598	1093	1591	1472	173	1118	520	252	1251	532
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	52.8	39.3	39.3	10.4	2.1	2.1	54.3	42.4	42.4	51.7	40.3	75.0
Incr Delay (d2), s/veh	358.5	184.0	226.9	0.0	0.5	0.5	349.0	33.1	46.1	57.9	243.4	3.2
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	29.0	55.3	57.5	2.4	3.5	3.3	22.5	23.6	23.8	12.4	63.0	11.0
LnGrp Delay(d),s/veh	411.2	223.2	266.1	10.4	2.6	2.6	403.2	75.4	88.4	109.6	283.6	78.2
LnGrp LOS	F	F	F	B	A	A	F	F	F	F	F	E
Approach Vol, veh/h		2184			1081			1976			2428	
Approach Delay, s/veh		273.7			3.8			128.5			243.6	
Approach LOS		F			A			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	39.3	47.0	17.0	45.0	19.0	107.3	21.2	40.8
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	7.5	* 42	11.5	* 40	14.5	34.5	16.7	34.3
Max Q Clear Time (g_c+I1), s	16.8	43.5	13.5	41.5	16.5	8.5	18.7	37.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		188.7
HCM 2010 LOS		F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	114	242	169	314	184	179	120	1990	227	231	1933	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	124	263	168	341	200	96	130	2163	222	251	2101	98
Adj No. of Lanes	0	1	1	0	2	1	1	3	0	1	3	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	135	287	364	383	403	336	68	1695	171	98	1890	88
Arrive On Green	0.23	0.23	0.23	0.21	0.21	0.21	0.04	0.33	0.33	0.05	0.35	0.35
Sat Flow, veh/h	599	1271	1613	1810	1900	1586	1810	5086	514	1810	5401	251
Grp Volume(v), veh/h	387	0	168	341	200	96	130	1607	778	251	1475	724
Grp Sat Flow(s),veh/h/ln	1870	0	1613	1810	1900	1586	1810	1900	1799	1810	1900	1852
Q Serve(g_s), s	24.2	0.0	10.8	22.0	11.1	6.1	4.5	40.0	40.0	6.5	42.0	42.0
Cycle Q Clear(g_c), s	24.2	0.0	10.8	22.0	11.1	6.1	4.5	40.0	40.0	6.5	42.0	42.0
Prop In Lane	0.32		1.00	1.00		1.00	1.00		0.29	1.00		0.14
Lane Grp Cap(c), veh/h	422	0	364	383	403	336	68	1266	600	98	1330	648
V/C Ratio(X)	0.92	0.00	0.46	0.89	0.50	0.29	1.92	1.27	1.30	2.56	1.11	1.12
Avail Cap(c_a), veh/h	468	0	403	452	475	396	68	1266	600	98	1330	648
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	0.0	40.1	45.9	41.7	39.7	57.8	40.0	40.0	56.8	39.0	39.0
Incr Delay (d2), s/veh	20.7	0.0	0.3	15.7	0.4	0.2	461.6	127.6	145.6	731.3	60.5	72.0
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	15.0	0.0	4.8	12.7	5.9	2.7	10.9	43.4	44.1	23.2	33.1	34.4
LnGrp Delay(d),s/veh	66.0	0.0	40.5	61.6	42.0	39.8	519.4	167.6	185.7	788.1	99.5	111.0
LnGrp LOS	E		D	E	D	D	F	F	F	F	F	F
Approach Vol, veh/h		555			637			2515			2450	
Approach Delay, s/veh		58.3			52.2			191.3			173.4	
Approach LOS		E			D			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	11.0	45.5		32.6	9.0	47.5		30.9
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	6.5	32.5		30.0	4.5	34.5		30.0
Max Q Clear Time (g_c+I1), s	8.5	42.0		26.2	6.5	44.0		24.0
Green Ext Time (p_c), s	0.0	0.0		0.8	0.0	0.0		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	157.8
HCM 2010 LOS	F

Notes

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

APPENDIX 7.3:

GENERAL PLAN BUILDOUT (POST 2035) WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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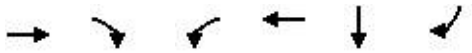


Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1118	711	980	1935	933	1054
v/c Ratio	1.20	0.82	1.59	0.84	0.92	1.64
Control Delay	138.9	19.0	302.4	23.6	28.9	325.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	138.9	19.0	302.4	23.6	28.9	325.0
Queue Length 50th (ft)	~524	129	~1082	568	279	~1159
Queue Length 95th (ft)	#652	301	#1333	675	#579	#1418
Internal Link Dist (ft)	658			955		
Turn Bay Length (ft)						
Base Capacity (vph)	934	871	617	2295	1009	641
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.20	0.82	1.59	0.84	0.92	1.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	943	151	254	549	1543	752
v/c Ratio	1.06	0.31	1.40	0.39	1.48	0.68
Control Delay	93.0	23.4	247.9	29.2	245.2	18.6
Queue Delay	0.0	0.0	0.0	2.0	0.0	0.0
Total Delay	93.0	23.4	247.9	31.2	245.2	18.6
Queue Length 50th (ft)	~402	55	~263	156	~1645	321
Queue Length 95th (ft)	#527	114	#430	202	#1909	460
Internal Link Dist (ft)	844			267	1109	
Turn Bay Length (ft)		100	80			270
Base Capacity (vph)	886	492	182	1393	1045	1113
Starvation Cap Reductn	0	0	0	668	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.31	1.40	0.76	1.48	0.68

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	150	1837	3112	870	1020	235	286
v/c Ratio	1.79	0.95	1.62	2.38	1.38	2.80	0.38
Control Delay	419.4	33.3	305.9	650.4	205.9	858.3	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	419.4	33.3	305.9	650.4	205.9	858.3	19.9
Queue Length 50th (ft)	~129	461	~1298	~822	~784	~188	104
Queue Length 95th (ft)	#203	#642	#1427	#1047	#1025	#335	170
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	84	1933	1916	365	739	84	743
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.79	0.95	1.62	2.38	1.38	2.80	0.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	638	1900	646	683	176	463
v/c Ratio	0.96	0.76	0.64	0.79	0.40	0.94
Control Delay	55.1	13.3	33.1	16.5	32.4	58.2
Queue Delay	46.4	47.6	0.0	0.0	0.0	0.0
Total Delay	101.4	60.9	33.1	16.5	32.4	58.2
Queue Length 50th (ft)	344	331	165	95	85	226
Queue Length 95th (ft)	#559	416	221	#257	146	#414
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	686	2491	1006	864	443	494
Starvation Cap Reductn	180	794	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.26	1.12	0.64	0.79	0.40	0.94

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

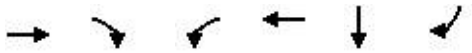


Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	2211	844	1426	1843	1028	447
v/c Ratio	1.57	0.98	1.92	0.61	1.45	1.55
Control Delay	288.8	53.4	442.4	5.9	228.5	293.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	288.8	53.4	442.4	5.9	228.5	293.7
Queue Length 50th (ft)	~1214	500	~1699	230	~679	~449
Queue Length 95th (ft)	#1344	#784	#1961	274	#937	#655
Internal Link Dist (ft)	658			955		
Turn Bay Length (ft)						
Base Capacity (vph)	1409	860	744	3024	709	289
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.57	0.98	1.92	0.61	1.45	1.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	948	206	709	1014	849	796
v/c Ratio	1.03	0.39	1.30	0.47	1.28	1.09
Control Delay	83.1	24.3	180.1	16.5	170.1	93.1
Queue Delay	27.5	0.0	0.0	1.1	2.9	0.0
Total Delay	110.5	24.3	180.1	17.6	173.0	93.1
Queue Length 50th (ft)	~394	76	~669	172	~832	~640
Queue Length 95th (ft)	#519	148	#906	m175	#1078	#884
Internal Link Dist (ft)	844			267	1109	
Turn Bay Length (ft)		100	80			270
Base Capacity (vph)	918	524	546	2153	665	731
Starvation Cap Reductn	0	0	0	830	0	0
Spillback Cap Reductn	282	0	0	0	210	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.49	0.39	1.30	0.77	1.87	1.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	528	2645	3418	268	746	328	1026
v/c Ratio	4.55	1.20	1.62	2.29	1.34	2.80	1.77
Control Delay	1628.9	113.8	300.8	626.1	188.0	851.5	376.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1628.9	113.8	300.8	626.1	188.0	851.5	376.0
Queue Length 50th (ft)	~362	~637	~1018	~178	~400	~228	~626
Queue Length 95th (ft)	#538	#770	#1151	#274	#598	#338	#845
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	116	2197	2110	117	558	117	579
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	4.55	1.20	1.62	2.29	1.34	2.80	1.77

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	738	1095	1361	1690	402	247
v/c Ratio	1.64	0.38	0.74	1.49	1.27	0.55
Control Delay	321.8	11.9	28.1	245.3	186.0	21.6
Queue Delay	4.3	51.1	2.4	0.0	0.0	0.0
Total Delay	326.0	62.9	30.4	245.3	186.0	21.6
Queue Length 50th (ft)	~830	379	412	~1629	~393	60
Queue Length 95th (ft)	m#768	m249	495	#1898	#591	144
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	451	2850	1836	1137	316	450
Starvation Cap Reductn	152	2004	0	0	0	0
Spillback Cap Reductn	0	0	333	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.47	1.29	0.91	1.49	1.27	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 7.4:

GENERAL PLAN BUILDOUT (POST 2035) WITH PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS

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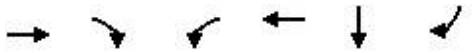


Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1154	734	1012	1998	1111	1088
v/c Ratio	1.24	0.84	1.64	0.87	1.10	1.70
Control Delay	154.2	21.5	324.7	25.2	78.6	347.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	154.2	21.5	324.7	25.2	78.6	347.9
Queue Length 50th (ft)	~553	154	~1134	607	~619	~1215
Queue Length 95th (ft)	#682	#351	#1387	723	#879	#1476
Internal Link Dist (ft)	658			955		
Turn Bay Length (ft)						
Base Capacity (vph)	934	870	617	2295	1009	641
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.24	0.84	1.64	0.87	1.10	1.70

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	963	154	279	561	1714	768
v/c Ratio	1.17	0.33	1.42	0.41	1.62	0.68
Control Delay	131.2	25.1	253.7	30.1	306.3	18.9
Queue Delay	0.0	0.0	0.0	2.3	0.0	0.0
Total Delay	131.2	25.1	253.7	32.4	306.3	18.9
Queue Length 50th (ft)	~444	58	~290	162	~1908	335
Queue Length 95th (ft)	#570	119	#463	210	#2172	479
Internal Link Dist (ft)	844			267	1109	
Turn Bay Length (ft)		100	80			270
Base Capacity (vph)	823	461	197	1361	1060	1122
Starvation Cap Reductn	0	0	0	639	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.17	0.33	1.42	0.78	1.62	0.68

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	160	2105	3349	927	1086	250	304
v/c Ratio	1.90	1.09	1.75	2.66	1.47	2.98	0.41
Control Delay	469.7	73.4	361.5	771.4	244.4	936.9	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	469.7	73.4	361.5	771.4	244.4	936.9	20.3
Queue Length 50th (ft)	~141	~675	~1444	~721	~865	~206	113
Queue Length 95th (ft)	#221	#809	#1571	#957	#1109	#357	182
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	84	1929	1914	349	739	84	743
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.90	1.09	1.75	2.66	1.47	2.98	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	638	2037	665	713	176	551
v/c Ratio	0.98	0.86	0.74	0.85	0.37	1.04
Control Delay	58.2	17.0	33.9	19.5	27.5	77.2
Queue Delay	39.8	46.8	0.0	0.0	0.0	0.0
Total Delay	98.0	63.9	33.9	19.5	27.5	77.2
Queue Length 50th (ft)	310	366	154	88	73	~271
Queue Length 95th (ft)	#527	476	211	#298	128	#464
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	653	2375	902	842	475	531
Starvation Cap Reductn	128	635	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.22	1.17	0.74	0.85	0.37	1.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

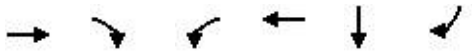


Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	2211	844	1426	1843	1066	447
v/c Ratio	1.54	0.98	1.92	0.60	1.54	1.64
Control Delay	273.9	52.4	442.4	5.5	267.6	332.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	273.9	52.4	442.4	5.5	267.6	332.6
Queue Length 50th (ft)	~1201	506	~1699	218	~756	~461
Queue Length 95th (ft)	#1331	#790	#1961	259	#1015	#668
Internal Link Dist (ft)	658			955		
Turn Bay Length (ft)						
Base Capacity (vph)	1440	865	744	3055	693	273
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.54	0.98	1.92	0.60	1.54	1.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBT	SBR
Lane Group Flow (vph)	948	206	801	1014	884	796
v/c Ratio	1.11	0.42	1.39	0.47	1.33	1.09
Control Delay	108.3	26.0	213.6	16.4	191.7	93.1
Queue Delay	2.2	0.0	0.0	1.4	3.1	0.0
Total Delay	110.5	26.0	213.6	17.8	194.8	93.1
Queue Length 50th (ft)	~419	79	~796	172	~889	~640
Queue Length 95th (ft)	#544	152	#1045	m175	#1136	#884
Internal Link Dist (ft)	844			267	1109	
Turn Bay Length (ft)		100	80			270
Base Capacity (vph)	855	492	577	2153	665	731
Starvation Cap Reductn	0	0	0	874	0	0
Spillback Cap Reductn	256	0	0	0	220	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.58	0.42	1.39	0.79	1.99	1.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	528	2682	3572	268	746	328	1026
v/c Ratio	4.55	1.22	1.69	2.29	1.34	2.80	1.77
Control Delay	1628.9	122.3	333.8	626.1	188.0	851.5	376.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1628.9	122.3	333.8	626.1	188.0	851.5	376.0
Queue Length 50th (ft)	~362	~655	~1086	~178	~400	~228	~626
Queue Length 95th (ft)	#538	#788	#1218	#274	#598	#338	#845
Internal Link Dist (ft)		240	1109		1221		592
Turn Bay Length (ft)	175			145		100	
Base Capacity (vph)	116	2193	2109	117	558	117	579
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	4.55	1.22	1.69	2.29	1.34	2.80	1.77

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	738	1130	1455	1840	402	268
v/c Ratio	1.76	0.40	0.77	1.57	1.27	0.61
Control Delay	374.7	12.2	27.7	283.6	186.0	26.5
Queue Delay	3.5	51.1	3.6	0.0	0.0	0.0
Total Delay	378.2	63.3	31.3	283.6	186.0	26.5
Queue Length 50th (ft)	~814	386	442	~1848	~393	82
Queue Length 95th (ft)	m#658	m231	529	#2115	#591	174
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	419	2850	1900	1169	316	441
Starvation Cap Reductn	118	2012	0	0	0	0
Spillback Cap Reductn	0	0	348	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	2.45	1.35	0.94	1.57	1.27	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 7.5:

GENERAL PLAN BUILDOUT (POST 2035) WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM		TRAFFIC CONDITIONS		2035 NP
				CALC	CHS	DATE	07/12/15
Jurisdiction:	City of Moreno Valley			CHK	CHS	DATE	07/12/15
Major Street:	Harley Knox Boulevard				Critical Approach Speed (Major)		50 mph
Minor Street:	Webster Avenue				Critical Approach Speed (Minor)		40 mph

Major Street Approach Lanes = **2** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **39,432** vpd Minor Street Future ADT = **2,026** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [√]

or

In built up area of isolated community of < 10,000 population ..... [ ]

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL: XX

CONDITION A - Minimum Vehicular Volume

Satisfied: XX Not Satisfied

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	8,000	5,600	2,400	1,680
2 + **39,432**	1 **2,026**	9,600	6,720 *	2,400	1,680 *
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied Not Satisfied: XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street	Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
1	1	12,000	8,400	1,200	850
2 + **39,432**	1 **2,026**	14,400	10,080 *	1,200	850 *
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied: XX Not Satisfied

No one condition satisfied, but following conditions fulfilled 80% of more ..... **A** 100% **B** 100%

2 CONDITIONS 80%

2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

URBAN CROSSROADS

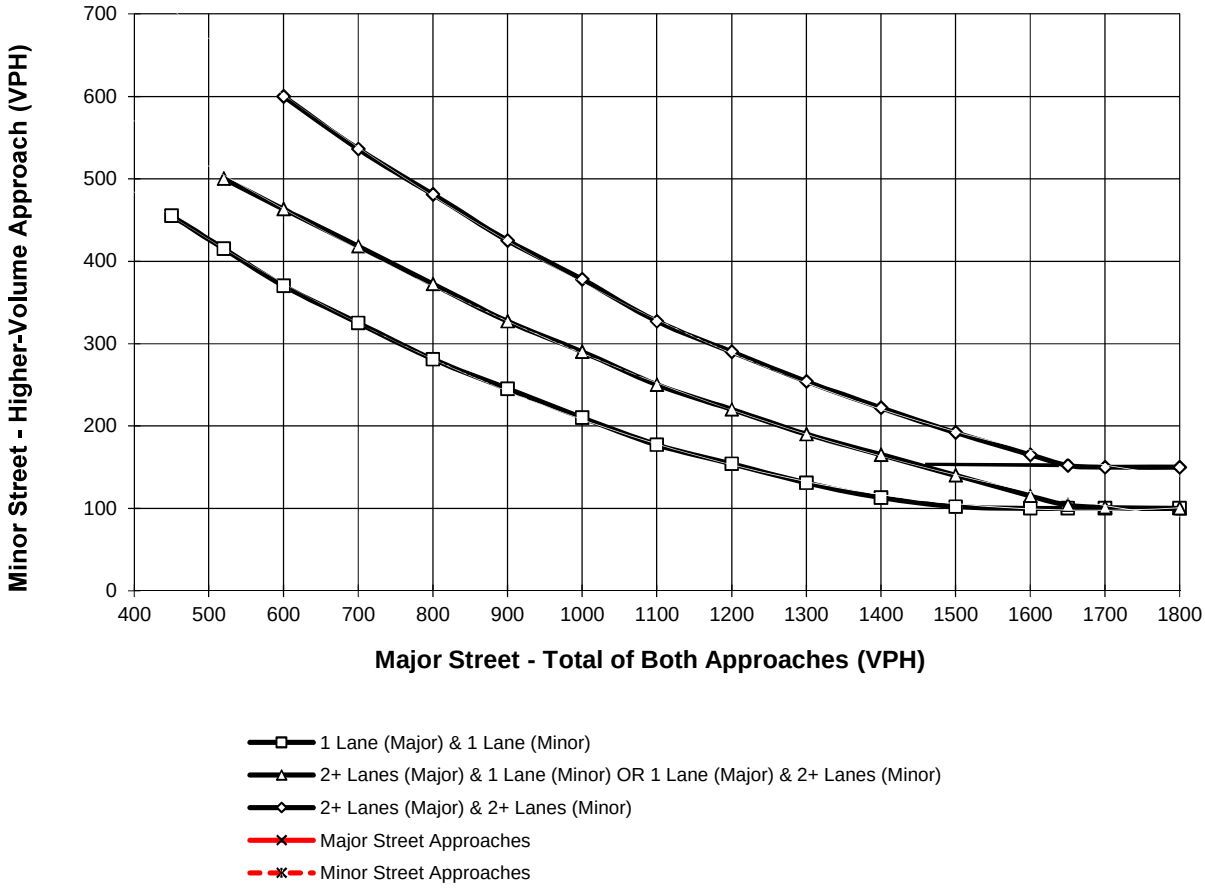
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2035 Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Krameria Avenue (North)** Total of Both Approaches (VPH) = **280**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Cosmos Street** High Volume Approach (VPH) = **144**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 7.6:

GENERAL PLAN BUILDOUT (POST 2035) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM		TRAFFIC CONDITIONS		2035 WP
				CALC	CHS	DATE	07/12/15
Jurisdiction:	City of Moreno Valley			CHK	CHS	DATE	07/12/15
Major Street:	Heacock St				Critical Approach Speed (Major)		50 mph
Minor Street:	Driveway 1				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **25,166** vpd Minor Street Future ADT = **281** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [√]

or

In built up area of isolated community of < 10,000 population ..... [ ]

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Number of lanes for moving traffic on each approach: Major Street	Minor Street	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches) Urban	Rural	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only) Urban	Rural
CONDITION A - Minimum Vehicular Volume						
Satisfied / Not Satisfied: XX / XX						
	1 **25,166**	1 **281**	8,000	5,600 *	2,400	1,680
	2 +	1	9,600	6,720	2,400	1,680
	2 +	2 +	9,600	6,720	3,200	2,240
	1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic						
Satisfied / Not Satisfied: XX						
	1 **25,166**	1 **281**	12,000	8,400 *	1,200	850
	2 +	1	14,400	10,080	1,200	850
	2 +	2 +	14,400	10,080	1,600	1,120
	1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B						
Satisfied / Not Satisfied: XX			2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more	**A** 17%	**B** 33%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM				
				TRAFFIC CONDITIONS		**2035 WP**	
				CALC	CHS	DATE	07/12/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/12/15
Major Street:	**Heacock St**			Critical Approach Speed (Major)		50	mph
Minor Street:	**Driveway 2**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **25,464** vpd Minor Street Future ADT = **720** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [√]

or

In built up area of isolated community of < 10,000 population ..... [ ]

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches)		Minimum Requirements EADT: Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
CONDITION A - Minimum Vehicular Volume				
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach	Urban	Rural	Urban	Rural
Major Street / Minor Street				
1 **25,464** / *1* **720**	8,000	5,600 *	2,400	1,680
2 + / *1*	9,600	6,720	2,400	1,680
2 + / *2* +	9,600	6,720	3,200	2,240
1 / *2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic				
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach	Urban	Rural	Urban	Rural
Major Street / Minor Street				
1 **25,464** / *1* **720**	12,000	8,400 *	1,200	850
2 + / *1*	14,400	10,080	1,200	850
2 + / *2* +	14,400	10,080	1,600	1,120
1 / *2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied: XX	2 CONDITIONS		2 CONDITIONS	
No one condition satisfied, but following conditions fulfilled 80% of more	80%		80%	
A 43% / **B** 85%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

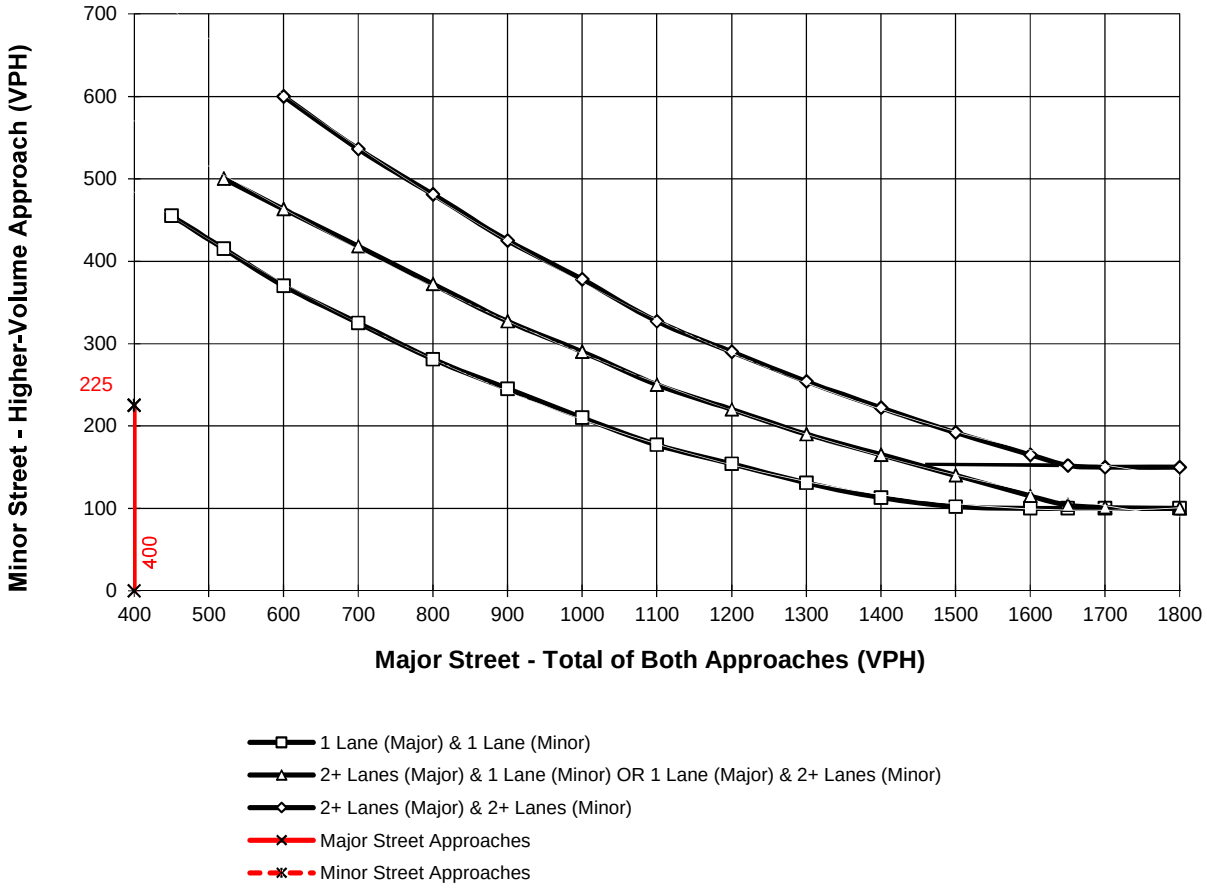
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2035 With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Krameria Avenue (North)** Total of Both Approaches (VPH) = **400**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Cosmos Street** High Volume Approach (VPH) = **225**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM		TRAFFIC CONDITIONS		2035 WP
				CALC	CHS	DATE	07/12/15
Jurisdiction:	City of Moreno Valley			CHK	CHS	DATE	07/12/15
Major Street:	Krameria Street				Critical Approach Speed (Major)		25 mph
Minor Street:	Cosmos Street				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **2,729** vpd Minor Street Future ADT = **2,718** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ……..

or

In built up area of isolated community of < 10,000 population ……

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **2,729**	*1* **2,718**	8,000	5,600	2,400 *	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **2,729**	*1* **2,718**	12,000	8,400	1,200 *	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 34% **B** 23%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

___ DIST	___ CO	___ RTE	___ PM		TRAFFIC CONDITIONS		2035 WP
				CALC	CHS	DATE	07/12/15
Jurisdiction:	City of Moreno Valley			CHK	CHS	DATE	07/12/15
Major Street:	Krameria Street				Critical Approach Speed (Major)		25 mph
Minor Street:	Driveway 3				Critical Approach Speed (Minor)		25 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **4,919** vpd Minor Street Future ADT = **256** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); …….. [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population …… [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT: Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	Urban	Rural	Urban	Rural
CONDITION A - Minimum Vehicular Volume				
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach: Major Street / Minor Street				
1 **4,919** / *1* **256**	8,000	5,600	2,400	1,680
2 + / *1*	9,600	6,720	2,400	1,680
2 + / *2* +	9,600	6,720	3,200	2,240
1 / *2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied / Not Satisfied: XX				
Number of lanes for moving traffic on each approach: Major Street / Minor Street	Urban	Rural	Urban	Rural
1 **4,919** / *1* **256**	12,000	8,400	1,200	850
2 + / *1*	14,400	10,080	1,200	850
2 + / *2* +	14,400	10,080	1,600	1,120
1 / *2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied: XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ….. A: 11% B: 21%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM				
				TRAFFIC CONDITIONS		**2035 WP**	
				CALC	CHS	DATE	07/12/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/12/15
Major Street:	**Krameria Street**			Critical Approach Speed (Major)		25	mph
Minor Street:	**Driveway 4**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **4,893** vpd Minor Street Future ADT = **124** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ……..

or

In built up area of isolated community of < 10,000 population ……

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **4,893**	*1* **124**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **4,893**	*1* **124**	12,000	8,400	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 5% **B** 10%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM				
				TRAFFIC CONDITIONS		**2035 WP**	
				CALC	CHS	DATE	07/12/15
Jurisdiction:	**City of Moreno Valley**			CHK	CHS	DATE	07/12/15
Major Street:	**Krameria Street**			Critical Approach Speed (Major)		25	mph
Minor Street:	**Driveway 5**			Critical Approach Speed (Minor)		25	mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes = **1** lane

Major Street Future ADT = **4,877** vpd Minor Street Future ADT = **278** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [ ]

or

In built up area of isolated community of < 10,000 population ..... [ ]

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume					
Satisfied	Not Satisfied	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **4,877**	*1* **278**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2* +	9,600	6,720	3,200	2,240
1	*2* +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic					
Satisfied	Not Satisfied	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **4,877**	*1* **278**	12,000	8,400	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2* +	14,400	10,080	1,600	1,120
1	*2* +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied				
	XX	2 CONDITIONS		2 CONDITIONS	
No one condition satisfied, but following conditions fulfilled 80% of more	**A** / **B**	80%		80%	
	12% / **23%**				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

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APPENDIX 7.7:

GENERAL PLAN BUILDOUT (POST 2035) WITHOUT PROJECT CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7746	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	7
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.966

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2179	pc/h/ln
S	58.9	mph
D = v_p / S	37.0	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7465	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2069	pc/h/ln
S	61.2	mph
D = v_p / S	33.8	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6885	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2544	pc/h/ln
S	49.0	mph
D = v_p / S	51.9	pc/mi/ln
LOS	F	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5135	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1907	pc/h/ln
S	64.2	mph
D = v_p / S	29.7	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6219	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	9
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.957

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1766	pc/h/ln
S	66.3	mph
D = v_p / S	26.6	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7185	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2011	pc/h/ln
S	62.4	mph
D = v_p / S	32.2	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6858	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2534	pc/h/ln
S	49.4	mph
D = v_p / S	51.3	pc/mi/ln
LOS	F	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6235	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	3
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.985

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2293	pc/h/ln
S	56.1	mph
D = v_p / S	40.8	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7722	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	7
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.966

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2172	pc/h/ln
S	59.0	mph
D = v_p / S	36.8	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8477	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2373	pc/h/ln
S	54.0	mph
D = v_p / S	43.9	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6860	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2535	pc/h/ln
S	49.3	mph
D = v_p / S	51.4	pc/mi/ln
LOS	F	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6182	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2285	pc/h/ln
S	56.3	mph
D = v_p / S	40.6	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6253	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	9
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.957

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1776	pc/h/ln
S	66.2	mph
D = v_p / S	26.8	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5223	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1448	pc/h/ln
S	69.3	mph
D = v_p / S	20.9	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6891	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2547	pc/h/ln
S	49.0	mph
D = v_p / S	52.0	pc/mi/ln
LOS	F	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5282	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1952	pc/h/ln
S	63.4	mph
D = v_p / S	30.8	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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APPENDIX 7.8:

GENERAL PLAN BUILDOUT (POST 2035) WITH PROJECT CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7913	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	8
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.962

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2236	pc/h/ln
S	57.5	mph
D = v_p / S	38.9	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

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Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7546	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2102	pc/h/ln
S	60.6	mph
D = v_p / S	34.7	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

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Date Performed	7/14/15
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Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6966	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2587	pc/h/ln
S	47.7	mph
D = v_p / S	54.3	pc/mi/ln
LOS	F	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5151	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1922	pc/h/ln
S	64.0	mph
D = v_p / S	30.1	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6256	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	9
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.957

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1776	pc/h/ln
S	66.2	mph
D = v_p / S	26.8	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7203	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	7
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.966

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2026	pc/h/ln
S	62.1	mph
D = v_p / S	32.6	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6875	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2541	pc/h/ln
S	49.1	mph
D = v_p / S	51.7	pc/mi/ln
LOS	F	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6296	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2327	pc/h/ln
S	55.3	mph
D = v_p / S	42.1	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7763	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	7
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.966

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2183	pc/h/ln
S	58.8	mph
D = v_p / S	37.1	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	8497	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2378	pc/h/ln
S	53.9	mph
D = v_p / S	44.1	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6881	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2543	pc/h/ln
S	49.1	mph
D = v_p / S	51.8	pc/mi/ln
LOS	F	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6257	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2312	pc/h/ln
S	55.7	mph
D = v_p / S	41.5	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6433	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	10
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.952

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1836	pc/h/ln
S	65.3	mph
D = v_p / S	28.1	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5311	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1479	pc/h/ln
S	69.1	mph
D = v_p / S	21.4	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6979	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2592	pc/h/ln
S	47.5	mph
D = v_p / S	54.5	pc/mi/ln
LOS	F	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5298	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1968	pc/h/ln
S	63.2	mph
D = v_p / S	31.2	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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APPENDIX 7.9:

GENERAL PLAN BUILDOUT (POST 2035) WITHOUT PROJECT CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off; L_{up} = 1000 ft; V_u = 1001 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6745
Ramp Volume, V_R	886
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{down} = ft; V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6745	0.92	Level	7	0	0.966	1.00	7588
Ramp	886	0.92	Level	25	0	0.889	1.00	1083
UpStream	1001	0.92	Level	7	0	0.966	1.00	1126
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3919 pc/h

V_3 or V_{av34} 1834 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7588	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	6505	Exhibit 13-8	9600	No
V_R	1083	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3919	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 38.0 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.785 (Exhibit 13-12)

S_R = 48.0 mph (Exhibit 13-12)

S_0 = 73.5 mph (Exhibit 13-12)

S = 57.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6745
Ramp Volume, V_R	886
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1500 ft
V_D = 1606 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6745	0.92	Level	7	0	0.966	1.00	7588
Ramp	886	0.92	Level	25	0	0.889	1.00	1083
UpStream								
DownStream	1606	0.92	Level	3	0	0.985	1.00	1772

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.436 using Equation (Exhibit 13-7)
V_{12} = 3919 pc/h
V_3 or V_{av34} 1834 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7588	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	6505	Exhibit 13-8	9600	No
V_R	1083	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3919	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 38.0 (pc/mi/ln)
LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.785 (Exhibit 13-12)
S_R = 48.0 mph (Exhibit 13-12)
S_0 = 73.5 mph (Exhibit 13-12)
S = 57.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	6885
Ramp Volume, V_R	2130
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1420 ft; V_D = 380 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6885	0.92	Level	4	0	0.980	1.00	7633
Ramp	2130	0.92	Level	6	0	0.971	1.00	2385
UpStream								
DownStream	380	0.92	Level	26	0	0.885	1.00	467

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.459 using Equation (Exhibit 13-7)

V_{12} = 4796 pc/h

V_3 or V_{av34} 2837 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4933 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7633	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	5248	Exhibit 13-8	7200	No
V_R	2385	Exhibit 13-10	2100	Yes

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4796	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 44.9 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.513 (Exhibit 13-12)

S_R = 55.6 mph (Exhibit 13-12)

S_0 = 70.2 mph (Exhibit 13-12)

S = 60.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 2130 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4755	
	Ramp Volume, V_R: 380	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4755	0.92	Level	4	0	0.980	1.00	5272
Ramp	380	0.92	Level	26	0	0.885	1.00	467
UpStream	2130	0.92	Level	6	0	0.971	1.00	2385
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1294.99 (Equation 13-6 or 13-7)

P_{FM} = 0.585 using Equation (Exhibit 13-6)

V_{12} = 3083 pc/h

V_3 or V_{av34} = 2189 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3083 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5739	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3550	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 31.3 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.433 (Exibit 13-11)

S_R = 57.9 mph (Exhibit 13-11)

S_0 = 63.9 mph (Exhibit 13-11)

S = 60.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1075 ft	Acceleration Lane Length, L_A: 0	L_{down} = ft
V_u = 406 veh/h	Deceleration Lane Length L_D	V_D = veh/h
	Freeway Volume, V_F: 5242	
	Ramp Volume, V_R: 977	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5242	0.92	Level	8	0	0.962	1.00	5926
Ramp	977	0.92	Level	12	0	0.943	1.00	1126
UpStream	406	0.92	Level	17	0	0.922	1.00	479
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 3422 pc/h

V_3 or V_{av34} = 2504 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3422 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7052	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4548	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 40.4 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.689 (Exibit 13-11)

S_R = 50.7 mph (Exhibit 13-11)

S_0 = 62.2 mph (Exhibit 13-11)

S = 54.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 580 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5655	
	Ramp Volume, V_R: 1203	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5655	0.92	Level	2	0	0.990	1.00	6208
Ramp	1203	0.92	Level	16	0	0.926	1.00	1412
UpStream	580	0.92	Level	17	0	0.922	1.00	684
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1715.28 (Equation 13-6 or 13-7)

P_{FM} = 0.566 using Equation (Exhibit 13-6)

V_{12} = 3511 pc/h

V_3 or V_{av34} = 2697 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3547 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7620	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4959	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 41.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.850 (Exibit 13-11)

S_R = 46.2 mph (Exhibit 13-11)

S_0 = 61.3 mph (Exhibit 13-11)

S = 50.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	6235
Ramp Volume, V_R	580
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1395 ft; V_D = 1203 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6235	0.92	Level	3	0	0.985	1.00	6879
Ramp	580	0.92	Level	17	0	0.922	1.00	684
UpStream								
DownStream	1203	0.92	Level	16	0	0.926	1.00	1412

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.557 using Equation (Exhibit 13-7)

V_{12} = 4132 pc/h

V_3 or V_{av34} 2747 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4179 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6879	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	6195	Exhibit 13-8	7200	No
V_R	684	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4132	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 37.7 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.360 (Exhibit 13-12)

S_R = 59.9 mph (Exhibit 13-12)

S_0 = 70.2 mph (Exhibit 13-12)

S = 63.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off; L_{up} = 1000 ft; V_u = 425 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	7297
Ramp Volume, V_R	977
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{down} = ft; V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7297	0.92	Level	7	0	0.966	1.00	8209
Ramp	977	0.92	Level	14	0	0.935	1.00	1136
UpStream	425	0.92	Level	10	0	0.952	1.00	485
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 4220 pc/h

V_3 or V_{av34} 1994 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8209	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	7073	Exhibit 13-8	9600	No
V_R	1136	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4220	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 40.5 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.790 (Exhibit 13-12)

S_R = 47.9 mph (Exhibit 13-12)

S_0 = 72.9 mph (Exhibit 13-12)

S = 57.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	7297
Ramp Volume, V_R	977
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1500 ft
V_D = 2157 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7297	0.92	Level	7	0	0.966	1.00	8209
Ramp	977	0.92	Level	14	0	0.935	1.00	1136
UpStream								
DownStream	2157	0.92	Level	7	0	0.966	1.00	2427

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.436 using Equation (Exhibit 13-7)
V_{12} = 4220 pc/h
V_3 or V_{av34} 1994 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8209	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	7073	Exhibit 13-8	9600	No
V_R	1136	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4220	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 40.5 (pc/mi/ln)
LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.790 (Exhibit 13-12)
S_R = 47.9 mph (Exhibit 13-12)
S_0 = 72.9 mph (Exhibit 13-12)
S = 57.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	6860
Ramp Volume, V_R	1530
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1420 ft

V_D = 852 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6860	0.92	Level	4	0	0.980	1.00	7606
Ramp	1530	0.92	Level	16	0	0.926	1.00	1796
UpStream								
DownStream	852	0.92	Level	21	0	0.905	1.00	1023

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.487 using Equation (Exhibit 13-7)

V_{12} = 4627 pc/h

V_3 or V_{av34} 2979 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4906 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7606	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	5810	Exhibit 13-8	7200	No
V_R	1796	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4627	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 44.7 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.460 (Exhibit 13-12)

S_R = 57.1 mph (Exhibit 13-12)

S_0 = 70.2 mph (Exhibit 13-12)

S = 61.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 1530 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5330	
	Ramp Volume, V_R: 852	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5330	0.92	Level	1	0	0.995	1.00	5822
Ramp	852	0.92	Level	21	0	0.905	1.00	1023
UpStream	1530	0.92	Level	16	0	0.926	1.00	1796
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1531.67 (Equation 13-6 or 13-7)

P_{FM} = 0.578 using Equation (Exhibit 13-6)

V_{12} = 3363 pc/h

V_3 or V_{av34} = 2459 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3363 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6845	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4386	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 37.6 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.611 (Exibit 13-11)

S_R = 52.9 mph (Exhibit 13-11)

S_0 = 62.5 mph (Exhibit 13-11)

S = 56.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1075 ft	Acceleration Lane Length, L_A: 0	L_{down} = ft
V_u = 846 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4944	
	Ramp Volume, V_R: 1309	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4944	0.92	Level	5	0	0.976	1.00	5508
Ramp	1309	0.92	Level	22	0	0.901	1.00	1579
UpStream	846	0.92	Level	11	0	0.948	1.00	970
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 3181 pc/h

V_3 or V_{av34} = 2327 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3181 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7087	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4760	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 41.9 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.776 (Exibit 13-11)

S_R = 48.3 mph (Exhibit 13-11)

S_0 = 63.3 mph (Exhibit 13-11)

S = 52.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s =

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 592 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4690	
	Ramp Volume, V_R: 2201	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4690	0.92	Level	4	0	0.980	1.00	5200
Ramp	2201	0.92	Level	6	0	0.971	1.00	2464
UpStream	592	0.92	Level	11	0	0.948	1.00	679
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1724.70 (Equation 13-6 or 13-7)

P_{FM} = 0.565 using Equation (Exhibit 13-6)

V_{12} = 2938 pc/h

V_3 or V_{av34} = 2262 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2971 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7664	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5435	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 44.9 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.188 (Exibit 13-11)

S_R = 36.7 mph (Exhibit 13-11)

S_0 = 63.8 mph (Exhibit 13-11)

S = 41.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	5282
Ramp Volume, V_R	592
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1395 ft

V_D = 2201 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5282	0.92	Level	4	0	0.980	1.00	5856
Ramp	592	0.92	Level	11	0	0.948	1.00	679
UpStream								
DownStream	2201	0.92	Level	6	0	0.971	1.00	2464

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.582 using Equation (Exhibit 13-7)

V_{12} = 3694 pc/h

V_3 or V_{av34} 2162 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5856	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5177	Exhibit 13-8	7200	No
V_R	679	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3694	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 33.5 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.359 (Exhibit 13-12)

S_R = 59.9 mph (Exhibit 13-12)

S_0 = 72.3 mph (Exhibit 13-12)

S = 64.0 mph (Exhibit 13-13)

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APPENDIX 7.10:

GENERAL PLAN BUILDOUT (POST 2035) WITH PROJECT CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off
L_{up} = 1000 ft
V_u = 1001 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6912
Ramp Volume, V_R	972
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6912	0.92	Level	8	0	0.962	1.00	7814
Ramp	972	0.92	Level	27	0	0.881	1.00	1199
UpStream	1001	0.92	Level	7	0	0.966	1.00	1126
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.436 using Equation (Exhibit 13-7)
V_{12} = 4083 pc/h
V_3 or V_{av34} 1865 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7814	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	6615	Exhibit 13-8	9600	No
V_R	1199	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4083	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 39.4 (pc/mi/ln)
LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.796 (Exhibit 13-12)
S_R = 47.7 mph (Exhibit 13-12)
S_0 = 73.4 mph (Exhibit 13-12)
S = 57.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6912
Ramp Volume, V_R	972
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1500 ft
V_D = 1606 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6912	0.92	Level	8	0	0.962	1.00	7814
Ramp	972	0.92	Level	27	0	0.881	1.00	1199
UpStream								
DownStream	1606	0.92	Level	3	0	0.985	1.00	1772

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.436 using Equation (Exhibit 13-7)
V_{12} = 4083 pc/h
V_3 or V_{av34} 1865 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7814	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	6615	Exhibit 13-8	9600	No
V_R	1199	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4083	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 39.4 (pc/mi/ln)
LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.796 (Exhibit 13-12)
S_R = 47.7 mph (Exhibit 13-12)
S_0 = 73.4 mph (Exhibit 13-12)
S = 57.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	6966
Ramp Volume, V_R	2211
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1420 ft; V_D = 396 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6966	0.92	Level	5	0	0.976	1.00	7761
Ramp	2211	0.92	Level	8	0	0.962	1.00	2499
UpStream								
DownStream	396	0.92	Level	28	0	0.877	1.00	491

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.451 using Equation (Exhibit 13-7)

V_{12} = 4872 pc/h

V_3 or V_{av34} = 2889 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 5061 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7761	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	5262	Exhibit 13-8	7200	No
V_R	2499	Exhibit 13-10	2100	Yes

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4872	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 46.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.523 (Exhibit 13-12)

S_R = 55.4 mph (Exhibit 13-12)

S_0 = 70.2 mph (Exhibit 13-12)

S = 59.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 2211 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4755	
	Ramp Volume, V_R: 396	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4755	0.92	Level	4	0	0.980	1.00	5272
Ramp	396	0.92	Level	28	0	0.877	1.00	491
UpStream	2211	0.92	Level	8	0	0.962	1.00	2499
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1300.12 (Equation 13-6 or 13-7)

P_{FM} = 0.585 using Equation (Exhibit 13-6)

V_{12} = 3083 pc/h

V_3 or V_{av34} 2189 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3083 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5763	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3574	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 31.5 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.437 (Exibit 13-11)

S_R = 57.8 mph (Exhibit 13-11)

S_0 = 63.9 mph (Exhibit 13-11)

S = 60.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1075 ft	Acceleration Lane Length, L_A: 0	L_{down} = ft
V_u = 406 veh/h	Deceleration Lane Length L_D	V_D = veh/h
	Freeway Volume, V_F: 5260	
	Ramp Volume, V_R: 996	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5260	0.92	Level	8	0	0.962	1.00	5946
Ramp	996	0.92	Level	12	0	0.943	1.00	1148
UpStream	406	0.92	Level	17	0	0.922	1.00	479
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 3434 pc/h

V_3 or V_{av34} = 2512 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3434 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7094	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4582	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 40.7 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.702 (Exibit 13-11)

S_R = 50.3 mph (Exhibit 13-11)

S_0 = 62.2 mph (Exhibit 13-11)

S = 54.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 642 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5654	
	Ramp Volume, V_R: 1221	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5654	0.92	Level	2	0	0.990	1.00	6207
Ramp	1221	0.92	Level	16	0	0.926	1.00	1433
UpStream	642	0.92	Level	23	0	0.897	1.00	778
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1719.56 (Equation 13-6 or 13-7)

P_{FM} = 0.565 using Equation (Exhibit 13-6)

V_{12} = 3509 pc/h

V_3 or V_{av34} = 2698 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3546 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7640	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4979	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 41.8 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.861 (Exibit 13-11)

S_R = 45.9 mph (Exhibit 13-11)

S_0 = 61.3 mph (Exhibit 13-11)

S = 50.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	6296
Ramp Volume, V_R	642
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1395 ft

V_D = 1221 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6296	0.92	Level	4	0	0.980	1.00	6980
Ramp	642	0.92	Level	23	0	0.897	1.00	778
UpStream								
DownStream	1221	0.92	Level	16	0	0.926	1.00	1433

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.550 using Equation (Exhibit 13-7)

V_{12} = 4187 pc/h

V_3 or V_{av34} 2793 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4280 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6980	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	6202	Exhibit 13-8	7200	No
V_R	778	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4187	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 38.5 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.368 (Exhibit 13-12)

S_R = 59.7 mph (Exhibit 13-12)

S_0 = 70.2 mph (Exhibit 13-12)

S = 63.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
- ☑ Yes ☐ On
- ☐ No ☑ Off
- L_{up} = 1000 ft
- V_u = 425 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	7338
Ramp Volume, V_R	998
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp
- ☐ Yes ☐ On
- ☑ No ☐ Off
- L_{down} = ft
- V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7338	0.92	Level	7	0	0.966	1.00	8255
Ramp	998	0.92	Level	15	0	0.930	1.00	1166
UpStream	425	0.92	Level	10	0	0.952	1.00	485
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 4257 pc/h

V_3 or V_{av34} 1999 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8255	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	7089	Exhibit 13-8	9600	No
V_R	1166	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4257	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 40.9 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.793 (Exhibit 13-12)

S_R = 47.8 mph (Exhibit 13-12)

S_0 = 72.9 mph (Exhibit 13-12)

S = 57.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	7338
Ramp Volume, V_R	998
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1500 ft
V_D = 2157 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7338	0.92	Level	7	0	0.966	1.00	8255
Ramp	998	0.92	Level	15	0	0.930	1.00	1166
UpStream								
DownStream	2157	0.92	Level	7	0	0.966	1.00	2427

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.436 using Equation (Exhibit 13-7)
V_{12} = 4257 pc/h
V_3 or V_{av34} 1999 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8255	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	7089	Exhibit 13-8	9600	No
V_R	1166	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4257	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 40.9 (pc/mi/ln)
LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.793 (Exhibit 13-12)
S_R = 47.8 mph (Exhibit 13-12)
S_0 = 72.9 mph (Exhibit 13-12)
S = 57.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	6881
Ramp Volume, V_R	1550
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1420 ft

V_D = 926 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6881	0.92	Level	4	0	0.980	1.00	7629
Ramp	1550	0.92	Level	16	0	0.926	1.00	1820
UpStream								
DownStream	926	0.92	Level	25	0	0.889	1.00	1132

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.486 using Equation (Exhibit 13-7)

V_{12} = 4641 pc/h

V_3 or V_{av34} 2988 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4929 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7629	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	5809	Exhibit 13-8	7200	No
V_R	1820	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4641	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 44.9 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.462 (Exhibit 13-12)

S_R = 57.1 mph (Exhibit 13-12)

S_0 = 70.2 mph (Exhibit 13-12)

S = 61.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 1550 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5331	
	Ramp Volume, V_R: 926	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5331	0.92	Level	1	0	0.995	1.00	5824
Ramp	926	0.92	Level	25	0	0.889	1.00	1132
UpStream	1550	0.92	Level	16	0	0.926	1.00	1820
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1555.42 (Equation 13-6 or 13-7)

P_{FM} = 0.576 using Equation (Exhibit 13-6)

V_{12} = 3355 pc/h

V_3 or V_{av34} = 2469 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3355 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6956	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4487	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 38.3 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.644 (Exibit 13-11)

S_R = 52.0 mph (Exhibit 13-11)

S_0 = 62.5 mph (Exhibit 13-11)

S = 55.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{up} = 1075 ft

V_u = 846 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	0
Deceleration Lane Length L_D	
Freeway Volume, V_F	5032
Ramp Volume, V_R	1401
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5032	0.92	Level	6	0	0.971	1.00	5634
Ramp	1401	0.92	Level	24	0	0.893	1.00	1706
UpStream	846	0.92	Level	11	0	0.948	1.00	970
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 3254 pc/h

V_3 or V_{av34} 2380 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3254 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7340	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4960	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 43.4 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.877 (Exibit 13-11)

S_R = 45.4 mph (Exhibit 13-11)

S_0 = 63.0 mph (Exhibit 13-11)

S = 50.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 607 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4691	
	Ramp Volume, V_R: 2288	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4691	0.92	Level	4	0	0.980	1.00	5201
Ramp	2288	0.92	Level	8	0	0.962	1.00	2586
UpStream	607	0.92	Level	12	0	0.943	1.00	699
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1751.02 (Equation 13-6 or 13-7)

P_{FM} = 0.563 using Equation (Exhibit 13-6)

V_{12} = 2930 pc/h

V_3 or V_{av34} = 2271 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2972 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7787	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5558	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 45.8 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.305 (Exibit 13-11)

S_R = 33.5 mph (Exhibit 13-11)

S_0 = 63.8 mph (Exhibit 13-11)

S = 38.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	5298
Ramp Volume, V_R	607
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1395 ft; V_D = 2288 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5298	0.92	Level	5	0	0.976	1.00	5903
Ramp	607	0.92	Level	12	0	0.943	1.00	699
UpStream								
DownStream	2288	0.92	Level	8	0	0.962	1.00	2586

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.580 using Equation (Exhibit 13-7)

V_{12} = 3719 pc/h

V_3 or V_{av34} 2184 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5903	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5204	Exhibit 13-8	7200	No
V_R	699	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3719	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 33.7 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.361 (Exhibit 13-12)

S_R = 59.9 mph (Exhibit 13-12)

S_0 = 72.2 mph (Exhibit 13-12)

S = 63.9 mph (Exhibit 13-13)

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APPENDIX 7.11:

GENERAL PLAN BUILDOUT (POST 2035) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1062	675	931	1838	0	0	0	0	0	0	1001
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5	4.0	5.5							5.6
Lane Util. Factor		*1.00	1.00	*1.00	*1.00							*1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00							0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00							1.00
Frt		1.00	1.00	1.00	1.00							1.00
Flt Protected		1.00	1.00	1.00	1.00							1.00
Satd. Flow (prot)		3800	1900	3800	3800							3713
Flt Permitted		1.00	1.00	1.00	1.00							1.00
Satd. Flow (perm)		3800	1900	3800	3800							3713
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1118	711	980	1935	0	0	0	0	0	0	1054
RTOR Reduction (vph)	0	0	393	0	0	0	0	0	0	0	0	72
Lane Group Flow (vph)	0	1118	318	980	1935	0	0	0	0	0	0	982
Confl. Bikes (#/hr)									2			2
Turn Type		NA	Perm	Prot	NA							Perm
Protected Phases		2		1	6							
Permitted Phases			2									4
Actuated Green, G (s)		27.9	27.9	23.4	55.3							23.6
Effective Green, g (s)		27.9	27.9	23.4	55.3							23.6
Actuated g/C Ratio		0.31	0.31	0.26	0.61							0.26
Clearance Time (s)		5.5	5.5	4.0	5.5							5.6
Vehicle Extension (s)		2.0	2.0	2.0	2.0							2.0
Lane Grp Cap (vph)		1178	589	988	2334							973
v/s Ratio Prot		c0.29		c0.26	0.51							
v/s Ratio Perm			0.17									c0.26
v/c Ratio		0.95	0.54	0.99	0.83							1.01
Uniform Delay, d1		30.4	25.7	33.2	13.6							33.2
Progression Factor		1.00	1.00	1.00	1.00							1.00
Incremental Delay, d2		16.5	3.5	26.5	3.6							31.3
Delay (s)		46.9	29.3	59.7	17.2							64.5
Level of Service		D	C	E	B							E
Approach Delay (s)		40.0			31.5			0.0			64.5	
Approach LOS		D			C			A			E	

Intersection Summary			
HCM 2000 Control Delay	40.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	886	142	239	516	0	0	0	0	1449	2	707
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	943	146	254	549	0				1541	2	688
Adj No. of Lanes	0	2	1	2	2	0				2	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1098	467	307	1631	0				1663	2	740
Arrive On Green	0.00	0.29	0.29	0.08	0.43	0.00				0.46	0.46	0.46
Sat Flow, veh/h	0	3800	1615	3619	3800	0				3619	5	1611
Grp Volume(v), veh/h	0	943	146	254	549	0				1541	0	690
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1616
Q Serve(g_s), s	0.0	21.1	6.4	6.2	8.7	0.0				36.1	0.0	36.3
Cycle Q Clear(g_c), s	0.0	21.1	6.4	6.2	8.7	0.0				36.1	0.0	36.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1098	467	307	1631	0				1663	0	743
V/C Ratio(X)	0.00	0.86	0.31	0.83	0.34	0.00				0.93	0.00	0.93
Avail Cap(c_a), veh/h	0	1098	467	307	1631	0				1689	0	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.94	0.94	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	30.3	25.0	40.5	17.1	0.0				22.9	0.0	22.9
Incr Delay (d2), s/veh	0.0	8.8	1.7	15.0	0.5	0.0				9.2	0.0	17.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.3	3.1	3.7	4.6	0.0				20.1	0.0	19.8
LnGrp Delay(d),s/veh	0.0	39.0	26.8	55.5	17.7	0.0				32.1	0.0	40.7
LnGrp LOS		D	C	E	B					C		D
Approach Vol, veh/h		1089			803						2231	
Approach Delay, s/veh		37.4			29.6						34.7	
Approach LOS		D			C						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	12.6	31.0		46.4		43.6		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	7.5	* 26		42.0		38.0		
Max Q Clear Time (g_c+I1), s	8.2	23.1		38.3		10.7		
Green Ext Time (p_c), s	0.0	1.3		3.1		2.6		

Intersection Summary	
HCM 2010 Ctrl Delay	34.5
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	147	1395	406	0	2613	437	853	967	32	230	0	280
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		0.99	1.00		0.99
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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	150	1423	0	0	2666	402	870	987	33	235	0	281
Adj No. of Lanes	2	3	1	0	4	1	2	2	0	2	1	2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1494	4664	1321	0	2736	714	836	1153	39	296	321	1647
Arrive On Green	0.41	0.82	0.00	0.00	0.36	0.36	0.23	0.32	0.32	0.08	0.00	0.17
Sat Flow, veh/h	3619	5700	1615	0	7600	1615	3619	3563	119	3619	1900	2801
Grp Volume(v), veh/h	150	1423	0	0	2666	402	870	500	520	235	0	281
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	0	1900	1615	1810	1805	1877	1810	1900	1400
Q Serve(g_s), s	2.8	6.7	0.0	0.0	38.0	11.3	25.4	28.5	28.5	7.0	0.0	3.5
Cycle Q Clear(g_c), s	2.8	6.7	0.0	0.0	38.0	11.3	25.4	28.5	28.5	7.0	0.0	3.5
Prop In Lane	1.00		1.00	0.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	1494	4664	1321	0	2736	714	836	584	607	296	321	1647
V/C Ratio(X)	0.10	0.31	0.00	0.00	0.97	0.56	1.04	0.86	0.86	0.79	0.00	0.17
Avail Cap(c_a), veh/h	1494	4664	1321	0	2736	714	836	584	607	296	321	1647
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	2.4	0.0	0.0	34.7	22.8	42.3	34.8	34.8	49.6	0.0	14.9
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	12.2	3.2	42.3	14.9	14.4	12.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	3.5	0.0	0.0	22.1	5.7	17.6	16.6	17.2	4.0	0.0	1.9
LnGrp Delay(d),s/veh	19.8	2.6	0.0	0.0	46.9	26.0	84.6	49.7	49.2	62.3	0.0	15.1
LnGrp LOS	B	A			D	C	F	D	D	E		B
Approach Vol, veh/h		1573			3068			1890			516	
Approach Delay, s/veh		4.2			44.1			65.6			36.6	
Approach LOS		A			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		96.8	31.0	24.2	52.2	44.6	14.6	40.6
Change Period (Y+Rc), s		* 5.6	5.6	* 5.6	5.6	5.0	5.6	5.0
Max Green Setting (Gmax), s		* 50	25.4	* 19	5.2	39.6	8.4	35.6
Max Q Clear Time (g_c+I1), s		8.7	27.4	5.5	4.8	40.0	9.0	30.5
Green Ext Time (p_c), s		8.0	0.0	0.9	0.3	0.0	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	40.4
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	587	1748	0	0	594	628	162	0	426	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	638	1900	0	0	646	0	176	0	377			
Adj No. of Lanes	2	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	498	2375	0	0	1742	740	528	0	471			
Arrive On Green	0.14	0.63	0.00	0.00	0.46	0.00	0.29	0.00	0.29			
Sat Flow, veh/h	3619	3800	0	0	3800	1615	1810	0	1615			
Grp Volume(v), veh/h	638	1900	0	0	646	0	176	0	377			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1810	0	1615			
Q Serve(g_s), s	16.5	45.0	0.0	0.0	13.3	0.0	9.2	0.0	25.9			
Cycle Q Clear(g_c), s	16.5	45.0	0.0	0.0	13.3	0.0	9.2	0.0	25.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	498	2375	0	0	1742	740	528	0	471			
V/C Ratio(X)	1.28	0.80	0.00	0.00	0.37	0.00	0.33	0.00	0.80			
Avail Cap(c_a), veh/h	498	2375	0	0	1742	740	528	0	471			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.38	0.38	0.00	0.00	0.86	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	51.7	16.9	0.0	0.0	21.2	0.0	33.3	0.0	39.3			
Incr Delay (d2), s/veh	132.9	1.1	0.0	0.0	0.5	0.0	1.7	0.0	13.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	17.4	23.6	0.0	0.0	7.1	0.0	4.8	0.0	13.3			
LnGrp Delay(d),s/veh	184.7	18.0	0.0	0.0	21.7	0.0	35.0	0.0	52.6			
LnGrp LOS	F	B			C		D		D			
Approach Vol, veh/h		2538			646			553				
Approach Delay, s/veh		59.9			21.7			47.0				
Approach LOS		E			C			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		80.0			20.0	60.0		40.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		75.0			16.5	55.0		35.0
Max Q Clear Time (g_c+I1), s		47.0			18.5	15.3		27.9
Green Ext Time (p_c), s		15.9			0.0	18.9		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	51.4
HCM 2010 LOS	D

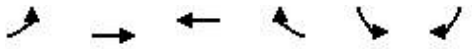
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	202	2004	384	121	2801	222	58	186	21	155	152	141
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	213	2109	0	127	2948	226	61	196	1	163	160	95
Adj No. of Lanes	1	4	1	1	4	1	2	1	0	1	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	188	3445	732	580	5154	1095	154	464	2	98	489	579
Arrive On Green	0.10	0.45	0.00	0.32	0.68	0.68	0.04	0.25	0.25	0.05	0.26	0.26
Sat Flow, veh/h	1810	7600	1615	1810	7600	1615	3619	1889	10	1810	1900	1594
Grp Volume(v), veh/h	213	2109	0	127	2948	226	61	0	197	163	160	95
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1898	1810	1900	1594
Q Serve(g_s), s	12.5	25.2	0.0	6.2	24.5	6.3	2.0	0.0	10.5	6.5	8.2	4.9
Cycle Q Clear(g_c), s	12.5	25.2	0.0	6.2	24.5	6.3	2.0	0.0	10.5	6.5	8.2	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	188	3445	732	580	5154	1095	154	0	467	98	489	579
V/C Ratio(X)	1.13	0.61	0.00	0.22	0.57	0.21	0.40	0.00	0.42	1.66	0.33	0.16
Avail Cap(c_a), veh/h	188	3445	732	580	5154	1095	154	0	467	98	489	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	24.8	0.0	29.8	10.2	7.2	56.0	0.0	38.1	56.8	36.1	26.0
Incr Delay (d2), s/veh	104.8	0.8	0.0	0.1	0.1	0.0	7.5	0.0	2.8	338.9	0.1	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	11.7	13.4	0.0	3.1	12.7	2.8	1.1	0.0	5.8	12.5	4.3	2.1
LnGrp Delay(d),s/veh	158.6	25.6	0.0	29.8	10.3	7.3	63.4	0.0	40.9	395.6	36.3	26.0
LnGrp LOS	F	C		C	B	A	E		D	F	D	C
Approach Vol, veh/h		2322			3301			258			418	
Approach Delay, s/veh		37.8			10.8			46.2			174.1	
Approach LOS		D			B			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	44.4	59.9	10.6	36.4	17.0	87.3	12.0	35.0
Change Period (Y+Rc), s	5.5	* 5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	8.6	* 54	5.1	30.9	12.5	50.5	6.5	29.5
Max Q Clear Time (g_c+I1), s	8.2	27.2	4.0	10.2	14.5	26.5	8.5	12.5
Green Ext Time (p_c), s	0.0	12.1	0.0	1.4	0.0	18.5	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	33.1
HCM 2010 LOS	C

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	86	2089	1186	35	11	36
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	96	2321	1318	39	12	40
Adj No. of Lanes	1	3	3	1	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	123	3293	2622	736	113	376
Arrive On Green	0.07	0.58	0.46	0.46	0.30	0.30
Sat Flow, veh/h	1810	5700	5700	1599	376	1253
Grp Volume(v), veh/h	96	2321	1318	39	53	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1599	1660	0
Q Serve(g_s), s	4.7	26.1	14.6	1.2	2.1	0.0
Cycle Q Clear(g_c), s	4.7	26.1	14.6	1.2	2.1	0.0
Prop In Lane	1.00			1.00	0.23	0.75
Lane Grp Cap(c), veh/h	123	3293	2622	736	498	0
V/C Ratio(X)	0.78	0.70	0.50	0.05	0.11	0.00
Avail Cap(c_a), veh/h	171	3293	2622	736	498	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.50	0.50	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.3	13.5	17.1	13.5	22.8	0.0
Incr Delay (d2), s/veh	4.9	0.7	0.7	0.1	0.4	0.0
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	13.7	7.9	0.6	1.0	0.0
LnGrp Delay(d),s/veh	46.2	14.2	17.8	13.6	23.2	0.0
LnGrp LOS	D	B	B	B	C	
Approach Vol, veh/h		2417	1357		53	
Approach Delay, s/veh		15.5	17.6		23.2	
Approach LOS		B	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		57.5		32.5	10.6	46.9		
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		
Max Green Setting (Gmax), s		52.0		27.0	8.5	39.0		
Max Q Clear Time (g_c+I1), s		28.1		4.1	6.7	16.6		
Green Ext Time (p_c), s		19.7		0.1	0.0	18.6		

Intersection Summary	
HCM 2010 Ctrl Delay	16.3
HCM 2010 LOS	B

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												
Volume (veh/h)	192	1732	289	29	2601	192	390	202	18	105	140	111
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		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	206	1862	0	31	2797	204	419	217	16	113	151	84
Adj No. of Lanes	2	3	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	179	4510	1278	40	4016	286	220	858	63	115	909	461
Arrive On Green	0.05	0.79	0.00	0.02	0.76	0.76	0.06	0.25	0.25	0.06	0.24	0.24
Sat Flow, veh/h	3619	5700	1615	1810	5260	374	3619	3498	256	1810	3800	1593
Grp Volume(v), veh/h	206	1862	0	31	2001	1000	419	117	116	113	151	84
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1834	1810	1900	1854	1810	1900	1593
Q Serve(g_s), s	5.7	11.7	0.0	2.0	30.2	32.6	7.0	5.7	5.8	7.2	3.6	5.2
Cycle Q Clear(g_c), s	5.7	11.7	0.0	2.0	30.2	32.6	7.0	5.7	5.8	7.2	3.6	5.2
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	179	4510	1278	40	2901	1400	220	466	455	115	909	461
V/C Ratio(X)	1.15	0.41	0.00	0.78	0.69	0.71	1.90	0.25	0.25	0.98	0.17	0.18
Avail Cap(c_a), veh/h	179	4510	1278	96	2901	1400	220	466	455	115	909	461
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)	0.85	0.85	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	3.7	0.0	56.0	6.8	7.1	54.0	34.9	34.9	53.8	34.7	40.7
Incr Delay (d2), s/veh	107.8	0.2	0.0	1.2	0.1	0.3	422.5	1.3	1.3	78.5	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	6.1	0.0	1.0	15.6	16.2	16.4	3.2	3.1	6.1	2.0	2.4
LnGrp Delay(d),s/veh	162.4	4.0	0.0	57.1	6.9	7.4	476.5	36.2	36.3	132.3	35.1	41.5
LnGrp LOS	F	A		E	A	A	F	D	D	F	D	D
Approach Vol, veh/h		2068			3032			652			348	
Approach Delay, s/veh		19.7			7.6			319.2			68.2	
Approach LOS		B			A			F			E	

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	7.0	97.5	12.5	33.0	10.2	94.3	11.8	33.7
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	6.1	54.4	7.0	* 28	5.7	54.8	7.3	27.2
Max Q Clear Time (g_c+I1), s	4.0	13.7	9.0	7.2	7.7	34.6	9.2	7.8
Green Ext Time (p_c), s	0.0	36.5	0.0	0.6	0.0	19.0	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	48.5
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	1837	107	14	1159	6	172	4	26	1	4	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	1934	113	15	1220	6	181	4	27	1	4	15
Adj No. of Lanes	1	3	1	1	3	1	0	1	0	0	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	25	2285	647	26	2290	649	537	18	67	152	567	587
Arrive On Green	0.01	0.40	0.40	0.01	0.40	0.40	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1810	5700	1615	1810	5700	1615	1217	49	185	250	1561	1615
Grp Volume(v), veh/h	14	1934	113	15	1220	6	212	0	0	5	0	15
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1451	0	0	1811	0	1615
Q Serve(g_s), s	0.5	21.5	3.2	0.6	11.4	0.2	7.2	0.0	0.0	0.0	0.0	0.4
Cycle Q Clear(g_c), s	0.5	21.5	3.2	0.6	11.4	0.2	7.5	0.0	0.0	0.1	0.0	0.4
Prop In Lane	1.00		1.00	1.00		1.00	0.85		0.13	0.20		1.00
Lane Grp Cap(c), veh/h	25	2285	647	26	2290	649	622	0	0	720	0	587
V/C Ratio(X)	0.57	0.85	0.17	0.57	0.53	0.01	0.34	0.00	0.00	0.01	0.00	0.03
Avail Cap(c_a), veh/h	103	2321	658	103	2321	658	622	0	0	720	0	587
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	0.70	0.70	0.70	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.3	19.0	13.5	34.3	15.9	12.6	16.6	0.0	0.0	14.2	0.0	14.3
Incr Delay (d2), s/veh	7.4	2.9	0.0	5.1	0.1	0.0	1.5	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	11.9	1.4	0.3	6.0	0.1	3.3	0.0	0.0	0.1	0.0	0.2
LnGrp Delay(d),s/veh	41.7	21.9	13.6	39.3	16.0	12.6	18.0	0.0	0.0	14.2	0.0	14.4
LnGrp LOS	D	C	B	D	B	B	B			B		B
Approach Vol, veh/h		2061			1241			212			20	
Approach Delay, s/veh		21.6			16.3			18.0			14.4	
Approach LOS		C			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		30.9	5.5	33.6		30.9	5.5	33.6
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	28.5		22.0	4.0	28.5
Max Q Clear Time (g_c+I1), s		9.5	2.6	23.5		2.4	2.5	13.4
Green Ext Time (p_c), s		0.7	0.0	4.5		0.8	0.0	12.3

Intersection Summary	
HCM 2010 Ctrl Delay	19.5
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	162	1104	468	17	1752	153	962	716	10	82	354	70
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	176	1200	432	18	1904	157	1046	778	9	89	385	60
Adj No. of Lanes	1	3	1	1	3	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	188	3786	1428	27	2989	245	799	1407	16	112	670	103
Arrive On Green	0.10	0.66	0.66	0.02	0.57	0.57	0.22	0.38	0.38	0.06	0.21	0.21
Sat Flow, veh/h	1810	5700	1613	1810	5198	427	3619	3748	43	1810	3214	497
Grp Volume(v), veh/h	176	1200	432	18	1389	672	1046	394	393	89	226	219
Grp Sat Flow(s),veh/h/ln	1810	1900	1613	1810	1900	1825	1810	1900	1891	1810	1900	1811
Q Serve(g_s), s	11.6	10.7	2.3	1.2	29.4	29.7	26.5	19.6	19.6	5.8	12.8	13.1
Cycle Q Clear(g_c), s	11.6	10.7	2.3	1.2	29.4	29.7	26.5	19.6	19.6	5.8	12.8	13.1
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.02	1.00		0.27
Lane Grp Cap(c), veh/h	188	3786	1428	27	2185	1049	799	713	710	112	396	377
V/C Ratio(X)	0.93	0.32	0.30	0.66	0.64	0.64	1.31	0.55	0.55	0.79	0.57	0.58
Avail Cap(c_a), veh/h	188	3786	1428	134	2185	1049	799	713	710	167	396	377
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)	0.70	0.70	0.70	1.00	1.00	1.00	0.72	0.72	0.72	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	8.6	5.5	58.8	17.1	17.2	46.8	29.5	29.5	55.5	42.7	42.8
Incr Delay (d2), s/veh	37.1	0.2	0.4	9.7	1.4	3.0	145.5	2.2	2.2	7.9	5.9	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	5.6	1.0	0.7	15.7	15.8	29.4	10.7	10.7	3.2	7.4	7.2
LnGrp Delay(d),s/veh	90.4	8.7	5.9	68.5	18.5	20.1	192.3	31.8	31.8	63.4	48.6	49.1
LnGrp LOS	F	A	A	E	B	C	F	C	C	E	D	D
Approach Vol, veh/h		1808			2079			1833			534	
Approach Delay, s/veh		16.0			19.5			123.4			51.3	
Approach LOS		B			B			F			D	

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	16.3	86.2	32.0	30.5	17.0	75.5	11.9	50.6
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	8.9	39.6	26.5	* 25	12.5	36.0	11.1	40.4
Max Q Clear Time (g_c+I1), s	13.2	12.7	28.5	15.1	13.6	31.7	7.8	21.6
Green Ext Time (p_c), s	0.0	19.7	0.0	1.1	0.0	4.0	0.0	5.0

Intersection Summary	
HCM 2010 Ctrl Delay	51.6
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	6	139	1128	5	94	729
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	6	146	1187	5	99	767
Adj No. of Lanes	1	1	2	1	1	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	200	178	1805	807	394	2811
Arrive On Green	0.11	0.11	0.50	0.50	0.22	0.78
Sat Flow, veh/h	1810	1615	3705	1615	1810	3705
Grp Volume(v), veh/h	6	146	1187	5	99	767
Grp Sat Flow(s),veh/h/ln	1810	1615	1805	1615	1810	1805
Q Serve(g_s), s	0.3	8.0	22.0	0.1	4.1	5.4
Cycle Q Clear(g_c), s	0.3	8.0	22.0	0.1	4.1	5.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	200	178	1805	807	394	2811
V/C Ratio(X)	0.03	0.82	0.66	0.01	0.25	0.27
Avail Cap(c_a), veh/h	523	467	1805	807	394	2811
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.86	0.86	1.00	1.00
Uniform Delay (d), s/veh	35.7	39.2	16.8	11.3	29.1	2.8
Incr Delay (d2), s/veh	0.0	3.5	1.6	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.7	11.3	0.1	2.0	2.8
LnGrp Delay(d),s/veh	35.8	42.7	18.4	11.3	29.3	3.0
LnGrp LOS	D	D	B	B	C	A
Approach Vol, veh/h	152		1192			866
Approach Delay, s/veh	42.4		18.4			6.0
Approach LOS	D		B			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	5.1	50.5				75.6		14.4
Change Period (Y+Rc), s	5.5	* 5.5				5.5		4.5
Max Green Setting (Gmax), s	4.5	* 45				54.0		26.0
Max Q Clear Time (g_c+I1), s	10.1	24.0				7.4		10.0
Green Ext Time (p_c), s	0.0	5.1				3.2		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	374	520	420	233	298	649
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	398	553	447	248	317	690
Adj No. of Lanes	1	1	2	0	2	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	597	694	818	450	362	1890
Arrive On Green	0.33	0.33	0.36	0.36	0.10	0.52
Sat Flow, veh/h	1810	1615	2343	1238	3619	3705
Grp Volume(v), veh/h	398	553	358	337	317	690
Grp Sat Flow(s),veh/h/ln	1810	1615	1805	1682	1810	1805
Q Serve(g_s), s	14.2	22.3	11.8	12.0	6.5	8.4
Cycle Q Clear(g_c), s	14.2	22.3	11.8	12.0	6.5	8.4
Prop In Lane	1.00	1.00		0.74	1.00	
Lane Grp Cap(c), veh/h	597	694	656	611	362	1890
V/C Ratio(X)	0.67	0.80	0.55	0.55	0.88	0.37
Avail Cap(c_a), veh/h	627	721	656	611	362	1890
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	0.97	0.97
Uniform Delay (d), s/veh	21.6	18.5	18.9	19.0	33.3	10.5
Incr Delay (d2), s/veh	2.0	5.5	3.2	3.5	19.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	10.9	6.5	6.1	4.2	4.4
LnGrp Delay(d),s/veh	23.6	24.0	22.2	22.5	52.8	11.1
LnGrp LOS	C	C	C	C	D	B
Approach Vol, veh/h	951		695			1007
Approach Delay, s/veh	23.8		22.4			24.2
Approach LOS	C		C			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.0	32.8				44.8		30.2
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	7.5	26.0				38.0		26.0
Max Q Clear Time (g_c+I1), s	16.5	14.0				10.4		24.3
Green Ext Time (p_c), s	0.0	4.3				5.6		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	23.6
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	31	84	4	44	341	592	1	323	13	444	388	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	41	112	2	59	455	722	1	431	17	592	517	68
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	52	156	132	352	491	727	128	1121	501	673	1558	697
Arrive On Green	0.03	0.08	0.08	0.19	0.26	0.26	0.07	0.31	0.31	0.19	0.43	0.43
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3610	1615	3510	3610	1615
Grp Volume(v), veh/h	41	112	2	59	455	722	1	431	17	592	517	68
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1805	1615	1755	1805	1615
Q Serve(g_s), s	2.1	5.5	0.1	2.6	22.2	15.9	0.0	8.9	0.7	15.6	9.0	1.8
Cycle Q Clear(g_c), s	2.1	5.5	0.1	2.6	22.2	15.9	0.0	8.9	0.7	15.6	9.0	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	52	156	132	352	491	727	128	1121	501	673	1558	697
V/C Ratio(X)	0.79	0.72	0.02	0.17	0.93	0.99	0.01	0.38	0.03	0.88	0.33	0.10
Avail Cap(c_a), veh/h	95	520	442	352	500	735	128	1121	501	673	1558	697
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	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	42.5	40.1	31.8	34.3	13.9	41.0	25.6	22.8	37.3	17.9	9.4
Incr Delay (d2), s/veh	9.3	2.3	0.0	0.0	3.2	8.4	0.0	1.0	0.1	12.4	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.0	0.0	1.3	12.1	8.7	0.0	4.6	0.3	8.7	4.6	0.9
LnGrp Delay(d),s/veh	55.1	44.9	40.1	31.9	37.5	22.3	41.1	26.6	22.9	49.7	18.5	9.6
LnGrp LOS	E	D	D	C	D	C	D	C	C	D	B	A
Approach Vol, veh/h		155			1236			449			1177	
Approach Delay, s/veh		47.5			28.3			26.5			33.7	
Approach LOS		D			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	12.7	35.0	24.0	13.3	11.2	46.5	7.2	30.1
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	15.5	29.5	4.0	* 26	4.0	41.0	5.0	25.0
Max Q Clear Time (g_c+I1), s	17.6	10.9	4.6	7.5	2.0	11.0	4.1	24.2
Green Ext Time (p_c), s	0.0	1.5	0.0	0.3	0.3	2.0	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	31.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

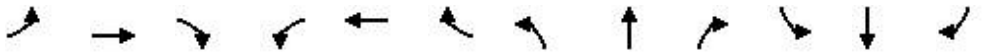
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	942	5	11	1470	10	5	10	16	10	10	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	12	1178	6	14	1838	12	6	12	20	12	12	12
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	171	2601	13	24	2074	14	110	219	315	221	220	194
Arrive On Green	0.09	0.46	0.46	0.01	0.37	0.37	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1810	5666	29	1810	5657	37	180	617	885	470	620	545
Grp Volume(v), veh/h	12	790	394	14	1235	615	38	0	0	36	0	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1895	1810	1900	1893	1681	0	0	1635	0	0
Q Serve(g_s), s	0.5	12.8	12.8	0.7	27.4	27.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	12.8	12.8	0.7	27.4	27.4	1.3	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.02	0.16		0.53	0.33		0.33
Lane Grp Cap(c), veh/h	171	1745	870	24	1393	694	644	0	0	635	0	0
V/C Ratio(X)	0.07	0.45	0.45	0.59	0.89	0.89	0.06	0.00	0.00	0.06	0.00	0.00
Avail Cap(c_a), veh/h	191	1745	870	80	1393	694	644	0	0	635	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)	0.56	0.56	0.56	0.69	0.69	0.69	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.1	16.6	16.6	44.2	26.7	26.7	19.1	0.0	0.0	19.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.0	5.8	6.2	11.4	0.2	0.0	0.0	0.2	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	0.3	6.8	6.9	0.4	15.4	16.4	0.7	0.0	0.0	0.6	0.0	0.0
LnGrp Delay(d),s/veh	37.2	17.1	17.6	50.0	32.9	38.1	19.3	0.0	0.0	19.2	0.0	0.0
LnGrp LOS	D	B	B	D	C	D	B			B		
Approach Vol, veh/h		1196			1864			38			36	
Approach Delay, s/veh		17.5			34.7			19.3			19.2	
Approach LOS		B			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.7	46.8		37.5	14.0	38.5		37.5
Change Period (Y+Rc), s	4.5	5.5		5.5	5.5	* 5.5		5.5
Max Green Setting (Gmax), s	4.0	38.5		32.0	9.5	* 33		32.0
Max Q Clear Time (g_c+I1), s	2.7	14.8		3.2	2.5	29.4		3.3
Green Ext Time (p_c), s	0.0	4.9		0.2	2.9	2.5		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	27.8
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	32	165	92	150	324	339	473	140	239	357	61
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	38	194	108	176	381	399	556	165	281	420	72
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	26	123	503	382	496	420	446	1022	433	422	971	413
Arrive On Green	0.01	0.06	0.06	0.21	0.26	0.26	0.25	0.27	0.27	0.23	0.26	0.26
Sat Flow, veh/h	1810	1900	1615	1810	1900	1609	1810	3800	1611	1810	3800	1615
Grp Volume(v), veh/h	16	38	194	108	176	381	399	556	165	281	420	72
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1609	1810	1900	1611	1810	1900	1615
Q Serve(g_s), s	0.8	1.7	0.0	4.5	6.8	20.6	19.2	11.3	7.5	12.7	8.3	3.1
Cycle Q Clear(g_c), s	0.8	1.7	0.0	4.5	6.8	20.6	19.2	11.3	7.5	12.7	8.3	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	26	123	503	382	496	420	446	1022	433	422	971	413
V/C Ratio(X)	0.61	0.31	0.39	0.28	0.35	0.91	0.89	0.54	0.38	0.67	0.43	0.17
Avail Cap(c_a), veh/h	80	570	883	382	581	492	446	1022	433	422	971	413
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	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	40.2	24.3	29.8	27.1	32.2	32.8	28.2	26.8	31.3	28.0	26.1
Incr Delay (d2), s/veh	8.3	0.5	0.2	0.1	0.1	16.3	19.5	2.1	2.5	3.2	1.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.9	3.8	2.3	3.6	11.1	12.0	6.2	3.6	6.7	4.6	1.5
LnGrp Delay(d),s/veh	52.4	40.7	24.4	29.9	27.2	48.5	52.3	30.3	29.3	34.5	29.4	27.0
LnGrp LOS	D	D	C	C	C	D	D	C	C	C	C	C
Approach Vol, veh/h		248			665			1120			773	
Approach Delay, s/veh		28.7			39.9			38.0			31.1	
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	25.5	29.7	23.5	11.3	26.7	28.5	5.8	29.0
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	14.3	24.2	4.5	27.0	15.5	23.0	4.0	27.5
Max Q Clear Time (g_c+I1), s	14.7	13.3	6.5	3.7	21.2	10.3	2.8	22.6
Green Ext Time (p_c), s	0.0	1.9	0.0	0.5	0.0	1.4	0.0	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	35.7
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	158	304	281	696	341	1026	815	295	127	411	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	78	216	404	385	953	464	1405	1116	372	174	563	68
Adj No. of Lanes	1	2	2	2	2	1	2	2	1	2	2	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	387	1681	780	1018	526	1515	2073	1229	233	601	72
Arrive On Green	0.10	0.20	0.20	0.43	0.54	0.54	0.84	1.00	1.00	0.13	0.37	0.37
Sat Flow, veh/h	1810	3800	3230	3619	3800	1577	3619	3800	1615	3619	3292	396
Grp Volume(v), veh/h	78	216	404	385	953	464	1405	1116	372	174	324	307
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1577	1810	1900	1615	1810	1900	1788
Q Serve(g_s), s	4.9	5.9	0.0	8.8	26.9	30.8	32.5	0.0	0.0	5.3	18.9	19.1
Cycle Q Clear(g_c), s	4.9	5.9	0.0	8.8	26.9	30.8	32.5	0.0	0.0	5.3	18.9	19.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	90	387	1681	780	1018	526	1515	2073	1229	233	347	327
V/C Ratio(X)	0.87	0.56	0.24	0.49	0.94	0.88	0.93	0.54	0.30	0.75	0.93	0.94
Avail Cap(c_a), veh/h	90	859	2083	780	1018	526	1515	2073	1229	368	347	327
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.38	0.38	0.38	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	43.5	13.2	28.2	25.8	19.0	8.1	0.0	0.0	49.2	35.8	35.9
Incr Delay (d2), s/veh	26.6	0.2	0.0	0.2	15.1	15.4	1.1	0.1	0.1	1.8	34.1	36.7
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	3.1	3.1	3.0	4.3	16.0	15.3	14.9	0.0	0.0	2.7	13.1	12.6
LnGrp Delay(d),s/veh	78.1	43.7	13.2	28.3	40.9	34.5	9.2	0.1	0.1	51.0	69.9	72.6
LnGrp LOS	E	D	B	C	D	C	A	A	A	D	E	E
Approach Vol, veh/h		698			1802			2893			805	
Approach Delay, s/veh		29.9			36.5			4.5			66.8	
Approach LOS		C			D			A			E	

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	11.9	67.4	29.3	17.2	52.8	26.5	10.2	36.3
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	11.7	46.8	10.5	26.0	37.5	* 21	5.7	30.8
Max Q Clear Time (g_c+I1), s	7.3	2.0	10.8	7.9	34.5	21.1	6.9	32.8
Green Ext Time (p_c), s	0.1	12.2	0.0	1.6	1.2	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	24.8
HCM 2010 LOS	C

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	40	395	188	85	108	465	1817	353	107	630	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	32	49	423	229	104	130	567	2216	428	130	768	57
Adj No. of Lanes	1	1	2	2	1	1	2	2	1	1	3	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	40	95	1289	218	167	142	1263	2542	1155	98	1918	142
Arrive On Green	0.02	0.05	0.05	0.06	0.09	0.09	0.35	0.67	0.67	0.05	0.37	0.37
Sat Flow, veh/h	1810	1900	3230	3619	1900	1615	3619	3800	1582	1810	5244	387
Grp Volume(v), veh/h	32	49	423	229	104	130	567	2216	428	130	555	270
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1582	1810	1900	1831
Q Serve(g_s), s	2.1	3.0	0.0	7.2	6.3	8.1	14.5	55.6	4.1	6.5	13.0	13.1
Cycle Q Clear(g_c), s	2.1	3.0	0.0	7.2	6.3	8.1	14.5	55.6	4.1	6.5	13.0	13.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	40	95	1289	218	167	142	1263	2542	1155	98	1390	670
V/C Ratio(X)	0.79	0.51	0.33	1.05	0.62	0.92	0.45	0.87	0.37	1.33	0.40	0.40
Avail Cap(c_a), veh/h	84	380	1773	218	394	335	1263	2542	1155	98	1390	670
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	58.4	55.6	24.9	56.4	52.8	39.1	30.2	15.8	1.4	56.8	28.3	28.3
Incr Delay (d2), s/veh	12.1	1.6	0.1	75.2	1.4	8.9	0.1	4.5	0.9	191.0	0.7	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	1.2	1.6	4.8	5.9	3.4	4.0	7.3	30.5	2.0	8.4	6.9	6.9
LnGrp Delay(d),s/veh	70.4	57.2	25.0	131.6	54.2	48.0	30.3	20.3	2.4	247.8	28.9	29.7
LnGrp LOS	E	E	C	F	D	D	C	C	A	F	C	C
Approach Vol, veh/h		504			463			3211			955	
Approach Delay, s/veh		31.0			90.7			19.6			58.9	
Approach LOS		C			F			B			E	

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	11.0	85.8	11.7	11.5	47.4	49.4	7.2	16.1
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	6.5	63.0	6.5	24.0	25.6	* 44	5.6	24.9
Max Q Clear Time (g_c+I1), s	10.5	57.6	9.2	5.0	16.5	15.1	4.1	10.1
Green Ext Time (p_c), s	0.0	4.7	0.0	1.0	7.5	3.1	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	34.5
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1028	594	254	108	1126	438	156	1121	114	229	638	488
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1094	632	253	115	1198	464	166	1193	117	244	679	452
Adj No. of Lanes	2	3	1	1	3	1	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	2838	6090	1793	76	1800	580	152	1280	544	171	1340	1836
Arrive On Green	0.78	1.00	1.00	0.04	0.32	0.32	0.04	0.34	0.34	0.05	0.35	0.35
Sat Flow, veh/h	3619	5700	1615	1810	5700	1594	3619	3800	1615	3619	3800	1615
Grp Volume(v), veh/h	1094	632	253	115	1198	464	166	1193	117	244	679	452
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1594	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	8.9	0.0	0.0	4.0	17.3	20.3	4.0	28.8	9.1	4.5	13.4	2.7
Cycle Q Clear(g_c), s	8.9	0.0	0.0	4.0	17.3	20.3	4.0	28.8	9.1	4.5	13.4	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2838	6090	1793	76	1800	580	152	1280	544	171	1340	1836
V/C Ratio(X)	0.39	0.10	0.14	1.51	0.67	0.80	1.09	0.93	0.22	1.42	0.51	0.25
Avail Cap(c_a), veh/h	2838	6090	1793	76	1800	580	152	1280	544	171	1340	1836
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)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	3.2	0.0	0.0	45.5	28.2	27.1	45.5	30.4	77.7	45.2	24.2	7.5
Incr Delay (d2), s/veh	0.0	0.0	0.2	285.4	2.0	11.1	98.8	13.4	0.9	220.9	1.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.1	8.0	9.4	10.6	4.1	17.5	4.2	7.5	7.2	4.8
LnGrp Delay(d),s/veh	3.2	0.0	0.2	330.9	30.1	38.2	144.3	43.9	78.6	266.2	25.6	7.9
LnGrp LOS	A	A	A	F	C	D	F	D	E	F	C	A
Approach Vol, veh/h		1979			1777			1476			1375	
Approach Delay, s/veh		1.8			51.7			57.9			62.5	
Approach LOS		A			D			E			E	

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	8.5	109.0	8.5	39.0	82.0	35.5	10.0	37.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.0	34.5	4.0	32.5	8.5	* 30	4.5	* 32
Max Q Clear Time (g_c+I1), s	6.0	2.0	6.0	15.4	10.9	22.3	6.5	30.8
Green Ext Time (p_c), s	0.0	6.1	0.0	3.7	0.0	3.9	0.0	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	40.4
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	262	675	297	269	1132	143	394	1484	295	228	1178	293
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		0.99	1.00		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	291	750	313	299	1258	150	438	1649	316	253	1309	316
Adj No. of Lanes	2	3	1	1	2	0	2	3	1	1	3	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	249	3083	1079	303	2122	252	453	1686	475	204	1544	431
Arrive On Green	0.07	0.54	0.54	0.17	0.64	0.64	0.13	0.30	0.30	0.11	0.27	0.27
Sat Flow, veh/h	3510	5700	1609	1810	3329	395	3510	5700	1605	1810	5700	1591
Grp Volume(v), veh/h	291	750	313	299	716	692	438	1649	316	253	1309	316
Grp Sat Flow(s),veh/h/ln	1755	1900	1609	1810	1900	1824	1755	1900	1605	1810	1900	1591
Q Serve(g_s), s	8.5	8.3	5.9	19.8	26.3	26.6	14.9	34.4	20.7	13.5	26.1	25.5
Cycle Q Clear(g_c), s	8.5	8.3	5.9	19.8	26.3	26.6	14.9	34.4	20.7	13.5	26.1	25.5
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	249	3083	1079	303	1211	1163	453	1686	475	204	1544	431
V/C Ratio(X)	1.17	0.24	0.29	0.99	0.59	0.60	0.97	0.98	0.67	1.24	0.85	0.73
Avail Cap(c_a), veh/h	249	3083	1079	303	1211	1163	453	1686	475	204	1544	431
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	55.8	14.6	10.6	49.8	12.6	12.7	52.0	41.9	37.0	53.2	41.4	55.2
Incr Delay (d2), s/veh	111.0	0.2	0.7	47.8	2.1	2.3	33.3	17.3	7.2	143.7	6.0	10.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	4.4	4.2	13.9	14.4	14.0	9.3	20.7	10.1	14.9	14.6	12.5
LnGrp Delay(d),s/veh	166.7	14.8	11.3	97.6	14.8	15.0	85.3	59.1	44.2	196.9	47.4	65.7
LnGrp LOS	F	B	B	F	B	B	F	E	D	F	D	E
Approach Vol, veh/h		1354			1707			2403			1878	
Approach Delay, s/veh		46.6			29.4			61.9			70.6	
Approach LOS		D			C			E			E	

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	24.6	71.4	21.0	38.0	13.0	83.0	18.0	41.0
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	20.1	31.9	15.5	* 33	8.5	43.5	13.5	34.5
Max Q Clear Time (g_c+I1), s	21.8	10.3	16.9	28.1	10.5	28.6	15.5	36.4
Green Ext Time (p_c), s	0.0	11.1	0.0	2.7	0.0	8.9	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	53.8
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	83	277	215	360	415	242	121	1526	313	139	1531	63
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	91	304	220	396	456	166	133	1677	319	153	1682	67
Adj No. of Lanes	1	2	0	1	2	1	2	3	1	2	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	121	377	266	374	1239	518	180	2145	598	168	2029	81
Arrive On Green	0.07	0.19	0.19	0.21	0.33	0.33	0.05	0.38	0.38	0.05	0.37	0.37
Sat Flow, veh/h	1810	2023	1427	1810	3800	1589	3510	5700	1590	3510	5442	217
Grp Volume(v), veh/h	91	270	254	396	456	166	133	1677	319	153	1174	575
Grp Sat Flow(s),veh/h/ln	1810	1805	1645	1810	1900	1589	1755	1900	1590	1755	1900	1859
Q Serve(g_s), s	5.7	16.5	17.1	23.8	10.6	9.0	4.3	29.9	9.3	5.0	32.3	32.3
Cycle Q Clear(g_c), s	5.7	16.5	17.1	23.8	10.6	9.0	4.3	29.9	9.3	5.0	32.3	32.3
Prop In Lane	1.00		0.87	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	121	336	307	374	1239	518	180	2145	598	168	1417	693
V/C Ratio(X)	0.75	0.80	0.83	1.06	0.37	0.32	0.74	0.78	0.53	0.91	0.83	0.83
Avail Cap(c_a), veh/h	197	471	429	374	1365	571	180	2145	598	168	1417	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	44.8	45.0	45.6	29.7	29.2	53.8	31.7	7.4	54.5	32.7	32.7
Incr Delay (d2), s/veh	2.6	3.4	4.9	62.5	0.1	0.1	23.5	2.9	3.4	43.9	5.7	11.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	8.5	8.2	18.4	5.5	4.0	2.7	16.3	4.6	3.4	18.1	18.7
LnGrp Delay(d),s/veh	55.3	48.2	49.9	108.1	29.7	29.3	77.3	34.6	10.8	98.4	38.5	43.8
LnGrp LOS	E	D	D	F	C	C	E	C	B	F	D	D
Approach Vol, veh/h		615			1018			2129			1902	
Approach Delay, s/veh		50.0			60.1			33.7			44.9	
Approach LOS		D			E			C			D	

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	10.0	48.8	29.3	26.9	10.4	48.4	13.2	43.0
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	5.5	34.7	23.8	30.0	5.9	34.3	12.5	41.3
Max Q Clear Time (g_c+I1), s	7.0	31.9	25.8	19.1	6.3	34.3	7.7	12.6
Green Ext Time (p_c), s	0.0	2.7	0.0	1.8	0.0	0.0	0.0	2.7

Intersection Summary	
HCM 2010 Ctrl Delay	44.0
HCM 2010 LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2100	802	1355	1751	0	0	0	977	0	0	425
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				0	0	1900
Adj Flow Rate, veh/h	0	2211	836	1426	1843	0				0	0	325
Adj No. of Lanes	0	2	1	2	2	0				0	0	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2328	989	1116	3626	0				0	0	0
Arrive On Green	0.00	0.61	0.61	0.31	0.95	0.00				0.00	0.00	0.00
Sat Flow, veh/h	0	3800	1615	3619	3800	0					0	
Grp Volume(v), veh/h	0	2211	836	1426	1843	0					0.0	
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0						
Q Serve(g_s), s	0.0	64.7	49.9	37.0	5.2	0.0						
Cycle Q Clear(g_c), s	0.0	64.7	49.9	37.0	5.2	0.0						
Prop In Lane	0.00		1.00	1.00		0.00						
Lane Grp Cap(c), veh/h	0	2328	989	1116	3626	0						
V/C Ratio(X)	0.00	0.95	0.85	1.28	0.51	0.00						
Avail Cap(c_a), veh/h	0	2328	989	1116	3626	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	21.5	18.7	41.5	0.2	0.0						
Incr Delay (d2), s/veh	0.0	10.1	8.8	132.1	0.5	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	36.7	24.5	38.9	2.6	0.0						
LnGrp Delay(d),s/veh	0.0	31.7	27.5	173.6	0.8	0.0						
LnGrp LOS		C	C	F	A							
Approach Vol, veh/h		3047			3269							
Approach Delay, s/veh		30.5			76.1							
Approach LOS		C			E							

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		
Phs Duration (G+Y+Rc), s	41.0	79.0				120.0		
Change Period (Y+Rc), s	4.0	5.5				5.5		
Max Green Setting (Gmax), s	37.0	60.5				101.5		
Max Q Clear Time (g_c+I1), s	39.0	66.7				7.2		
Green Ext Time (p_c), s	0.0	0.0				73.7		

Intersection Summary	
HCM 2010 Ctrl Delay	54.1
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	891	194	666	953	0	0	0	0	796	2	748
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	948	206	709	1014	0				847	2	719
Adj No. of Lanes	0	2	1	2	2	0				2	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1022	434	1204	2497	0				1287	2	573
Arrive On Green	0.00	0.27	0.27	0.11	0.22	0.00				0.36	0.36	0.36
Sat Flow, veh/h	0	3800	1615	3619	3800	0				3619	4	1611
Grp Volume(v), veh/h	0	948	206	709	1014	0				847	0	721
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1616
Q Serve(g_s), s	0.0	21.9	9.6	16.8	20.6	0.0				17.7	0.0	32.0
Cycle Q Clear(g_c), s	0.0	21.9	9.6	16.8	20.6	0.0				17.7	0.0	32.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1022	434	1204	2497	0				1287	0	574
V/C Ratio(X)	0.00	0.93	0.47	0.59	0.41	0.00				0.66	0.00	1.26
Avail Cap(c_a), veh/h	0	1022	434	1204	2497	0				1287	0	574
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.51	0.51	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	32.0	27.6	34.2	20.2	0.0				24.4	0.0	29.0
Incr Delay (d2), s/veh	0.0	15.4	3.7	0.3	0.3	0.0				1.2	0.0	128.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.6	4.7	8.5	11.0	0.0				9.0	0.0	34.7
LnGrp Delay(d),s/veh	0.0	47.4	31.3	34.5	20.4	0.0				25.6	0.0	157.6
LnGrp LOS		D	C	C	C					C		F
Approach Vol, veh/h		1154			1723						1568	
Approach Delay, s/veh		44.5			26.2						86.3	
Approach LOS		D			C						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	35.1	29.2		37.0		64.3		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	19.3	* 24		32.0		48.0		
Max Q Clear Time (g_c+I1), s	18.8	23.9		34.0		22.6		
Green Ext Time (p_c), s	0.2	0.2		0.0		6.3		

Intersection Summary	
HCM 2010 Ctrl Delay	52.2
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	512	1720	846	0	3160	155	260	693	31	318	0	995
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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	528	1773	0	0	3258	151	268	714	32	328	0	1011
Adj No. of Lanes	2	3	1	0	4	1	2	2	0	2	1	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1763	5524	1565	0	3316	828	309	624	28	276	321	1866
Arrive On Green	0.49	0.97	0.00	0.00	0.44	0.44	0.09	0.17	0.17	0.08	0.00	0.17
Sat Flow, veh/h	3619	5700	1615	0	7600	1615	3619	3610	162	3619	1900	2842
Grp Volume(v), veh/h	528	1773	0	0	3258	151	268	376	370	328	0	1011
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	0	1900	1615	1810	1900	1871	1810	1900	1421
Q Serve(g_s), s	9.6	1.5	0.0	0.0	46.5	2.5	8.0	19.0	19.0	8.4	0.0	0.0
Cycle Q Clear(g_c), s	9.6	1.5	0.0	0.0	46.5	2.5	8.0	19.0	19.0	8.4	0.0	0.0
Prop In Lane	1.00		1.00	0.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	1763	5524	1565	0	3316	828	309	328	323	276	321	1866
V/C Ratio(X)	0.30	0.32	0.00	0.00	0.98	0.18	0.87	1.14	1.15	1.19	0.00	0.54
Avail Cap(c_a), veh/h	1763	5524	1565	0	3316	828	309	328	323	276	321	1866
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.9	0.1	0.0	0.0	30.6	20.6	49.7	45.5	45.5	50.8	0.0	10.1
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	12.0	0.5	21.1	94.9	95.6	114.5	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.7	0.0	0.0	27.0	1.2	4.9	18.6	18.4	8.6	0.0	8.3
LnGrp Delay(d),s/veh	17.0	0.2	0.0	0.0	42.6	21.1	70.8	140.4	141.1	165.3	0.0	11.2
LnGrp LOS	B	A			D	C	E	F	F	F		B
Approach Vol, veh/h		2301			3409			1014			1339	
Approach Delay, s/veh		4.1			41.7			122.2			49.0	
Approach LOS		A			D			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		113.4	15.0	23.6	60.4	53.0	14.0	24.6
Change Period (Y+Rc), s		* 5.6	5.6	5.0	5.6	5.0	5.6	* 5.6
Max Green Setting (Gmax), s		* 67	8.8	18.6	13.4	48.0	8.4	* 19
Max Q Clear Time (g_c+I1), s		3.5	10.0	2.0	11.6	48.5	10.4	21.0
Green Ext Time (p_c), s		13.8	0.0	2.3	1.4	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	42.3
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	679	1007	0	0	1252	1555	367	3	227	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	763	1131	0	0	1407	0	412	3	146			
Adj No. of Lanes	2	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	583	2533	0	0	1773	754	399	3	359			
Arrive On Green	0.32	1.00	0.00	0.00	0.47	0.00	0.22	0.22	0.22			
Sat Flow, veh/h	3619	3800	0	0	3800	1615	1797	13	1615			
Grp Volume(v), veh/h	763	1131	0	0	1407	0	415	0	146			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1810	0	1615			
Q Serve(g_s), s	14.5	0.0	0.0	0.0	28.2	0.0	20.0	0.0	7.0			
Cycle Q Clear(g_c), s	14.5	0.0	0.0	0.0	28.2	0.0	20.0	0.0	7.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	583	2533	0	0	1773	754	402	0	359			
V/C Ratio(X)	1.31	0.45	0.00	0.00	0.79	0.00	1.03	0.00	0.41			
Avail Cap(c_a), veh/h	583	2533	0	0	1773	754	402	0	359			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.52	0.52	0.00	0.00	0.45	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	30.5	0.0	0.0	0.0	20.3	0.0	35.0	0.0	29.9			
Incr Delay (d2), s/veh	145.4	0.3	0.0	0.0	1.7	0.0	53.3	0.0	3.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	18.9	0.1	0.0	0.0	15.1	0.0	15.9	0.0	3.4			
LnGrp Delay(d),s/veh	175.9	0.3	0.0	0.0	22.0	0.0	88.3	0.0	33.3			
LnGrp LOS	F	A			C		F		C			
Approach Vol, veh/h		1894			1407			561				
Approach Delay, s/veh		71.0			22.0			74.0				
Approach LOS		E			C			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		65.0			18.0	47.0		25.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		60.0			14.5	42.0		20.0
Max Q Clear Time (g_c+I1), s		2.0			16.5	30.2		22.0
Green Ext Time (p_c), s		19.7			0.0	8.5		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	53.6
HCM 2010 LOS	D

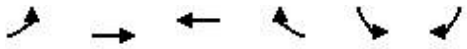
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	226	2566	36	33	2216	217	482	125	200	201	27	252
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	233	2645	0	34	2285	193	497	129	152	207	28	153
Adj No. of Lanes	1	4	1	1	4	1	2	1	0	1	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	128	3409	724	43	3053	635	1026	198	234	187	131	226
Arrive On Green	0.07	0.45	0.00	0.02	0.40	0.40	0.28	0.25	0.25	0.10	0.07	0.07
Sat Flow, veh/h	1810	7600	1615	1810	7600	1581	3619	796	938	1810	1900	1615
Grp Volume(v), veh/h	233	2645	0	34	2285	193	497	0	281	207	28	153
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1581	1810	0	1733	1810	1900	1615
Q Serve(g_s), s	8.5	35.3	0.0	2.2	30.9	6.7	13.7	0.0	17.4	12.4	1.7	5.6
Cycle Q Clear(g_c), s	8.5	35.3	0.0	2.2	30.9	6.7	13.7	0.0	17.4	12.4	1.7	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.54	1.00		1.00
Lane Grp Cap(c), veh/h	128	3409	724	43	3053	635	1026	0	432	187	131	226
V/C Ratio(X)	1.82	0.78	0.00	0.78	0.75	0.30	0.48	0.00	0.65	1.11	0.21	0.68
Avail Cap(c_a), veh/h	128	3409	724	92	3053	635	1026	0	432	187	467	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	28.0	0.0	58.3	30.7	11.1	35.7	0.0	40.4	53.8	52.8	20.5
Incr Delay (d2), s/veh	397.0	1.8	0.0	10.8	0.9	0.1	1.6	0.0	7.4	97.4	0.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.4	19.0	0.0	1.3	16.4	2.9	7.1	0.0	9.2	11.2	0.9	2.6
LnGrp Delay(d),s/veh	452.7	29.8	0.0	69.1	31.7	11.2	37.3	0.0	47.8	151.2	53.1	21.8
LnGrp LOS	F	C		E	C	B	D		D	F	D	C
Approach Vol, veh/h		2878			2512			778			388	
Approach Delay, s/veh		64.0			30.6			41.1			93.1	
Approach LOS		E			C			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	7.4	59.3	39.5	13.8	13.0	53.7	17.9	35.4
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	6.1	50.6	12.8	29.5	8.5	48.2	12.4	29.9
Max Q Clear Time (g_c+I1), s	4.2	37.3	15.7	7.6	10.5	32.9	14.4	19.4
Green Ext Time (p_c), s	0.0	12.9	0.0	0.3	0.0	13.4	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	50.2
HCM 2010 LOS	D

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	41	1193	2730	20	17	77
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	45	1297	2967	22	18	84
Adj No. of Lanes	1	3	3	1	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	373	4927	3491	982	65	302
Arrive On Green	0.21	0.86	0.61	0.61	0.22	0.22
Sat Flow, veh/h	1810	5700	5700	1603	288	1344
Grp Volume(v), veh/h	45	1297	2967	22	103	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1603	1648	0
Q Serve(g_s), s	2.4	4.8	50.5	0.6	6.2	0.0
Cycle Q Clear(g_c), s	2.4	4.8	50.5	0.6	6.2	0.0
Prop In Lane	1.00			1.00	0.17	0.82
Lane Grp Cap(c), veh/h	373	4927	3491	982	371	0
V/C Ratio(X)	0.12	0.26	0.85	0.02	0.28	0.00
Avail Cap(c_a), veh/h	373	4927	3491	982	371	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	38.8	1.4	18.8	9.1	38.4	0.0
Incr Delay (d2), s/veh	0.0	0.1	2.8	0.0	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.5	27.0	0.3	3.0	0.0
LnGrp Delay(d),s/veh	38.8	1.5	21.6	9.2	40.3	0.0
LnGrp LOS	D	A	C	A	D	
Approach Vol, veh/h		1342	2989		103	
Approach Delay, s/veh		2.8	21.5		40.3	
Approach LOS		A	C		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		109.7		32.5	30.7	79.0		
Change Period (Y+Rc), s		5.5		5.5	5.5	* 5.5		
Max Green Setting (Gmax), s		82.0		27.0	4.0	* 74		
Max Q Clear Time (g_c+I1), s		6.8		8.2	4.4	52.5		
Green Ext Time (p_c), s		6.8		0.1	0.0	16.7		

Intersection Summary	
HCM 2010 Ctrl Delay	16.3
HCM 2010 LOS	B

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												
Volume (veh/h)	240	2964	873	25	1633	119	353	139	28	259	264	356
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		0.99	1.00		1.00	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	261	3222	0	27	1775	125	384	151	25	282	287	309
Adj No. of Lanes	2	3	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1272	4358	1235	36	2232	157	296	777	126	149	895	943
Arrive On Green	0.35	0.76	0.00	0.02	0.42	0.42	0.08	0.24	0.24	0.08	0.24	0.24
Sat Flow, veh/h	3619	5700	1615	1810	5259	369	3619	3190	518	1810	3800	1594
Grp Volume(v), veh/h	261	3222	0	27	1281	619	384	89	87	282	287	309
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1829	1810	1900	1809	1810	1900	1594
Q Serve(g_s), s	5.8	35.2	0.0	1.7	33.7	33.9	9.4	4.3	4.4	9.5	7.2	0.0
Cycle Q Clear(g_c), s	5.8	35.2	0.0	1.7	33.7	33.9	9.4	4.3	4.4	9.5	7.2	0.0
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	1272	4358	1235	36	1613	776	296	463	440	149	895	943
V/C Ratio(X)	0.21	0.74	0.00	0.74	0.79	0.80	1.30	0.19	0.20	1.89	0.32	0.33
Avail Cap(c_a), veh/h	1272	4358	1235	63	1613	776	296	463	440	149	895	943
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)	0.36	0.36	0.00	0.51	0.51	0.51	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.1	7.3	0.0	56.0	28.7	28.8	52.8	34.5	34.6	52.7	36.3	12.1
Incr Delay (d2), s/veh	0.0	0.4	0.0	5.6	2.2	4.4	156.8	0.9	1.0	423.1	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	18.4	0.0	0.9	18.1	18.0	11.1	2.4	2.3	22.3	3.9	5.1
LnGrp Delay(d),s/veh	26.1	7.8	0.0	61.6	30.9	33.2	209.6	35.4	35.6	475.8	37.3	13.0
LnGrp LOS	C	A		E	C	C	F	D	D	F	D	B
Approach Vol, veh/h		3483			1927			560			878	
Approach Delay, s/veh		9.1			32.1			154.9			169.6	
Approach LOS		A			C			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	6.8	93.6	14.9	32.6	46.1	54.3	14.0	33.5
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.3	54.5	9.4	* 27	9.7	* 49	9.5	27.0
Max Q Clear Time (g_c+I1), s	11.7	37.2	11.4	9.2	7.8	35.9	11.5	6.4
Green Ext Time (p_c), s	0.0	15.1	0.0	1.5	0.1	6.7	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	48.1
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	1269	71	25	2252	6	134	5	63	18	5	107
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	30	1442	81	28	2559	7	152	6	72	20	6	122
Adj No. of Lanes	1	3	1	1	3	1	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	35	2972	842	40	2926	829	316	24	124	373	103	459
Arrive On Green	0.02	0.52	0.52	0.02	0.51	0.51	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1810	5700	1615	1810	5700	1615	877	84	438	1065	364	1615
Grp Volume(v), veh/h	30	1442	81	28	2559	7	230	0	0	26	0	122
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1400	0	0	1430	0	1615
Q Serve(g_s), s	1.5	14.6	2.3	1.4	35.7	0.2	11.5	0.0	0.0	0.0	0.0	5.3
Cycle Q Clear(g_c), s	1.5	14.6	2.3	1.4	35.7	0.2	12.5	0.0	0.0	1.0	0.0	5.3
Prop In Lane	1.00		1.00	1.00		1.00	0.66		0.31	0.77		1.00
Lane Grp Cap(c), veh/h	35	2972	842	40	2926	829	464	0	0	477	0	459
V/C Ratio(X)	0.86	0.49	0.10	0.69	0.87	0.01	0.50	0.00	0.00	0.05	0.00	0.27
Avail Cap(c_a), veh/h	80	2972	842	127	3072	870	464	0	0	477	0	459
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	0.84	0.84	0.84	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.0	13.8	10.9	43.7	19.3	10.7	27.4	0.0	0.0	23.4	0.0	25.0
Incr Delay (d2), s/veh	18.9	0.0	0.0	6.4	2.4	0.0	3.7	0.0	0.0	0.2	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	0.9	7.6	1.0	0.8	19.1	0.1	5.3	0.0	0.0	0.5	0.0	2.5
LnGrp Delay(d),s/veh	62.9	13.8	10.9	50.1	21.7	10.7	31.2	0.0	0.0	23.6	0.0	26.4
LnGrp LOS	E	B	B	D	C	B	C			C		C
Approach Vol, veh/h		1553			2594			230			148	
Approach Delay, s/veh		14.6			22.0			31.2			25.9	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		31.1	6.5	52.4		31.1	7.2	51.7
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	5.5	* 5.5
Max Green Setting (Gmax), s		22.0	6.3	46.2		22.0	4.0	* 49
Max Q Clear Time (g_c+I1), s		14.5	3.4	16.6		7.3	3.5	37.7
Green Ext Time (p_c), s		0.8	0.0	8.1		1.2	0.0	8.5

Intersection Summary	
HCM 2010 Ctrl Delay	20.1
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	152	2028	1131	22	933	143	653	586	25	179	744	141
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	162	2157	1188	23	993	146	695	623	23	190	791	143
Adj No. of Lanes	1	3	1	1	3	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1079	4887	1716	34	1312	192	742	1247	46	222	783	142
Arrive On Green	0.60	0.86	0.86	0.02	0.27	0.27	0.20	0.34	0.34	0.12	0.25	0.25
Sat Flow, veh/h	1810	5700	1615	1810	4860	713	3619	3639	134	1810	3134	566
Grp Volume(v), veh/h	162	2157	1188	23	776	363	695	325	321	190	480	454
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1773	1810	1900	1874	1810	1900	1800
Q Serve(g_s), s	4.0	8.7	33.5	1.3	18.7	18.8	18.9	13.6	13.6	10.3	25.0	25.0
Cycle Q Clear(g_c), s	4.0	8.7	33.5	1.3	18.7	18.8	18.9	13.6	13.6	10.3	25.0	25.0
Prop In Lane	1.00		1.00	1.00		0.40	1.00		0.07	1.00		0.31
Lane Grp Cap(c), veh/h	1079	4887	1716	34	1026	479	742	651	642	222	475	450
V/C Ratio(X)	0.15	0.44	0.69	0.67	0.76	0.76	0.94	0.50	0.50	0.86	1.01	1.01
Avail Cap(c_a), veh/h	1079	4887	1716	72	1026	479	742	651	642	233	475	450
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)	0.09	0.09	0.09	1.00	1.00	1.00	0.81	0.81	0.81	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.0	1.6	8.8	48.7	33.5	33.5	39.1	26.1	26.1	43.0	37.5	37.5
Incr Delay (d2), s/veh	0.0	0.0	0.2	8.2	5.2	10.7	16.3	2.2	2.2	23.5	43.7	44.9
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	2.0	4.4	14.0	0.7	10.5	10.6	11.1	7.5	7.4	6.6	18.8	18.0
LnGrp Delay(d),s/veh	9.0	1.7	9.1	57.0	38.7	44.3	55.4	28.3	28.3	66.5	81.3	82.4
LnGrp LOS	A	A	A	E	D	D	E	C	C	E	F	F
Approach Vol, veh/h		3507			1162			1341			1124	
Approach Delay, s/veh		4.5			40.8			42.4			79.2	
Approach LOS		A			D			D			E	

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	6.4	91.7	26.0	30.5	65.6	32.5	16.7	39.8
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	1.9	30.5	20.5	* 25	7.5	* 27	12.9	32.6
Max Q Clear Time (g_c+I1), s	3.3	35.5	20.9	27.0	6.0	20.8	12.3	15.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	2.6	0.0	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	29.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	5	81	1013	13	162	1518
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	5	87	1089	14	174	1632
Adj No. of Lanes	1	1	2	1	1	2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	124	111	1564	700	589	2961
Arrive On Green	0.07	0.07	0.43	0.43	0.33	0.82
Sat Flow, veh/h	1810	1615	3705	1615	1810	3705
Grp Volume(v), veh/h	5	87	1089	14	174	1632
Grp Sat Flow(s),veh/h/ln	1810	1615	1805	1615	1810	1805
Q Serve(g_s), s	0.2	4.8	22.0	0.4	6.5	13.4
Cycle Q Clear(g_c), s	0.2	4.8	22.0	0.4	6.5	13.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	124	111	1564	700	589	2961
V/C Ratio(X)	0.04	0.78	0.70	0.02	0.30	0.55
Avail Cap(c_a), veh/h	523	467	1564	700	589	2961
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.62	0.62	1.00	1.00
Uniform Delay (d), s/veh	39.1	41.2	20.7	14.6	22.6	2.7
Incr Delay (d2), s/veh	0.0	4.5	1.6	0.0	0.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.3	11.2	0.2	3.3	6.7
LnGrp Delay(d),s/veh	39.2	45.7	22.3	14.6	22.7	3.4
LnGrp LOS	D	D	C	B	C	A
Approach Vol, veh/h	92		1103			1806
Approach Delay, s/veh	45.4		22.2			5.3
Approach LOS	D		C			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	34.8	44.5				79.3		10.7
Change Period (Y+Rc), s	5.5	* 5.5				5.5		4.5
Max Green Setting (Gmax), s	10.5	* 39				54.0		26.0
Max Q Clear Time (g_c+I1), s	19.5	24.0				15.4		6.8
Green Ext Time (p_c), s	1.2	4.1				9.7		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	260	373	830	382	677	762
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	302	434	965	444	787	886
Adj No. of Lanes	1	1	2	0	2	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	336	659	1098	497	806	2609
Arrive On Green	0.19	0.19	0.45	0.45	0.22	0.72
Sat Flow, veh/h	1810	1615	2512	1095	3619	3705
Grp Volume(v), veh/h	302	434	717	692	787	886
Grp Sat Flow(s),veh/h/ln	1810	1615	1805	1707	1810	1805
Q Serve(g_s), s	19.6	0.0	43.2	44.7	25.9	10.8
Cycle Q Clear(g_c), s	19.6	0.0	43.2	44.7	25.9	10.8
Prop In Lane	1.00	1.00		0.64	1.00	
Lane Grp Cap(c), veh/h	336	659	820	775	806	2609
V/C Ratio(X)	0.90	0.66	0.87	0.89	0.98	0.34
Avail Cap(c_a), veh/h	397	714	820	775	806	2609
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	0.82	0.82
Uniform Delay (d), s/veh	47.8	28.7	29.7	30.1	46.3	6.1
Incr Delay (d2), s/veh	18.9	1.5	12.5	14.8	22.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	11.8	24.2	24.1	15.5	5.4
LnGrp Delay(d),s/veh	66.7	30.2	42.2	44.9	69.2	6.4
LnGrp LOS	E	C	D	D	E	A
Approach Vol, veh/h	736		1409			1673
Approach Delay, s/veh	45.2		43.5			35.9
Approach LOS	D		D			D

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	32.2	60.0				92.2		27.8
Change Period (Y+Rc), s	5.5	* 5.5				5.5		5.5
Max Green Setting (Gmax), s	23.7	* 55				82.7		26.3
Max Q Clear Time (g_c+I1), s	27.9	46.7				12.8		21.6
Green Ext Time (p_c), s	0.0	3.6				5.7		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	40.5
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	347	106	120	102	636	0	242	40	700	315	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	81	496	151	171	146	909	0	346	53	1000	450	50
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	103	454	385	149	519	1261	2	957	422	1782	2963	1325
Arrive On Green	0.06	0.24	0.24	0.08	0.27	0.27	0.00	0.27	0.27	0.51	0.82	0.82
Sat Flow, veh/h	1810	1900	1612	1810	1900	1615	1810	3610	1593	3510	3610	1615
Grp Volume(v), veh/h	81	496	151	171	146	909	0	346	53	1000	450	50
Grp Sat Flow(s),veh/h/ln	1810	1900	1612	1810	1900	1615	1810	1805	1593	1755	1805	1615
Q Serve(g_s), s	5.1	27.5	11.9	9.5	7.0	14.3	0.0	9.0	2.9	22.6	2.9	0.7
Cycle Q Clear(g_c), s	5.1	27.5	11.9	9.5	7.0	14.3	0.0	9.0	2.9	22.6	2.9	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	103	454	385	149	519	1261	2	957	422	1782	2963	1325
V/C Ratio(X)	0.78	1.09	0.39	1.14	0.28	0.72	0.00	0.36	0.13	0.56	0.15	0.04
Avail Cap(c_a), veh/h	173	454	385	149	519	1261	63	957	422	1782	2963	1325
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	0.49	0.49	0.49	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	43.8	63.3	52.7	32.9	14.1	0.0	34.3	32.1	19.5	2.1	1.9
Incr Delay (d2), s/veh	4.8	69.3	0.2	96.1	0.1	0.9	0.0	1.1	0.6	0.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	23.1	5.3	8.7	3.7	20.5	0.0	4.6	1.3	10.9	1.5	0.3
LnGrp Delay(d),s/veh	58.3	113.1	63.6	148.8	32.9	15.0	0.0	35.4	32.7	19.7	2.2	2.0
LnGrp LOS	E	F	E	F	C	B		D	C	B	A	A
Approach Vol, veh/h		728			1226			399			1500	
Approach Delay, s/veh		96.7			35.8			35.0			13.9	
Approach LOS		F			D			D			B	

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	63.9	36.0	15.0	33.0	0.0	99.9	11.1	36.9
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	27.5	* 31	9.5	* 28	4.0	54.0	11.0	26.0
Max Q Clear Time (g_c+I1), s	24.6	11.0	11.5	29.5	0.0	4.9	7.1	16.3
Green Ext Time (p_c), s	0.9	1.2	0.0	0.0	0.0	4.0	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	38.7
HCM 2010 LOS	D

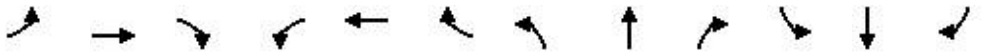
Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	1662	20	30	1183	10	5	10	26	10	10	10
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	1826	22	33	1300	11	5	11	29	11	11	11
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	20	2137	26	47	2232	19	92	196	431	248	247	218
Arrive On Green	0.01	0.38	0.38	0.03	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1810	5620	68	1810	5644	48	106	489	1078	469	618	544
Grp Volume(v), veh/h	11	1234	614	33	875	436	45	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1888	1810	1900	1892	1673	0	0	1631	0	0
Q Serve(g_s), s	0.5	23.9	23.9	1.4	14.5	14.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	23.9	23.9	1.4	14.5	14.5	1.3	0.0	0.0	0.9	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.03	0.11		0.64	0.33		0.33
Lane Grp Cap(c), veh/h	20	1445	718	47	1503	748	719	0	0	713	0	0
V/C Ratio(X)	0.56	0.85	0.85	0.70	0.58	0.58	0.06	0.00	0.00	0.05	0.00	0.00
Avail Cap(c_a), veh/h	97	1445	718	93	1503	748	719	0	0	713	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)	0.88	0.88	0.88	0.37	0.37	0.37	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.4	22.8	22.8	38.7	19.0	19.0	14.8	0.0	0.0	14.7	0.0	0.0
Incr Delay (d2), s/veh	8.0	5.9	11.1	2.6	0.6	1.2	0.2	0.0	0.0	0.1	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	0.3	13.5	14.5	0.8	7.7	7.8	0.6	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	47.3	28.7	33.9	41.3	19.6	20.2	15.0	0.0	0.0	14.8	0.0	0.0
LnGrp LOS	D	C	C	D	B	C	B			B		
Approach Vol, veh/h		1859			1344			45			33	
Approach Delay, s/veh		30.5			20.3			15.0			14.8	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.6	35.9		37.5	5.4	37.1		37.5
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	4.1	28.4		32.0	4.3	28.2		32.0
Max Q Clear Time (g_c+I1), s	3.4	25.9		2.9	2.5	16.5		3.3
Green Ext Time (p_c), s	0.0	2.3		0.3	0.0	9.4		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	26.0
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	105	179	467	200	59	82	259	572	184	265	523	127
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	124	211	549	235	69	96	305	673	216	312	615	149
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	255	284	691	171	175	148	503	1013	430	483	971	413
Arrive On Green	0.24	0.25	0.25	0.09	0.09	0.09	0.28	0.27	0.27	0.27	0.26	0.26
Sat Flow, veh/h	1810	1900	1615	1810	1900	1599	1810	3800	1611	1810	3800	1615
Grp Volume(v), veh/h	124	211	549	235	69	96	305	673	216	312	615	149
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1599	1810	1900	1611	1810	1900	1615
Q Serve(g_s), s	5.3	9.2	9.0	8.5	3.1	5.2	13.2	14.2	7.4	13.7	12.9	6.8
Cycle Q Clear(g_c), s	5.3	9.2	9.0	8.5	3.1	5.2	13.2	14.2	7.4	13.7	12.9	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	255	284	691	171	175	148	503	1013	430	483	971	413
V/C Ratio(X)	0.49	0.74	0.79	1.38	0.39	0.65	0.61	0.66	0.50	0.65	0.63	0.36
Avail Cap(c_a), veh/h	255	570	934	171	574	483	503	1013	430	483	971	413
HCM Platoon Ratio	1.67	1.67	1.67	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	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	32.1	7.1	40.8	38.5	39.4	28.2	29.4	14.5	29.2	29.8	27.5
Incr Delay (d2), s/veh	0.5	1.4	2.4	199.2	0.5	1.7	1.5	3.4	4.2	2.3	3.1	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.9	5.7	13.7	1.6	2.4	6.7	7.9	3.8	7.2	7.2	3.3
LnGrp Delay(d),s/veh	32.2	33.6	9.5	239.9	39.0	41.1	29.7	32.8	18.6	31.6	32.9	29.9
LnGrp LOS	C	C	A	F	D	D	C	C	B	C	C	C
Approach Vol, veh/h		884			400			1194			1076	
Approach Delay, s/veh		18.4			157.5			29.5			32.1	
Approach LOS		B			F			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	28.5	29.5	13.0	19.0	29.5	28.5	18.2	13.8
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	10.5	24.0	8.5	27.0	11.5	23.0	8.3	* 27
Max Q Clear Time (g_c+I1), s	15.7	16.2	10.5	11.2	15.2	14.9	7.3	7.2
Green Ext Time (p_c), s	0.0	2.0	0.0	1.8	0.0	1.8	0.3	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	41.9
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	87	721	1283	262	474	234	684	794	292	436	886	93
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	95	784	852	285	515	145	743	863	208	474	963	92
Adj No. of Lanes	1	2	2	2	2	1	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	118	862	1346	299	962	1006	721	1266	671	1342	1749	167
Arrive On Green	0.13	0.45	0.45	0.17	0.51	0.51	0.40	0.67	0.67	0.74	1.00	1.00
Sat Flow, veh/h	1810	3800	3098	3619	3800	1607	3619	3800	1614	3619	3405	325
Grp Volume(v), veh/h	95	784	852	285	515	145	743	863	208	474	537	518
Grp Sat Flow(s),veh/h/ln	1810	1900	1549	1810	1900	1607	1810	1900	1614	1810	1900	1831
Q Serve(g_s), s	5.9	22.1	26.1	9.0	10.6	0.9	22.9	16.0	0.0	5.3	0.0	0.0
Cycle Q Clear(g_c), s	5.9	22.1	26.1	9.0	10.6	0.9	22.9	16.0	0.0	5.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	118	862	1346	299	962	1006	721	1266	671	1342	976	940
V/C Ratio(X)	0.81	0.91	0.63	0.95	0.54	0.14	1.03	0.68	0.31	0.35	0.55	0.55
Avail Cap(c_a), veh/h	140	862	1346	299	962	1006	721	1266	671	1342	976	940
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.63	0.63	0.63	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	30.3	19.6	47.8	23.8	6.3	34.6	15.5	10.5	10.0	0.0	0.0
Incr Delay (d2), s/veh	2.3	1.5	0.1	39.2	0.3	0.0	34.8	1.9	0.8	0.1	2.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	11.6	13.2	6.1	5.5	1.2	14.8	8.4	2.2	2.6	0.6	0.6
LnGrp Delay(d),s/veh	51.6	31.8	19.7	87.0	24.1	6.3	69.4	17.4	11.3	10.1	2.2	2.3
LnGrp LOS	D	C	B	F	C	A	F	B	B	B	A	A
Approach Vol, veh/h		1731			945			1814			1529	
Approach Delay, s/veh		26.9			40.4			38.0			4.7	
Approach LOS		C			D			D			A	

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	49.2	43.8	15.0	31.6	27.4	65.6	12.0	34.6
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	21.1	* 38	9.5	* 26	22.9	36.5	8.9	26.7
Max Q Clear Time (g_c+I1), s	17.3	18.0	11.0	28.1	24.9	2.0	7.9	12.6
Green Ext Time (p_c), s	4.2	3.7	0.0	0.0	0.0	5.0	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	79	172	877	403	80	22	473	1140	351	117	1620	142
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	86	187	681	438	87	10	514	1239	333	127	1761	150
Adj No. of Lanes	1	1	2	2	1	1	2	2	1	1	3	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	315	249	1117	418	138	116	779	1851	972	153	1800	153
Arrive On Green	0.35	0.26	0.26	0.23	0.14	0.14	0.43	0.97	0.97	0.17	0.69	0.69
Sat Flow, veh/h	1810	1900	3215	3619	1900	1602	3619	3800	1612	1810	5182	440
Grp Volume(v), veh/h	86	187	681	438	87	10	514	1239	333	127	1290	621
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	1900	1602	1810	1900	1612	1810	1900	1822
Q Serve(g_s), s	3.8	9.9	0.0	12.7	4.7	0.5	12.4	2.6	0.2	7.5	35.5	36.0
Cycle Q Clear(g_c), s	3.8	9.9	0.0	12.7	4.7	0.5	12.4	2.6	0.2	7.5	35.5	36.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	315	249	1117	418	138	116	779	1851	972	153	1320	633
V/C Ratio(X)	0.27	0.75	0.61	1.05	0.63	0.09	0.66	0.67	0.34	0.83	0.98	0.98
Avail Cap(c_a), veh/h	315	415	1396	418	442	373	779	1851	972	156	1320	633
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.40	0.40	0.40
Uniform Delay (d), s/veh	30.8	38.9	24.3	42.3	45.6	28.9	28.1	0.8	0.1	45.0	16.4	16.5
Incr Delay (d2), s/veh	0.2	1.7	0.2	57.2	1.8	0.1	1.7	1.9	1.0	13.2	11.3	18.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	5.3	6.9	9.6	2.5	0.2	6.3	1.2	0.3	4.3	20.0	20.5
LnGrp Delay(d),s/veh	31.0	40.6	24.5	99.5	47.4	29.0	29.8	2.7	1.1	58.1	27.7	35.1
LnGrp LOS	C	D	C	F	D	C	C	A	A	E	C	D
Approach Vol, veh/h		954			535			2086			2038	
Approach Delay, s/veh		28.2			89.7			9.1			31.8	
Approach LOS		C			F			A			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	13.8	59.1	17.2	19.9	29.2	43.7	23.7	13.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	9.5	43.8	12.7	24.0	15.1	* 38	11.1	25.6
Max Q Clear Time (g_c+I1), s	10.5	4.6	14.7	11.9	14.4	38.0	5.8	6.7
Green Ext Time (p_c), s	0.0	8.4	0.0	1.9	0.1	0.2	0.5	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	28.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	532	1341	199	204	916	366	285	1090	172	633	1379	882
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	578	1458	216	222	996	398	310	1185	187	688	1499	955
Adj No. of Lanes	2	3	1	2	3	1	2	2	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	614	1725	622	1581	3298	1198	299	1107	470	617	1474	900
Arrive On Green	0.34	0.61	0.61	0.87	1.00	1.00	0.17	0.58	0.58	0.34	0.78	0.78
Sat Flow, veh/h	3619	5700	1615	3619	5700	1595	3619	3800	1615	3619	3800	1615
Grp Volume(v), veh/h	578	1458	216	222	996	398	310	1185	187	688	1499	955
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1595	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	17.8	23.8	5.2	1.0	0.0	0.0	9.5	33.5	7.2	19.6	44.6	44.6
Cycle Q Clear(g_c), s	17.8	23.8	5.2	1.0	0.0	0.0	9.5	33.5	7.2	19.6	44.6	44.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	614	1725	622	1581	3298	1198	299	1107	470	617	1474	900
V/C Ratio(X)	0.94	0.85	0.35	0.14	0.30	0.33	1.04	1.07	0.40	1.12	1.02	1.06
Avail Cap(c_a), veh/h	614	1725	622	1581	3298	1198	299	1107	470	617	1474	900
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.48	0.48	0.48	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	20.5	15.1	4.2	0.0	0.0	48.0	24.0	18.5	37.9	12.9	15.5
Incr Delay (d2), s/veh	13.4	2.6	0.7	0.0	0.2	0.7	62.0	48.0	2.5	72.2	27.8	47.5
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	9.9	12.4	2.3	0.5	0.1	0.2	7.3	24.5	3.4	15.9	27.6	40.5
LnGrp Delay(d),s/veh	50.8	23.1	15.8	4.2	0.2	0.7	110.0	72.0	21.0	110.1	40.7	63.0
LnGrp LOS	D	C	B	A	A	A	F	F	C	F	F	F
Approach Vol, veh/h		2252			1616			1682			3142	
Approach Delay, s/veh		29.5			0.9			73.4			62.7	
Approach LOS		C			A			E			E	

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	56.7	40.3	14.0	50.1	24.0	73.0	25.1	39.0
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	7.1	* 35	9.5	43.6	19.5	22.4	19.6	* 34
Max Q Clear Time (g_c+I1), s	13.0	25.8	11.5	46.6	19.8	2.0	21.6	35.5
Green Ext Time (p_c), s	2.3	4.7	0.0	0.0	0.0	5.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	44.7
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	350	1270	499	164	712	190	293	1421	233	248	1878	260
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	357	1296	488	167	727	185	299	1450	227	253	1916	254
Adj No. of Lanes	2	3	1	1	2	0	2	3	1	1	3	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	416	1639	627	476	1294	329	357	1810	512	280	2066	585
Arrive On Green	0.11	0.29	0.29	0.26	0.44	0.44	0.10	0.32	0.32	0.15	0.36	0.36
Sat Flow, veh/h	3619	5700	1610	1810	2915	742	3510	5700	1613	1810	5700	1615
Grp Volume(v), veh/h	357	1296	488	167	474	438	299	1450	227	253	1916	254
Grp Sat Flow(s),veh/h/ln	1810	1900	1610	1810	1900	1756	1755	1900	1613	1810	1900	1615
Q Serve(g_s), s	11.6	25.2	19.6	9.0	22.2	22.2	10.0	27.9	10.3	16.5	38.7	14.3
Cycle Q Clear(g_c), s	11.6	25.2	19.6	9.0	22.2	22.2	10.0	27.9	10.3	16.5	38.7	14.3
Prop In Lane	1.00		1.00	1.00		0.42	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	416	1639	627	476	843	780	357	1810	512	280	2066	585
V/C Ratio(X)	0.86	0.79	0.78	0.35	0.56	0.56	0.84	0.80	0.44	0.90	0.93	0.43
Avail Cap(c_a), veh/h	467	1639	627	476	843	780	395	1810	512	326	2066	585
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	52.2	39.4	32.1	35.9	24.7	24.7	52.9	37.5	19.3	49.8	36.7	28.9
Incr Delay (d2), s/veh	12.5	4.0	9.2	0.2	2.7	2.9	12.3	3.8	2.8	22.9	8.8	2.3
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	6.5	13.8	10.3	4.5	12.2	11.3	5.5	15.3	5.0	10.0	21.9	6.8
LnGrp Delay(d),s/veh	64.6	43.4	41.3	36.1	27.4	27.6	65.3	41.3	22.1	72.8	45.5	31.2
LnGrp LOS	E	D	D	D	C	C	E	D	C	E	D	C
Approach Vol, veh/h		2141			1079			1976			2423	
Approach Delay, s/veh		46.5			28.9			42.7			46.8	
Approach LOS		D			C			D			D	

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	17.7	40.0	17.7	49.0	18.3	59.5	23.1	43.6
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	8.5	* 35	13.5	* 44	15.5	27.5	21.6	35.4
Max Q Clear Time (g_c+I1), s	11.6	27.2	12.0	40.7	13.6	24.2	18.5	29.9
Green Ext Time (p_c), s	0.0	4.0	0.2	2.2	0.2	1.4	0.1	3.6

Intersection Summary	
HCM 2010 Ctrl Delay	43.1
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	97	242	136	314	184	179	113	1990	227	231	1933	88
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	107	266	133	345	202	97	124	2187	224	254	2124	95
Adj No. of Lanes	1	2	0	1	2	1	2	3	1	2	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	137	356	173	275	849	354	126	2631	734	205	2616	116
Arrive On Green	0.08	0.15	0.15	0.15	0.22	0.22	0.03	0.46	0.46	0.06	0.48	0.48
Sat Flow, veh/h	1810	2418	1172	1810	3800	1586	3619	5700	1591	3619	5413	241
Grp Volume(v), veh/h	107	207	192	345	202	97	124	2187	224	254	1488	731
Grp Sat Flow(s),veh/h/ln	1810	1900	1690	1810	1900	1586	1810	1900	1591	1810	1900	1854
Q Serve(g_s), s	6.7	12.0	12.5	17.5	5.0	5.8	3.9	38.5	5.5	6.5	38.3	38.7
Cycle Q Clear(g_c), s	6.7	12.0	12.5	17.5	5.0	5.8	3.9	38.5	5.5	6.5	38.3	38.7
Prop In Lane	1.00		0.69	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	137	280	249	275	849	354	126	2631	734	205	1837	896
V/C Ratio(X)	0.78	0.74	0.77	1.25	0.24	0.27	0.99	0.83	0.31	1.24	0.81	0.82
Avail Cap(c_a), veh/h	230	496	441	275	1087	454	126	2631	734	205	1837	896
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)	0.41	0.41	0.41	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	46.9	47.2	48.8	36.6	36.9	55.5	27.0	5.7	54.3	25.2	25.3
Incr Delay (d2), s/veh	1.5	0.6	0.8	140.1	0.1	0.2	76.3	3.2	1.1	143.1	4.0	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	6.3	5.9	19.4	2.6	2.6	3.3	20.8	2.6	7.3	21.1	21.7
LnGrp Delay(d),s/veh	53.7	47.6	48.0	188.9	36.7	37.1	131.8	30.3	6.7	197.4	29.2	33.4
LnGrp LOS	D	D	D	F	D	D	F	C	A	F	C	C
Approach Vol, veh/h		506			644			2535			2473	
Approach Delay, s/veh		49.0			118.3			33.2			47.7	
Approach LOS		D			F			C			D	

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	11.0	58.6	23.0	22.4	8.5	61.1	14.2	31.2
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	6.5	40.0	17.5	30.0	4.0	42.5	14.6	32.9
Max Q Clear Time (g_c+I1), s	8.5	40.5	19.5	14.5	5.9	40.7	8.7	7.8
Green Ext Time (p_c), s	0.0	0.0	0.0	1.5	0.0	1.8	0.1	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	49.2
HCM 2010 LOS	D

Notes

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

APPENDIX 7.12:

GENERAL PLAN BUILDOUT (POST 2035) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1062	675	931	1838	0	0	0	0	0	0	1001
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5	4.0	5.5							5.6
Lane Util. Factor		*1.00	1.00	*1.00	*1.00							*1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00							0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00							1.00
Frt		1.00	1.00	1.00	1.00							1.00
Flt Protected		1.00	1.00	1.00	1.00							1.00
Satd. Flow (prot)		3800	1900	3800	3800							3713
Flt Permitted		1.00	1.00	1.00	1.00							1.00
Satd. Flow (perm)		3800	1900	3800	3800							3713
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1118	711	980	1935	0	0	0	0	0	0	1054
RTOR Reduction (vph)	0	0	393	0	0	0	0	0	0	0	0	72
Lane Group Flow (vph)	0	1118	318	980	1935	0	0	0	0	0	0	982
Confl. Bikes (#/hr)									2			2
Turn Type		NA	Perm	Prot	NA							Perm
Protected Phases		2		1	6							
Permitted Phases			2									4
Actuated Green, G (s)		27.9	27.9	23.4	55.3							23.6
Effective Green, g (s)		27.9	27.9	23.4	55.3							23.6
Actuated g/C Ratio		0.31	0.31	0.26	0.61							0.26
Clearance Time (s)		5.5	5.5	4.0	5.5							5.6
Vehicle Extension (s)		2.0	2.0	2.0	2.0							2.0
Lane Grp Cap (vph)		1178	589	988	2334							973
v/s Ratio Prot		c0.29		c0.26	0.51							
v/s Ratio Perm			0.17									c0.26
v/c Ratio		0.95	0.54	0.99	0.83							1.01
Uniform Delay, d1		30.4	25.7	33.2	13.6							33.2
Progression Factor		1.00	1.00	1.00	1.00							1.00
Incremental Delay, d2		16.5	3.5	26.5	3.6							31.3
Delay (s)		46.9	29.3	59.7	17.2							64.5
Level of Service		D	C	E	B							E
Approach Delay (s)		40.0			31.5			0.0			64.5	
Approach LOS		D			C			A			E	

Intersection Summary			
HCM 2000 Control Delay	40.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	886	142	257	516	0	0	0	0	1575	2	707
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	943	146	273	549	0				1676	2	688
Adj No. of Lanes	0	2	1	2	2	0				2	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1098	467	961	2318	0				1689	2	752
Arrive On Green	0.00	0.29	0.29	0.27	0.61	0.00				0.47	0.47	0.47
Sat Flow, veh/h	0	3800	1615	3619	3800	0				3619	5	1611
Grp Volume(v), veh/h	0	943	146	273	549	0				1676	0	690
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1616
Q Serve(g_s), s	0.0	21.1	6.4	5.4	5.9	0.0				41.4	0.0	35.8
Cycle Q Clear(g_c), s	0.0	21.1	6.4	5.4	5.9	0.0				41.4	0.0	35.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1098	467	961	2318	0				1689	0	754
V/C Ratio(X)	0.00	0.86	0.31	0.28	0.24	0.00				0.99	0.00	0.92
Avail Cap(c_a), veh/h	0	1098	467	961	2318	0				1689	0	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.93	0.93	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	30.3	25.0	26.3	8.0	0.0				23.8	0.0	22.3
Incr Delay (d2), s/veh	0.0	8.8	1.7	0.1	0.2	0.0				20.0	0.0	15.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.3	3.1	2.7	3.1	0.0				25.2	0.0	19.2
LnGrp Delay(d),s/veh	0.0	39.0	26.8	26.3	8.2	0.0				43.9	0.0	38.1
LnGrp LOS		D	C	C	A					D		D
Approach Vol, veh/h		1089			822						2366	
Approach Delay, s/veh		37.4			14.2						42.2	
Approach LOS		D			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	29.3	31.0		47.0		60.3		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	7.5	* 26		42.0		38.0		
Max Q Clear Time (g_c+I1), s	7.4	23.1		43.4		7.9		
Green Ext Time (p_c), s	0.0	1.3		0.0		2.7		

Intersection Summary	
HCM 2010 Ctrl Delay	35.6
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	147	1531	406	0	2644	437	853	967	32	230	0	280
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		0.99	1.00		0.99
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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	150	1562	0	0	2698	402	870	987	33	235	0	281
Adj No. of Lanes	2	3	1	0	4	1	2	2	0	2	1	2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1494	4664	1321	0	2736	714	836	1153	39	296	321	1647
Arrive On Green	0.41	0.82	0.00	0.00	0.36	0.36	0.23	0.32	0.32	0.08	0.00	0.17
Sat Flow, veh/h	3619	5700	1615	0	7600	1615	3619	3563	119	3619	1900	2801
Grp Volume(v), veh/h	150	1562	0	0	2698	402	870	500	520	235	0	281
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	0	1900	1615	1810	1805	1877	1810	1900	1400
Q Serve(g_s), s	2.8	7.5	0.0	0.0	38.7	11.3	25.4	28.5	28.5	7.0	0.0	3.5
Cycle Q Clear(g_c), s	2.8	7.5	0.0	0.0	38.7	11.3	25.4	28.5	28.5	7.0	0.0	3.5
Prop In Lane	1.00		1.00	0.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	1494	4664	1321	0	2736	714	836	584	607	296	321	1647
V/C Ratio(X)	0.10	0.33	0.00	0.00	0.99	0.56	1.04	0.86	0.86	0.79	0.00	0.17
Avail Cap(c_a), veh/h	1494	4664	1321	0	2736	714	836	584	607	296	321	1647
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	2.5	0.0	0.0	34.9	22.8	42.3	34.8	34.8	49.6	0.0	14.9
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	14.2	3.2	42.3	14.9	14.4	12.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	4.0	0.0	0.0	22.9	5.7	17.6	16.6	17.2	4.0	0.0	1.9
LnGrp Delay(d),s/veh	19.8	2.7	0.0	0.0	49.2	26.0	84.6	49.7	49.2	62.3	0.0	15.1
LnGrp LOS	B	A			D	C	F	D	D	E		B
Approach Vol, veh/h		1712			3100			1890			516	
Approach Delay, s/veh		4.2			46.2			65.6			36.6	
Approach LOS		A			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		96.8	31.0	24.2	52.2	44.6	14.6	40.6
Change Period (Y+Rc), s		* 5.6	5.6	* 5.6	5.6	5.0	5.6	5.0
Max Green Setting (Gmax), s		* 50	25.4	* 19	5.2	39.6	8.4	35.6
Max Q Clear Time (g_c+I1), s		9.5	27.4	5.5	4.8	40.7	9.0	30.5
Green Ext Time (p_c), s		9.3	0.0	0.9	0.3	0.0	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	40.6
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	587	1874	0	0	612	656	162	0	507	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	638	2037	0	0	665	0	176	0	465			
Adj No. of Lanes	2	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	498	2375	0	0	1742	740	528	0	471			
Arrive On Green	0.14	0.63	0.00	0.00	0.46	0.00	0.29	0.00	0.29			
Sat Flow, veh/h	3619	3800	0	0	3800	1615	1810	0	1615			
Grp Volume(v), veh/h	638	2037	0	0	665	0	176	0	465			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1810	0	1615			
Q Serve(g_s), s	16.5	52.0	0.0	0.0	13.8	0.0	9.2	0.0	34.4			
Cycle Q Clear(g_c), s	16.5	52.0	0.0	0.0	13.8	0.0	9.2	0.0	34.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	498	2375	0	0	1742	740	528	0	471			
V/C Ratio(X)	1.28	0.86	0.00	0.00	0.38	0.00	0.33	0.00	0.99			
Avail Cap(c_a), veh/h	498	2375	0	0	1742	740	528	0	471			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.28	0.28	0.00	0.00	0.84	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	51.7	18.2	0.0	0.0	21.3	0.0	33.3	0.0	42.3			
Incr Delay (d2), s/veh	131.5	1.3	0.0	0.0	0.5	0.0	1.7	0.0	38.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	17.3	27.3	0.0	0.0	7.3	0.0	4.8	0.0	20.3			
LnGrp Delay(d),s/veh	183.2	19.5	0.0	0.0	21.9	0.0	35.0	0.0	80.7			
LnGrp LOS	F	B			C		D		F			
Approach Vol, veh/h		2675			665			641				
Approach Delay, s/veh		58.5			21.9			68.2				
Approach LOS		E			C			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		80.0			20.0	60.0		40.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		75.0			16.5	55.0		35.0
Max Q Clear Time (g_c+I1), s		54.0			18.5	15.8		36.4
Green Ext Time (p_c), s		14.3			0.0	20.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	53.9
HCM 2010 LOS	D

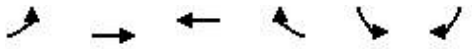
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	202	2140	384	121	2832	222	58	186	21	155	152	141
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	213	2253	0	127	2981	226	61	196	1	163	160	95
Adj No. of Lanes	1	4	1	1	4	1	2	1	0	1	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	188	3445	732	580	5154	1095	154	464	2	98	489	579
Arrive On Green	0.10	0.45	0.00	0.32	0.68	0.68	0.04	0.25	0.25	0.05	0.26	0.26
Sat Flow, veh/h	1810	7600	1615	1810	7600	1615	3619	1889	10	1810	1900	1594
Grp Volume(v), veh/h	213	2253	0	127	2981	226	61	0	197	163	160	95
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	0	1898	1810	1900	1594
Q Serve(g_s), s	12.5	27.6	0.0	6.2	24.9	6.3	2.0	0.0	10.5	6.5	8.2	4.9
Cycle Q Clear(g_c), s	12.5	27.6	0.0	6.2	24.9	6.3	2.0	0.0	10.5	6.5	8.2	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	188	3445	732	580	5154	1095	154	0	467	98	489	579
V/C Ratio(X)	1.13	0.65	0.00	0.22	0.58	0.21	0.40	0.00	0.42	1.66	0.33	0.16
Avail Cap(c_a), veh/h	188	3445	732	580	5154	1095	154	0	467	98	489	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	25.5	0.0	29.8	10.2	7.2	56.0	0.0	38.1	56.8	36.1	26.0
Incr Delay (d2), s/veh	104.8	1.0	0.0	0.1	0.1	0.0	7.5	0.0	2.8	338.9	0.1	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	11.7	14.6	0.0	3.1	13.1	2.8	1.1	0.0	5.8	12.5	4.3	2.1
LnGrp Delay(d),s/veh	158.6	26.5	0.0	29.8	10.3	7.3	63.4	0.0	40.9	395.6	36.3	26.0
LnGrp LOS	F	C		C	B	A	E		D	F	D	C
Approach Vol, veh/h		2466			3334			258			418	
Approach Delay, s/veh		37.9			10.9			46.2			174.1	
Approach LOS		D			B			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	44.4	59.9	10.6	36.4	17.0	87.3	12.0	35.0
Change Period (Y+Rc), s	5.5	* 5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	8.6	* 54	5.1	30.9	12.5	50.5	6.5	29.5
Max Q Clear Time (g_c+I1), s	8.2	29.6	4.0	10.2	14.5	26.9	8.5	12.5
Green Ext Time (p_c), s	0.0	12.8	0.0	1.4	0.0	18.5	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	33.1
HCM 2010 LOS	C

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	86	2296	1232	35	11	36
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	96	2551	1369	39	12	40
Adj No. of Lanes	1	3	3	1	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	123	3293	2622	736	113	376
Arrive On Green	0.07	0.58	0.46	0.46	0.30	0.30
Sat Flow, veh/h	1810	5700	5700	1599	376	1253
Grp Volume(v), veh/h	96	2551	1369	39	53	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1599	1660	0
Q Serve(g_s), s	4.7	30.8	15.4	1.2	2.1	0.0
Cycle Q Clear(g_c), s	4.7	30.8	15.4	1.2	2.1	0.0
Prop In Lane	1.00			1.00	0.23	0.75
Lane Grp Cap(c), veh/h	123	3293	2622	736	498	0
V/C Ratio(X)	0.78	0.77	0.52	0.05	0.11	0.00
Avail Cap(c_a), veh/h	171	3293	2622	736	498	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.37	0.37	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.3	14.5	17.3	13.5	22.8	0.0
Incr Delay (d2), s/veh	3.6	0.7	0.7	0.1	0.4	0.0
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	16.0	8.2	0.6	1.0	0.0
LnGrp Delay(d),s/veh	44.9	15.2	18.0	13.6	23.2	0.0
LnGrp LOS	D	B	B	B	C	
Approach Vol, veh/h		2647	1408		53	
Approach Delay, s/veh		16.3	17.9		23.2	
Approach LOS		B	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		57.5		32.5	10.6	46.9		
Change Period (Y+Rc), s		5.5		5.5	4.5	5.5		
Max Green Setting (Gmax), s		52.0		27.0	8.5	39.0		
Max Q Clear Time (g_c+I1), s		32.8		4.1	6.7	17.4		
Green Ext Time (p_c), s		17.1		0.1	0.0	19.0		

Intersection Summary	
HCM 2010 Ctrl Delay	16.9
HCM 2010 LOS	B

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												
Volume (veh/h)	192	1868	289	29	2632	192	390	202	18	105	140	111
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		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	206	2009	0	31	2830	204	419	217	16	113	151	84
Adj No. of Lanes	2	3	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	179	2696	764	600	4019	283	220	858	63	115	909	461
Arrive On Green	0.05	0.47	0.00	0.33	0.76	0.76	0.06	0.25	0.25	0.06	0.24	0.24
Sat Flow, veh/h	3619	5700	1615	1810	5265	370	3619	3498	256	1810	3800	1593
Grp Volume(v), veh/h	206	2009	0	31	2023	1011	419	117	116	113	151	84
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1835	1810	1900	1854	1810	1900	1593
Q Serve(g_s), s	5.7	33.0	0.0	1.3	31.0	33.4	7.0	5.7	5.8	7.2	3.6	5.2
Cycle Q Clear(g_c), s	5.7	33.0	0.0	1.3	31.0	33.4	7.0	5.7	5.8	7.2	3.6	5.2
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	179	2696	764	600	2901	1401	220	466	455	115	909	461
V/C Ratio(X)	1.15	0.75	0.00	0.05	0.70	0.72	1.90	0.25	0.25	0.98	0.17	0.18
Avail Cap(c_a), veh/h	179	2696	764	600	2901	1401	220	466	455	115	909	461
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)	0.82	0.82	0.00	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	24.7	0.0	26.2	6.9	7.2	54.0	34.9	34.9	53.8	34.7	40.7
Incr Delay (d2), s/veh	106.7	1.6	0.0	0.0	0.1	0.3	422.5	1.3	1.3	78.5	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	17.7	0.0	0.7	16.1	16.7	16.4	3.2	3.1	6.1	2.0	2.4
LnGrp Delay(d),s/veh	161.4	26.2	0.0	26.2	7.0	7.5	476.5	36.2	36.3	132.3	35.1	41.5
LnGrp LOS	F	C		C	A	A	F	D	D	F	D	D
Approach Vol, veh/h		2215			3065			652			348	
Approach Delay, s/veh		38.8			7.4			319.2			68.2	
Approach LOS		D			A			F			E	

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	44.6	59.9	12.5	33.0	10.2	94.3	11.8	33.7
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	6.1	* 54	7.0	* 28	5.7	54.8	7.3	27.2
Max Q Clear Time (g_c+I1), s	3.3	35.0	9.0	7.2	7.7	35.4	9.2	7.8
Green Ext Time (p_c), s	2.6	9.7	0.0	0.6	0.0	14.7	0.0	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	54.2
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	13	2044	107	17	1205	6	172	4	42	1	4	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	14	2152	113	18	1268	6	181	4	44	1	4	15
Adj No. of Lanes	1	3	1	1	3	1	0	1	0	0	1	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	25	2312	655	31	2330	660	493	20	100	150	556	575
Arrive On Green	0.01	0.41	0.41	0.02	0.41	0.41	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1810	5700	1615	1810	5700	1615	1127	56	281	248	1562	1615
Grp Volume(v), veh/h	14	2152	113	18	1268	6	229	0	0	5	0	15
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1465	0	0	1810	0	1615
Q Serve(g_s), s	0.5	25.2	3.1	0.7	11.8	0.2	7.7	0.0	0.0	0.0	0.0	0.4
Cycle Q Clear(g_c), s	0.5	25.2	3.1	0.7	11.8	0.2	8.2	0.0	0.0	0.1	0.0	0.4
Prop In Lane	1.00		1.00	1.00		1.00	0.79		0.19	0.20		1.00
Lane Grp Cap(c), veh/h	25	2312	655	31	2330	660	614	0	0	706	0	575
V/C Ratio(X)	0.57	0.93	0.17	0.59	0.54	0.01	0.37	0.00	0.00	0.01	0.00	0.03
Avail Cap(c_a), veh/h	103	2321	658	103	2330	660	614	0	0	706	0	575
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	0.32	0.32	0.32	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.3	19.9	13.3	34.2	15.7	12.3	17.1	0.0	0.0	14.6	0.0	14.6
Incr Delay (d2), s/veh	7.4	7.3	0.0	2.2	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	14.7	1.4	0.4	6.1	0.1	3.7	0.0	0.0	0.1	0.0	0.2
LnGrp Delay(d),s/veh	41.7	27.2	13.3	36.3	15.8	12.3	18.9	0.0	0.0	14.6	0.0	14.7
LnGrp LOS	D	C	B	D	B	B	B			B		B
Approach Vol, veh/h		2279			1292			229			20	
Approach Delay, s/veh		26.6			16.0			18.9			14.7	
Approach LOS		C			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		30.4	5.7	33.9		30.4	5.5	34.1
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	4.5	5.5
Max Green Setting (Gmax), s		22.0	4.0	28.5		22.0	4.0	28.5
Max Q Clear Time (g_c+I1), s		10.2	2.7	27.2		2.4	2.5	13.8
Green Ext Time (p_c), s		0.7	0.0	1.2		0.9	0.0	12.6

Intersection Summary	
HCM 2010 Ctrl Delay	22.5
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	162	1104	604	59	1752	153	993	724	19	82	389	70
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	176	1200	580	64	1904	157	1079	787	19	89	423	60
Adj No. of Lanes	1	3	1	1	3	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	188	3611	1378	83	2989	245	799	1387	33	112	679	96
Arrive On Green	0.10	0.63	0.63	0.05	0.58	0.58	0.22	0.38	0.38	0.06	0.21	0.21
Sat Flow, veh/h	1810	5700	1613	1810	5198	427	3619	3693	89	1810	3258	459
Grp Volume(v), veh/h	176	1200	580	64	1389	672	1079	405	401	89	246	237
Grp Sat Flow(s),veh/h/ln	1810	1900	1613	1810	1900	1825	1810	1900	1882	1810	1900	1817
Q Serve(g_s), s	11.6	11.7	5.6	4.2	29.4	29.7	26.5	20.3	20.3	5.8	14.1	14.3
Cycle Q Clear(g_c), s	11.6	11.7	5.6	4.2	29.4	29.7	26.5	20.3	20.3	5.8	14.1	14.3
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.05	1.00		0.25
Lane Grp Cap(c), veh/h	188	3611	1378	83	2185	1049	799	713	707	112	396	379
V/C Ratio(X)	0.93	0.33	0.42	0.78	0.64	0.64	1.35	0.57	0.57	0.79	0.62	0.63
Avail Cap(c_a), veh/h	188	3611	1378	134	2185	1049	799	713	707	167	396	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)	0.64	0.64	0.64	1.00	1.00	1.00	0.65	0.65	0.65	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	10.2	6.7	56.7	17.1	17.2	46.8	29.7	29.7	55.5	43.2	43.3
Incr Delay (d2), s/veh	35.0	0.2	0.6	5.7	1.4	3.0	163.0	2.1	2.2	7.9	7.1	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	6.2	2.6	2.2	15.7	15.8	31.3	11.1	11.0	3.2	8.1	8.0
LnGrp Delay(d),s/veh	88.3	10.4	7.3	62.4	18.5	20.1	209.8	31.9	31.9	63.4	50.3	50.9
LnGrp LOS	F	B	A	E	B	C	F	C	C	E	D	D
Approach Vol, veh/h		1956			2125			1885			572	
Approach Delay, s/veh		16.5			20.3			133.7			52.6	
Approach LOS		B			C			F			D	

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	10.0	82.5	32.0	30.5	17.0	75.5	11.9	50.6
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	8.9	39.6	26.5	* 25	12.5	36.0	11.1	40.4
Max Q Clear Time (g_c+I1), s	16.2	13.7	28.5	16.3	13.6	31.7	7.8	22.3
Green Ext Time (p_c), s	0.0	19.6	0.0	1.1	0.0	4.0	0.0	5.2

Intersection Summary	
HCM 2010 Ctrl Delay	54.7
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	6	139	1177	5	94	951
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	6	146	1239	5	99	1001
Adj No. of Lanes	1	1	2	1	1	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	200	178	1665	745	464	2811
Arrive On Green	0.11	0.11	0.46	0.46	0.26	0.78
Sat Flow, veh/h	1810	1615	3705	1615	1810	3705
Grp Volume(v), veh/h	6	146	1239	5	99	1001
Grp Sat Flow(s),veh/h/ln	1810	1615	1805	1615	1810	1805
Q Serve(g_s), s	0.3	8.0	25.3	0.2	3.9	7.6
Cycle Q Clear(g_c), s	0.3	8.0	25.3	0.2	3.9	7.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	200	178	1665	745	464	2811
V/C Ratio(X)	0.03	0.82	0.74	0.01	0.21	0.36
Avail Cap(c_a), veh/h	523	467	1665	745	464	2811
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.84	0.84	1.00	1.00
Uniform Delay (d), s/veh	35.7	39.2	19.9	13.1	26.3	3.1
Incr Delay (d2), s/veh	0.0	3.5	2.6	0.0	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.7	13.2	0.1	1.9	3.9
LnGrp Delay(d),s/veh	35.8	42.7	22.5	13.1	26.4	3.4
LnGrp LOS	D	D	C	B	C	A
Approach Vol, veh/h	152		1244			1100
Approach Delay, s/veh	42.4		22.4			5.5
Approach LOS	D		C			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	28.6	47.0				75.6		14.4
Change Period (Y+Rc), s	5.5	* 5.5				5.5		4.5
Max Green Setting (Gmax), s	8.0	* 42				54.0		26.0
Max Q Clear Time (g_c+I1), s	5.9	27.3				9.6		10.0
Green Ext Time (p_c), s	1.0	4.7				4.6		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	16.2
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	374	520	469	233	298	871
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	398	553	499	248	317	927
Adj No. of Lanes	1	1	2	0	2	2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	604	679	874	432	314	1877
Arrive On Green	0.33	0.33	0.37	0.37	0.09	0.52
Sat Flow, veh/h	1810	1615	2437	1159	3619	3705
Grp Volume(v), veh/h	398	553	384	363	317	927
Grp Sat Flow(s),veh/h/ln	1810	1615	1805	1696	1810	1805
Q Serve(g_s), s	14.1	22.6	12.7	12.8	6.5	12.4
Cycle Q Clear(g_c), s	14.1	22.6	12.7	12.8	6.5	12.4
Prop In Lane	1.00	1.00		0.68	1.00	
Lane Grp Cap(c), veh/h	604	679	674	633	314	1877
V/C Ratio(X)	0.66	0.81	0.57	0.57	1.01	0.49
Avail Cap(c_a), veh/h	627	700	674	633	314	1877
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	0.95	0.95
Uniform Delay (d), s/veh	21.4	19.2	18.7	18.7	34.3	11.6
Incr Delay (d2), s/veh	1.9	6.6	3.5	3.8	52.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.1	0.0
%ile BackOfQ(50%),veh/ln	7.3	11.3	6.9	6.6	5.5	6.4
LnGrp Delay(d),s/veh	23.2	25.8	22.2	22.5	86.4	12.5
LnGrp LOS	C	C	C	C	F	B
Approach Vol, veh/h	951		747			1244
Approach Delay, s/veh	24.7		22.3			31.4
Approach LOS	C		C			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	11.0	33.5				44.5		30.5
Change Period (Y+Rc), s	4.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	6.5	27.0				38.0		26.0
Max Q Clear Time (g_c+I1), s	8.5	14.8				14.4		24.6
Green Ext Time (p_c), s	0.0	5.4				7.1		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	26.9
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	31	84	4	44	341	592	1	469	13	444	420	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	41	112	2	59	455	722	1	625	17	592	560	68
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	52	156	132	352	491	727	128	1121	501	673	1558	697
Arrive On Green	0.03	0.08	0.08	0.19	0.26	0.26	0.07	0.31	0.31	0.19	0.43	0.43
Sat Flow, veh/h	1810	1900	1615	1810	1900	1615	1810	3610	1615	3510	3610	1615
Grp Volume(v), veh/h	41	112	2	59	455	722	1	625	17	592	560	68
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1805	1615	1755	1805	1615
Q Serve(g_s), s	2.1	5.5	0.1	2.6	22.2	15.9	0.0	13.7	0.7	15.6	9.9	1.8
Cycle Q Clear(g_c), s	2.1	5.5	0.1	2.6	22.2	15.9	0.0	13.7	0.7	15.6	9.9	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	52	156	132	352	491	727	128	1121	501	673	1558	697
V/C Ratio(X)	0.79	0.72	0.02	0.17	0.93	0.99	0.01	0.56	0.03	0.88	0.36	0.10
Avail Cap(c_a), veh/h	95	520	442	352	500	735	128	1121	501	673	1558	697
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	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	42.5	40.1	31.8	34.3	13.9	41.0	27.3	22.8	37.3	18.2	9.4
Incr Delay (d2), s/veh	9.3	2.3	0.0	0.0	3.2	8.4	0.0	2.0	0.1	12.4	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.0	0.0	1.3	12.1	8.7	0.0	7.2	0.3	8.7	5.0	0.9
LnGrp Delay(d),s/veh	55.1	44.9	40.1	31.9	37.5	22.3	41.1	29.3	22.9	49.7	18.8	9.6
LnGrp LOS	E	D	D	C	D	C	D	C	C	D	B	A
Approach Vol, veh/h		155			1236			643			1220	
Approach Delay, s/veh		47.5			28.3			29.2			33.3	
Approach LOS		D			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	12.7	35.0	24.0	13.3	11.2	46.5	7.2	30.1
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	15.5	29.5	4.0	* 26	4.0	41.0	5.0	25.0
Max Q Clear Time (g_c+I1), s	17.6	15.7	4.6	7.5	2.0	11.9	4.1	24.2
Green Ext Time (p_c), s	0.0	2.1	0.0	0.3	0.3	2.2	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	31.3
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	156	1019	5	11	1487	10	5	10	16	10	10	42
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	195	1274	6	14	1859	12	6	12	20	12	12	52
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	191	2425	11	80	2074	13	110	218	313	109	122	399
Arrive On Green	0.11	0.43	0.43	0.04	0.37	0.37	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	1810	5669	27	1810	5657	37	179	614	881	175	342	1122
Grp Volume(v), veh/h	195	854	426	14	1249	622	38	0	0	76	0	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1895	1810	1900	1894	1673	0	0	1639	0	0
Q Serve(g_s), s	9.5	14.9	14.9	0.7	27.9	27.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.5	14.9	14.9	0.7	27.9	27.9	1.3	0.0	0.0	2.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		0.02	0.16		0.53	0.16		0.68
Lane Grp Cap(c), veh/h	191	1626	811	80	1393	694	641	0	0	629	0	0
V/C Ratio(X)	1.02	0.53	0.53	0.17	0.90	0.90	0.06	0.00	0.00	0.12	0.00	0.00
Avail Cap(c_a), veh/h	191	1626	811	80	1393	694	641	0	0	629	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)	0.52	0.52	0.52	0.68	0.68	0.68	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	40.3	19.0	19.0	41.4	26.9	26.9	19.1	0.0	0.0	19.6	0.0	0.0
Incr Delay (d2), s/veh	52.5	0.6	1.3	0.3	6.6	12.1	0.2	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	8.0	8.1	0.3	15.9	16.9	0.7	0.0	0.0	1.3	0.0	0.0
LnGrp Delay(d),s/veh	92.9	19.6	20.3	41.7	33.5	39.0	19.3	0.0	0.0	20.0	0.0	0.0
LnGrp LOS	F	B	C	D	C	D	B			B		
Approach Vol, veh/h		1475			1885			38			76	
Approach Delay, s/veh		29.5			35.4			19.3			20.0	
Approach LOS		C			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.5	44.0		37.5	14.0	38.5		37.5
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	4.0	38.5		32.0	9.5	33.0		32.0
Max Q Clear Time (g_c+I1), s	2.7	16.9		4.7	11.5	29.9		3.3
Green Ext Time (p_c), s	0.0	5.3		0.4	0.0	2.2		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	32.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	21	42	168	92	198	324	355	473	140	239	357	93
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	25	49	198	108	233	381	418	556	165	281	420	109
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	37	123	491	395	498	422	433	1022	433	409	971	413
Arrive On Green	0.02	0.06	0.06	0.22	0.26	0.26	0.24	0.27	0.27	0.23	0.26	0.26
Sat Flow, veh/h	1810	1900	1615	1810	1900	1609	1810	3800	1611	1810	3800	1615
Grp Volume(v), veh/h	25	49	198	108	233	381	418	556	165	281	420	109
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1609	1810	1900	1611	1810	1900	1615
Q Serve(g_s), s	1.2	2.2	0.0	4.5	9.3	20.6	20.6	11.3	7.5	12.8	8.3	4.8
Cycle Q Clear(g_c), s	1.2	2.2	0.0	4.5	9.3	20.6	20.6	11.3	7.5	12.8	8.3	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	37	123	491	395	498	422	433	1022	433	409	971	413
V/C Ratio(X)	0.67	0.40	0.40	0.27	0.47	0.90	0.97	0.54	0.38	0.69	0.43	0.26
Avail Cap(c_a), veh/h	80	570	871	395	581	492	433	1022	433	409	971	413
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	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	40.4	24.8	29.3	27.9	32.1	33.9	28.2	26.8	31.9	28.0	26.7
Incr Delay (d2), s/veh	7.6	0.8	0.2	0.1	0.2	15.5	34.0	2.1	2.5	4.0	1.4	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.2	3.9	2.2	4.9	11.0	14.3	6.2	3.6	6.9	4.6	2.3
LnGrp Delay(d),s/veh	51.4	41.2	25.0	29.4	28.1	47.6	67.8	30.3	29.3	35.9	29.4	28.3
LnGrp LOS	D	D	C	C	C	D	E	C	C	D	C	C
Approach Vol, veh/h		272			722			1139			810	
Approach Delay, s/veh		30.4			38.6			43.9			31.5	
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	24.8	29.7	24.1	11.3	26.0	28.5	6.3	29.1
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	14.3	24.2	4.5	27.0	15.5	23.0	4.0	27.5
Max Q Clear Time (g_c+I1), s	14.8	13.3	6.5	4.2	22.6	10.3	3.2	22.6
Green Ext Time (p_c), s	0.0	1.9	0.0	0.5	0.0	1.4	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	37.9
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	158	304	281	696	341	1026	908	295	127	432	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	78	216	404	385	953	464	1405	1244	372	174	592	68
Adj No. of Lanes	1	2	2	2	2	1	2	2	1	2	2	0
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	387	1681	780	1018	526	1515	2073	1229	233	605	69
Arrive On Green	0.10	0.20	0.20	0.43	0.54	0.54	0.84	1.00	1.00	0.13	0.37	0.37
Sat Flow, veh/h	1810	3800	3230	3619	3800	1577	3619	3800	1615	3619	3314	379
Grp Volume(v), veh/h	78	216	404	385	953	464	1405	1244	372	174	339	321
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1577	1810	1900	1615	1810	1900	1793
Q Serve(g_s), s	4.9	5.9	0.0	8.8	26.9	30.8	32.5	0.0	0.0	5.3	20.2	20.4
Cycle Q Clear(g_c), s	4.9	5.9	0.0	8.8	26.9	30.8	32.5	0.0	0.0	5.3	20.2	20.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	90	387	1681	780	1018	526	1515	2073	1229	233	347	327
V/C Ratio(X)	0.87	0.56	0.24	0.49	0.94	0.88	0.93	0.60	0.30	0.75	0.98	0.98
Avail Cap(c_a), veh/h	90	859	2083	780	1018	526	1515	2073	1229	368	347	327
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.38	0.38	0.38	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	43.5	13.2	28.2	25.8	19.0	8.1	0.0	0.0	49.2	36.3	36.3
Incr Delay (d2), s/veh	26.6	0.2	0.0	0.2	15.1	15.4	1.1	0.1	0.1	1.8	42.6	45.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	3.1	3.0	4.3	16.0	15.3	14.9	0.0	0.0	2.7	14.5	14.0
LnGrp Delay(d),s/veh	78.1	43.7	13.2	28.3	40.9	34.5	9.2	0.1	0.1	51.0	78.9	81.6
LnGrp LOS	E	D	B	C	D	C	A	A	A	D	E	F
Approach Vol, veh/h		698			1802			3021			834	
Approach Delay, s/veh		29.9			36.5			4.3			74.1	
Approach LOS		C			D			A			E	

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	11.9	67.4	29.3	17.2	52.8	26.5	10.2	36.3
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	11.7	46.8	10.5	26.0	37.5	* 21	5.7	30.8
Max Q Clear Time (g_c+I1), s	7.3	2.0	10.8	7.9	34.5	22.4	6.9	32.8
Green Ext Time (p_c), s	0.1	13.7	0.0	1.6	1.2	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	25.4
HCM 2010 LOS	C

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	40	395	188	85	108	465	1910	353	107	651	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	32	49	423	229	104	130	567	2329	428	130	794	57
Adj No. of Lanes	1	1	2	2	1	1	2	2	1	1	3	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	40	95	1289	218	167	142	1263	2542	1155	98	1923	137
Arrive On Green	0.02	0.05	0.05	0.06	0.09	0.09	0.35	0.67	0.67	0.05	0.37	0.37
Sat Flow, veh/h	1810	1900	3230	3619	1900	1615	3619	3800	1582	1810	5257	376
Grp Volume(v), veh/h	32	49	423	229	104	130	567	2329	428	130	573	278
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1810	1900	1582	1810	1900	1833
Q Serve(g_s), s	2.1	3.0	0.0	7.2	6.3	8.1	14.5	62.9	4.1	6.5	13.5	13.6
Cycle Q Clear(g_c), s	2.1	3.0	0.0	7.2	6.3	8.1	14.5	62.9	4.1	6.5	13.5	13.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	40	95	1289	218	167	142	1263	2542	1155	98	1390	671
V/C Ratio(X)	0.79	0.51	0.33	1.05	0.62	0.92	0.45	0.92	0.37	1.33	0.41	0.41
Avail Cap(c_a), veh/h	84	380	1773	218	394	335	1263	2542	1155	98	1390	671
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	58.4	55.6	24.9	56.4	52.8	39.1	30.2	17.0	1.4	56.8	28.4	28.4
Incr Delay (d2), s/veh	12.1	1.6	0.1	75.2	1.4	8.9	0.1	6.6	0.9	189.8	0.7	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	1.2	1.6	4.8	5.9	3.4	4.0	7.3	35.0	2.0	8.4	7.2	7.1
LnGrp Delay(d),s/veh	70.4	57.2	25.0	131.6	54.2	48.0	30.3	23.6	2.4	246.5	29.1	29.9
LnGrp LOS	E	E	C	F	D	D	C	C	A	F	C	C
Approach Vol, veh/h		504			463			3324			981	
Approach Delay, s/veh		31.0			90.7			22.0			58.1	
Approach LOS		C			F			C			E	

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	11.0	85.8	11.7	11.5	47.4	49.4	7.2	16.1
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	6.5	63.0	6.5	24.0	25.6	* 44	5.6	24.9
Max Q Clear Time (g_c+I1), s	10.5	64.9	9.2	5.0	16.5	15.6	4.1	10.1
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	7.7	3.2	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	35.6
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1105	594	254	108	1126	438	156	1137	114	229	641	505
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1176	632	253	115	1198	464	166	1210	117	244	682	470
Adj No. of Lanes	2	3	1	1	3	1	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	2838	6090	1793	76	1800	580	152	1280	544	171	1340	1836
Arrive On Green	0.78	1.00	1.00	0.04	0.32	0.32	0.04	0.34	0.34	0.05	0.35	0.35
Sat Flow, veh/h	3619	5700	1615	1810	5700	1594	3619	3800	1615	3619	3800	1615
Grp Volume(v), veh/h	1176	632	253	115	1198	464	166	1210	117	244	682	470
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1594	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	9.9	0.0	0.0	4.0	17.3	20.3	4.0	29.4	9.1	4.5	13.5	2.9
Cycle Q Clear(g_c), s	9.9	0.0	0.0	4.0	17.3	20.3	4.0	29.4	9.1	4.5	13.5	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2838	6090	1793	76	1800	580	152	1280	544	171	1340	1836
V/C Ratio(X)	0.41	0.10	0.14	1.51	0.67	0.80	1.09	0.95	0.22	1.42	0.51	0.26
Avail Cap(c_a), veh/h	2838	6090	1793	76	1800	580	152	1280	544	171	1340	1836
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)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	3.3	0.0	0.0	45.5	28.2	27.1	45.5	30.6	77.7	45.2	24.3	7.6
Incr Delay (d2), s/veh	0.0	0.0	0.1	285.4	2.0	11.1	98.8	15.1	0.9	220.9	1.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	0.1	8.0	9.4	10.6	4.1	18.0	4.2	7.5	7.3	5.0
LnGrp Delay(d),s/veh	3.3	0.0	0.1	330.9	30.1	38.2	144.3	45.7	78.6	266.2	25.6	8.0
LnGrp LOS	A	A	A	F	C	D	F	D	E	F	C	A
Approach Vol, veh/h		2061			1777			1493			1396	
Approach Delay, s/veh		1.9			51.7			59.3			61.7	
Approach LOS		A			D			E			E	

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	8.5	109.0	8.5	39.0	82.0	35.5	10.0	37.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	5.5	* 5.5
Max Green Setting (Gmax), s	4.0	34.5	4.0	32.5	8.5	* 30	4.5	* 32
Max Q Clear Time (g_c+I1), s	6.0	2.0	6.0	15.5	11.9	22.3	6.5	31.4
Green Ext Time (p_c), s	0.0	6.4	0.0	3.8	0.0	3.9	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	40.2
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	267	678	297	269	1148	143	394	1484	295	228	1178	319
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		0.99	1.00		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	297	753	313	299	1276	150	438	1649	316	253	1309	344
Adj No. of Lanes	2	3	1	1	2	0	2	3	1	1	3	1
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	249	3083	1079	303	2126	249	453	1686	475	204	1544	431
Arrive On Green	0.07	0.54	0.54	0.17	0.64	0.64	0.13	0.30	0.30	0.11	0.27	0.27
Sat Flow, veh/h	3510	5700	1609	1810	3335	390	3510	5700	1605	1810	5700	1591
Grp Volume(v), veh/h	297	753	313	299	724	702	438	1649	316	253	1309	344
Grp Sat Flow(s),veh/h/ln	1755	1900	1609	1810	1900	1825	1755	1900	1605	1810	1900	1591
Q Serve(g_s), s	8.5	8.4	5.9	19.8	26.8	27.2	14.9	34.4	20.7	13.5	26.1	28.4
Cycle Q Clear(g_c), s	8.5	8.4	5.9	19.8	26.8	27.2	14.9	34.4	20.7	13.5	26.1	28.4
Prop In Lane	1.00		1.00	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	249	3083	1079	303	1211	1163	453	1686	475	204	1544	431
V/C Ratio(X)	1.19	0.24	0.29	0.99	0.60	0.60	0.97	0.98	0.67	1.24	0.85	0.80
Avail Cap(c_a), veh/h	249	3083	1079	303	1211	1163	453	1686	475	204	1544	431
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	55.8	14.6	10.6	49.8	12.7	12.8	52.0	41.9	37.0	53.2	41.4	56.4
Incr Delay (d2), s/veh	119.9	0.2	0.7	47.8	2.2	2.3	33.3	17.3	7.2	143.7	6.0	14.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	4.4	4.2	13.9	14.6	14.4	9.3	20.7	10.1	14.9	14.6	14.2
LnGrp Delay(d),s/veh	175.7	14.8	11.3	97.6	14.9	15.1	85.3	59.1	44.2	196.9	47.4	70.7
LnGrp LOS	F	B	B	F	B	B	F	E	D	F	D	E
Approach Vol, veh/h		1363			1725			2403			1906	
Approach Delay, s/veh		49.0			29.3			61.9			71.4	
Approach LOS		D			C			E			E	

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	24.6	71.4	21.0	38.0	13.0	83.0	18.0	41.0
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	20.1	31.9	15.5	* 33	8.5	43.5	13.5	34.5
Max Q Clear Time (g_c+I1), s	21.8	10.4	16.9	30.4	10.5	29.2	15.5	36.4
Green Ext Time (p_c), s	0.0	11.2	0.0	1.4	0.0	8.8	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	54.4
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	86	277	222	360	415	242	153	1526	313	139	1531	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	95	304	228	396	456	166	168	1677	319	153	1682	85
Adj No. of Lanes	1	2	0	1	2	1	2	3	1	2	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	125	376	275	374	1240	519	180	2131	594	168	1992	101
Arrive On Green	0.07	0.19	0.19	0.21	0.33	0.33	0.05	0.37	0.37	0.05	0.37	0.37
Sat Flow, veh/h	1810	1991	1455	1810	3800	1589	3510	5700	1590	3510	5377	271
Grp Volume(v), veh/h	95	275	257	396	456	166	168	1677	319	153	1188	579
Grp Sat Flow(s),veh/h/ln	1810	1805	1641	1810	1900	1589	1755	1900	1590	1755	1900	1848
Q Serve(g_s), s	5.9	16.8	17.3	23.8	10.6	9.0	5.5	30.0	9.3	5.0	32.9	33.0
Cycle Q Clear(g_c), s	5.9	16.8	17.3	23.8	10.6	9.0	5.5	30.0	9.3	5.0	32.9	33.0
Prop In Lane	1.00		0.89	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	125	341	310	374	1240	519	180	2131	594	168	1408	685
V/C Ratio(X)	0.76	0.81	0.83	1.06	0.37	0.32	0.93	0.79	0.54	0.91	0.84	0.85
Avail Cap(c_a), veh/h	197	471	428	374	1365	571	180	2131	594	168	1408	685
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	52.6	44.6	44.9	45.6	29.7	29.1	54.4	31.9	7.5	54.5	33.2	33.2
Incr Delay (d2), s/veh	3.5	4.9	6.9	62.5	0.1	0.1	51.4	3.0	3.5	43.9	6.4	12.2
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	3.1	8.8	8.5	18.4	5.5	4.0	3.9	16.3	4.7	3.4	18.6	19.2
LnGrp Delay(d),s/veh	56.1	49.6	51.8	108.1	29.7	29.3	105.7	35.0	11.0	98.4	39.5	45.4
LnGrp LOS	E	D	D	F	C	C	F	C	B	F	D	D
Approach Vol, veh/h		627			1018			2164			1920	
Approach Delay, s/veh		51.5			60.1			36.9			46.0	
Approach LOS		D			E			D			D	

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	10.0	48.5	29.3	27.2	10.4	48.1	13.5	43.0
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	5.5	34.7	23.8	30.0	5.9	34.3	12.5	41.3
Max Q Clear Time (g_c+I1), s	7.0	32.0	25.8	19.3	7.5	35.0	7.9	12.6
Green Ext Time (p_c), s	0.0	2.5	0.0	1.8	0.0	0.0	0.0	2.7

Intersection Summary	
HCM 2010 Ctrl Delay	45.7
HCM 2010 LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2100	802	1355	1751	0	0	0	0	0	0	425
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				0	0	1900
Adj Flow Rate, veh/h	0	2211	836	1426	1843	0				0	0	325
Adj No. of Lanes	0	2	1	2	2	0				0	0	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2328	989	1116	3626	0				0	0	0
Arrive On Green	0.00	0.61	0.61	0.31	0.95	0.00				0.00	0.00	0.00
Sat Flow, veh/h	0	3800	1615	3619	3800	0					0	
Grp Volume(v), veh/h	0	2211	836	1426	1843	0					0.0	
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0						
Q Serve(g_s), s	0.0	64.7	49.9	37.0	5.2	0.0						
Cycle Q Clear(g_c), s	0.0	64.7	49.9	37.0	5.2	0.0						
Prop In Lane	0.00		1.00	1.00		0.00						
Lane Grp Cap(c), veh/h	0	2328	989	1116	3626	0						
V/C Ratio(X)	0.00	0.95	0.85	1.28	0.51	0.00						
Avail Cap(c_a), veh/h	0	2328	989	1116	3626	0						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00						
Uniform Delay (d), s/veh	0.0	21.5	18.7	41.5	0.2	0.0						
Incr Delay (d2), s/veh	0.0	10.1	8.8	132.1	0.5	0.0						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	0.0	36.7	24.5	38.9	2.6	0.0						
LnGrp Delay(d),s/veh	0.0	31.7	27.5	173.6	0.8	0.0						
LnGrp LOS		C	C	F	A							
Approach Vol, veh/h		3047			3269							
Approach Delay, s/veh		30.5			76.1							
Approach LOS		C			E							

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		
Phs Duration (G+Y+Rc), s	41.0	79.0				120.0		
Change Period (Y+Rc), s	4.0	5.5				5.5		
Max Green Setting (Gmax), s	37.0	60.5				101.5		
Max Q Clear Time (g_c+I1), s	39.0	66.7				7.2		
Green Ext Time (p_c), s	0.0	0.0				73.7		

Intersection Summary	
HCM 2010 Ctrl Delay	54.1
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	891	194	753	953	0	0	0	0	829	2	748
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		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
Adj Sat Flow, veh/h/ln	0	1900	1900	1900	1900	0				1900	1900	1900
Adj Flow Rate, veh/h	0	948	206	801	1014	0				882	2	719
Adj No. of Lanes	0	2	1	2	2	0				2	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	971	413	1488	2744	0				1287	2	573
Arrive On Green	0.00	0.26	0.26	0.14	0.24	0.00				0.36	0.36	0.36
Sat Flow, veh/h	0	3800	1615	3619	3800	0				3619	4	1611
Grp Volume(v), veh/h	0	948	206	801	1014	0				882	0	721
Grp Sat Flow(s),veh/h/ln	0	1900	1615	1810	1900	0				1810	0	1616
Q Serve(g_s), s	0.0	22.3	9.8	18.6	20.1	0.0				18.7	0.0	32.0
Cycle Q Clear(g_c), s	0.0	22.3	9.8	18.6	20.1	0.0				18.7	0.0	32.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	971	413	1488	2744	0				1287	0	574
V/C Ratio(X)	0.00	0.98	0.50	0.54	0.37	0.00				0.69	0.00	1.26
Avail Cap(c_a), veh/h	0	971	413	1488	2744	0				1287	0	574
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.41	0.41	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	33.2	28.6	30.9	17.2	0.0				24.7	0.0	29.0
Incr Delay (d2), s/veh	0.0	23.7	4.3	0.1	0.2	0.0				1.5	0.0	128.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.8	4.8	9.3	10.6	0.0				9.6	0.0	34.7
LnGrp Delay(d),s/veh	0.0	56.9	32.9	31.0	17.3	0.0				26.2	0.0	157.6
LnGrp LOS		E	C	C	B					C		F
Approach Vol, veh/h		1154			1815						1603	
Approach Delay, s/veh		52.6			23.4						85.3	
Approach LOS		D			C						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	42.5	28.0		37.0		70.5		
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0		
Max Green Setting (Gmax), s	20.5	* 23		32.0		48.0		
Max Q Clear Time (g_c+I1), s	20.6	24.3		34.0		22.1		
Green Ext Time (p_c), s	0.0	0.0		0.0		6.6		

Intersection Summary	
HCM 2010 Ctrl Delay	52.5
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

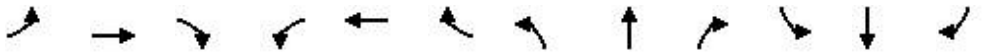
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	512	1756	846	0	3310	155	260	693	31	318	0	995
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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	1900	1900	0	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	528	1810	0	0	3412	151	268	714	32	328	0	1011
Adj No. of Lanes	2	3	1	0	4	1	2	2	0	2	1	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1763	5524	1565	0	3316	828	309	624	28	276	321	1866
Arrive On Green	0.49	0.97	0.00	0.00	0.44	0.44	0.09	0.17	0.17	0.08	0.00	0.17
Sat Flow, veh/h	3619	5700	1615	0	7600	1615	3619	3610	162	3619	1900	2842
Grp Volume(v), veh/h	528	1810	0	0	3412	151	268	376	370	328	0	1011
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	0	1900	1615	1810	1900	1871	1810	1900	1421
Q Serve(g_s), s	9.6	1.6	0.0	0.0	48.0	2.5	8.0	19.0	19.0	8.4	0.0	0.0
Cycle Q Clear(g_c), s	9.6	1.6	0.0	0.0	48.0	2.5	8.0	19.0	19.0	8.4	0.0	0.0
Prop In Lane	1.00		1.00	0.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	1763	5524	1565	0	3316	828	309	328	323	276	321	1866
V/C Ratio(X)	0.30	0.33	0.00	0.00	1.03	0.18	0.87	1.14	1.15	1.19	0.00	0.54
Avail Cap(c_a), veh/h	1763	5524	1565	0	3316	828	309	328	323	276	321	1866
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.9	0.1	0.0	0.0	31.0	20.6	49.7	45.5	45.5	50.8	0.0	10.1
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	23.6	0.5	21.1	94.9	95.6	114.5	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.8	0.0	0.0	30.5	1.2	4.9	18.6	18.4	8.6	0.0	8.3
LnGrp Delay(d),s/veh	17.0	0.2	0.0	0.0	54.6	21.1	70.8	140.4	141.1	165.3	0.0	11.2
LnGrp LOS	B	A			F	C	E	F	F	F		B
Approach Vol, veh/h		2338			3563			1014			1339	
Approach Delay, s/veh		4.0			53.2			122.2			49.0	
Approach LOS		A			D			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s		113.4	15.0	23.6	60.4	53.0	14.0	24.6
Change Period (Y+Rc), s		* 5.6	5.6	5.0	5.6	5.0	5.6	* 5.6
Max Green Setting (Gmax), s		* 67	8.8	18.6	13.4	48.0	8.4	* 19
Max Q Clear Time (g_c+I1), s		3.6	10.0	2.0	11.6	50.0	10.4	21.0
Green Ext Time (p_c), s		14.3	0.0	2.3	1.5	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	47.1
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	679	1040	0	0	1339	1693	367	3	247	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	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			
Parking Bus, Adj	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	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	763	1169	0	0	1504	0	412	3	169			
Adj No. of Lanes	2	2	0	0	2	1	0	1	1			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	583	2576	0	0	1816	772	379	3	341			
Arrive On Green	0.32	1.00	0.00	0.00	0.48	0.00	0.21	0.21	0.21			
Sat Flow, veh/h	3619	3800	0	0	3800	1615	1797	13	1615			
Grp Volume(v), veh/h	763	1169	0	0	1504	0	415	0	169			
Grp Sat Flow(s),veh/h/ln	1810	1900	0	0	1900	1615	1810	0	1615			
Q Serve(g_s), s	14.5	0.0	0.0	0.0	30.8	0.0	19.0	0.0	8.3			
Cycle Q Clear(g_c), s	14.5	0.0	0.0	0.0	30.8	0.0	19.0	0.0	8.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.99		1.00			
Lane Grp Cap(c), veh/h	583	2576	0	0	1816	772	382	0	341			
V/C Ratio(X)	1.31	0.45	0.00	0.00	0.83	0.00	1.09	0.00	0.50			
Avail Cap(c_a), veh/h	583	2576	0	0	1816	772	382	0	341			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.46	0.46	0.00	0.00	0.31	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	30.5	0.0	0.0	0.0	20.3	0.0	35.5	0.0	31.3			
Incr Delay (d2), s/veh	144.7	0.3	0.0	0.0	1.5	0.0	71.1	0.0	5.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	18.8	0.1	0.0	0.0	16.5	0.0	17.0	0.0	4.2			
LnGrp Delay(d),s/veh	175.2	0.3	0.0	0.0	21.8	0.0	106.6	0.0	36.4			
LnGrp LOS	F	A			C		F		D			
Approach Vol, veh/h		1932			1504			584				
Approach Delay, s/veh		69.4			21.8			86.3				
Approach LOS		E			C			F				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		66.0			18.0	48.0		24.0
Change Period (Y+Rc), s		5.0			3.5	5.0		5.0
Max Green Setting (Gmax), s		61.0			14.5	43.0		19.0
Max Q Clear Time (g_c+I1), s		2.0			16.5	32.8		21.0
Green Ext Time (p_c), s		22.1			0.0	7.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	54.0
HCM 2010 LOS	D

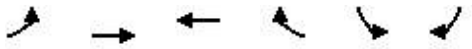
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	226	2602	36	33	2366	217	482	125	200	201	27	252
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	233	2682	0	34	2439	193	497	129	152	207	28	153
Adj No. of Lanes	1	4	1	1	4	1	2	1	0	1	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	128	3409	724	43	3053	635	1026	198	234	187	131	226
Arrive On Green	0.07	0.45	0.00	0.02	0.40	0.40	0.28	0.25	0.25	0.10	0.07	0.07
Sat Flow, veh/h	1810	7600	1615	1810	7600	1581	3619	796	938	1810	1900	1615
Grp Volume(v), veh/h	233	2682	0	34	2439	193	497	0	281	207	28	153
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1581	1810	0	1733	1810	1900	1615
Q Serve(g_s), s	8.5	36.1	0.0	2.2	33.9	6.7	13.7	0.0	17.4	12.4	1.7	5.6
Cycle Q Clear(g_c), s	8.5	36.1	0.0	2.2	33.9	6.7	13.7	0.0	17.4	12.4	1.7	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.54	1.00		1.00
Lane Grp Cap(c), veh/h	128	3409	724	43	3053	635	1026	0	432	187	131	226
V/C Ratio(X)	1.82	0.79	0.00	0.78	0.80	0.30	0.48	0.00	0.65	1.11	0.21	0.68
Avail Cap(c_a), veh/h	128	3409	724	92	3053	635	1026	0	432	187	467	511
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	28.2	0.0	58.3	31.6	11.1	35.7	0.0	40.4	53.8	52.8	20.5
Incr Delay (d2), s/veh	397.0	1.9	0.0	10.8	1.5	0.1	1.6	0.0	7.4	97.4	0.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.4	19.3	0.0	1.3	18.1	2.9	7.1	0.0	9.2	11.2	0.9	2.6
LnGrp Delay(d),s/veh	452.7	30.1	0.0	69.1	33.1	11.2	37.3	0.0	47.8	151.2	53.1	21.8
LnGrp LOS	F	C		E	C	B	D		D	F	D	C
Approach Vol, veh/h		2915			2666			778			388	
Approach Delay, s/veh		63.9			32.0			41.1			93.1	
Approach LOS		E			C			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	7.4	59.3	39.5	13.8	13.0	53.7	17.9	35.4
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	6.1	50.6	12.8	29.5	8.5	48.2	12.4	29.9
Max Q Clear Time (g_c+I1), s	4.2	38.1	15.7	7.6	10.5	35.9	14.4	19.4
Green Ext Time (p_c), s	0.0	12.2	0.0	0.3	0.0	10.5	0.0	0.9

Intersection Summary	
HCM 2010 Ctrl Delay	50.3
HCM 2010 LOS	D

Notes

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	41	1246	2956	20	17	77
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	45	1354	3213	22	18	84
Adj No. of Lanes	1	3	3	1	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	373	4927	3491	982	65	302
Arrive On Green	0.21	0.86	0.61	0.61	0.22	0.22
Sat Flow, veh/h	1810	5700	5700	1603	288	1344
Grp Volume(v), veh/h	45	1354	3213	22	103	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1603	1648	0
Q Serve(g_s), s	2.4	5.1	60.1	0.6	6.2	0.0
Cycle Q Clear(g_c), s	2.4	5.1	60.1	0.6	6.2	0.0
Prop In Lane	1.00			1.00	0.17	0.82
Lane Grp Cap(c), veh/h	373	4927	3491	982	371	0
V/C Ratio(X)	0.12	0.27	0.92	0.02	0.28	0.00
Avail Cap(c_a), veh/h	373	4927	3491	982	371	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	38.8	1.4	20.6	9.1	38.4	0.0
Incr Delay (d2), s/veh	0.0	0.1	5.2	0.0	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.7	32.9	0.3	3.0	0.0
LnGrp Delay(d),s/veh	38.8	1.6	25.8	9.2	40.3	0.0
LnGrp LOS	D	A	C	A	D	
Approach Vol, veh/h		1399	3235		103	
Approach Delay, s/veh		2.8	25.7		40.3	
Approach LOS		A	C		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		109.7		32.5	30.7	79.0		
Change Period (Y+Rc), s		5.5		5.5	5.5	* 5.5		
Max Green Setting (Gmax), s		82.0		27.0	4.0	* 74		
Max Q Clear Time (g_c+I1), s		7.1		8.2	4.4	62.1		
Green Ext Time (p_c), s		7.3		0.1	0.0	10.3		

Intersection Summary	
HCM 2010 Ctrl Delay	19.3
HCM 2010 LOS	B

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												
Volume (veh/h)	240	3000	873	25	1782	118	352	138	27	258	264	356
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		0.99	1.00		1.00	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	261	3261	0	27	1937	124	383	150	24	280	287	309
Adj No. of Lanes	2	3	1	1	3	0	2	2	0	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	874	3731	1057	36	2248	143	296	753	118	149	895	766
Arrive On Green	0.24	0.65	0.00	0.02	0.42	0.42	0.08	0.23	0.23	0.08	0.24	0.24
Sat Flow, veh/h	3619	5700	1615	1810	5297	338	3619	3208	504	1810	3800	1594
Grp Volume(v), veh/h	261	3261	0	27	1387	674	383	88	86	280	287	309
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1835	1810	1900	1811	1810	1900	1594
Q Serve(g_s), s	6.8	53.1	0.0	1.7	38.1	38.4	9.4	4.3	4.4	9.5	7.2	3.3
Cycle Q Clear(g_c), s	6.8	53.1	0.0	1.7	38.1	38.4	9.4	4.3	4.4	9.5	7.2	3.3
Prop In Lane	1.00		1.00	1.00		0.18	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	874	3731	1057	36	1613	779	296	446	425	149	895	766
V/C Ratio(X)	0.30	0.87	0.00	0.74	0.86	0.87	1.29	0.20	0.20	1.87	0.32	0.40
Avail Cap(c_a), veh/h	874	3731	1057	63	1613	779	296	446	425	149	895	766
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)	0.33	0.33	0.00	0.34	0.34	0.34	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	16.0	0.0	56.0	30.0	30.1	52.8	35.3	35.4	52.7	36.3	16.9
Incr Delay (d2), s/veh	0.0	1.1	0.0	3.8	2.3	4.7	155.4	1.0	1.1	417.2	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	27.9	0.0	0.9	20.3	20.5	11.1	2.4	2.3	22.1	3.9	6.0
LnGrp Delay(d),s/veh	35.7	17.1	0.0	59.8	32.3	34.8	208.2	36.3	36.4	470.0	37.3	18.5
LnGrp LOS	D	B		E	C	C	F	D	D	F	D	B
Approach Vol, veh/h		3522			2088			557			876	
Approach Delay, s/veh		18.5			33.4			154.5			169.0	
Approach LOS		B			C			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	6.8	80.9	13.9	32.6	33.4	54.3	14.0	32.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	54.5	9.4	27.1	9.7	* 49	9.5	27.0
Max Q Clear Time (g_c+I1), s	3.7	55.1	11.4	9.2	8.8	40.4	11.5	6.4
Green Ext Time (p_c), s	0.0	0.0	0.0	2.1	0.1	5.4	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	52.4
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	1322	71	42	2478	6	134	5	67	18	5	107
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	30	1502	81	48	2816	7	152	6	76	20	6	122
Adj No. of Lanes	1	3	1	1	3	1	0	1	0	0	1	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	35	3016	854	61	3036	860	294	24	121	349	96	428
Arrive On Green	0.02	0.53	0.53	0.03	0.53	0.53	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1810	5700	1615	1810	5700	1615	860	89	456	1051	363	1615
Grp Volume(v), veh/h	30	1502	81	48	2816	7	234	0	0	26	0	122
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1615	1405	0	0	1415	0	1615
Q Serve(g_s), s	1.5	15.2	2.2	2.4	41.1	0.2	12.0	0.0	0.0	0.0	0.0	5.4
Cycle Q Clear(g_c), s	1.5	15.2	2.2	2.4	41.1	0.2	13.0	0.0	0.0	1.0	0.0	5.4
Prop In Lane	1.00		1.00	1.00		1.00	0.65		0.32	0.77		1.00
Lane Grp Cap(c), veh/h	35	3016	854	61	3036	860	438	0	0	445	0	428
V/C Ratio(X)	0.86	0.50	0.09	0.78	0.93	0.01	0.53	0.00	0.00	0.06	0.00	0.29
Avail Cap(c_a), veh/h	80	3016	854	127	3072	870	438	0	0	445	0	428
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	0.75	0.75	0.75	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.0	13.6	10.5	43.1	19.4	9.9	29.0	0.0	0.0	24.7	0.0	26.3
Incr Delay (d2), s/veh	19.4	0.0	0.0	5.9	4.2	0.0	4.6	0.0	0.0	0.3	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	7.9	1.0	1.3	22.6	0.1	5.7	0.0	0.0	0.5	0.0	2.6
LnGrp Delay(d),s/veh	63.4	13.6	10.5	49.0	23.7	9.9	33.6	0.0	0.0	24.9	0.0	28.0
LnGrp LOS	E	B	B	D	C	A	C			C		C
Approach Vol, veh/h		1613			2871			234			148	
Approach Delay, s/veh		14.4			24.1			33.6			27.4	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		29.3	7.6	53.1		29.3	7.2	53.4
Change Period (Y+Rc), s		5.5	4.5	5.5		5.5	5.5	* 5.5
Max Green Setting (Gmax), s		22.0	6.3	46.2		22.0	4.0	* 49
Max Q Clear Time (g_c+I1), s		15.0	4.4	17.2		7.4	3.5	43.1
Green Ext Time (p_c), s		0.8	0.0	8.5		1.2	0.0	4.9

Intersection Summary	
HCM 2010 Ctrl Delay	21.4
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	152	2027	1166	30	932	143	802	623	68	178	752	141
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		0.98	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	162	2156	1225	32	991	146	853	663	68	189	800	143
Adj No. of Lanes	1	3	1	1	3	0	2	2	0	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	1079	4860	1708	43	1312	193	742	1161	119	221	785	140
Arrive On Green	0.60	0.85	0.85	0.02	0.27	0.27	0.21	0.34	0.34	0.12	0.25	0.25
Sat Flow, veh/h	1810	5700	1615	1810	4859	714	3619	3385	347	1810	3140	561
Grp Volume(v), veh/h	162	2156	1225	32	774	363	853	372	359	189	484	459
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1773	1810	1900	1832	1810	1900	1801
Q Serve(g_s), s	4.0	9.0	45.7	1.8	18.7	18.8	20.5	16.0	16.0	10.2	25.0	25.0
Cycle Q Clear(g_c), s	4.0	9.0	45.7	1.8	18.7	18.8	20.5	16.0	16.0	10.2	25.0	25.0
Prop In Lane	1.00		1.00	1.00		0.40	1.00		0.19	1.00		0.31
Lane Grp Cap(c), veh/h	1079	4860	1708	43	1026	479	742	652	628	221	475	450
V/C Ratio(X)	0.15	0.44	0.72	0.75	0.75	0.76	1.15	0.57	0.57	0.86	1.02	1.02
Avail Cap(c_a), veh/h	1079	4860	1708	72	1026	479	742	652	628	233	475	450
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)	0.09	0.09	0.09	1.00	1.00	1.00	0.60	0.60	0.60	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.0	1.7	10.7	48.5	33.5	33.5	39.7	26.8	26.8	43.0	37.5	37.5
Incr Delay (d2), s/veh	0.0	0.0	0.2	9.4	5.2	10.7	77.1	2.2	2.3	23.3	46.2	47.4
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	2.0	4.6	19.4	1.0	10.5	10.6	18.1	8.8	8.5	6.6	19.2	18.3
LnGrp Delay(d),s/veh	9.0	1.8	11.0	57.9	38.6	44.2	116.9	29.0	29.1	66.3	83.7	84.9
LnGrp LOS	A	A	B	E	D	D	F	C	C	E	F	F
Approach Vol, veh/h		3543			1169			1584			1132	
Approach Delay, s/veh		5.3			40.9			76.3			81.3	
Approach LOS		A			D			E			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	6.9	91.2	26.0	30.5	65.6	32.5	16.7	39.8
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	4.0	30.5	20.5	* 25	7.5	* 27	12.9	32.6
Max Q Clear Time (g_c+I1), s	13.8	47.7	22.5	27.0	6.0	20.8	12.2	18.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	2.6	0.0	4.0

Intersection Summary	
HCM 2010 Ctrl Delay	37.6
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	5	81	1254	13	161	1574
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	5	87	1348	14	173	1692
Adj No. of Lanes	1	1	2	1	1	2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	124	111	1564	700	589	2961
Arrive On Green	0.07	0.07	0.43	0.43	0.33	0.82
Sat Flow, veh/h	1810	1615	3705	1615	1810	3705
Grp Volume(v), veh/h	5	87	1348	14	173	1692
Grp Sat Flow(s),veh/h/ln	1810	1615	1805	1615	1810	1805
Q Serve(g_s), s	0.2	4.8	30.4	0.4	6.4	14.3
Cycle Q Clear(g_c), s	0.2	4.8	30.4	0.4	6.4	14.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	124	111	1564	700	589	2961
V/C Ratio(X)	0.04	0.78	0.86	0.02	0.29	0.57
Avail Cap(c_a), veh/h	523	467	1564	700	589	2961
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.39	0.39	1.00	1.00
Uniform Delay (d), s/veh	39.1	41.2	23.1	14.6	22.6	2.7
Incr Delay (d2), s/veh	0.0	4.5	2.7	0.0	0.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.3	15.6	0.2	3.2	7.1
LnGrp Delay(d),s/veh	39.2	45.7	25.8	14.6	22.7	3.5
LnGrp LOS	D	D	C	B	C	A
Approach Vol, veh/h	92		1362			1865
Approach Delay, s/veh	45.4		25.7			5.3
Approach LOS	D		C			A

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	34.8	44.5				79.3		10.7
Change Period (Y+Rc), s	5.5	* 5.5				5.5		4.5
Max Green Setting (Gmax), s	10.5	* 39				54.0		26.0
Max Q Clear Time (g_c+I1), s	32.4	32.4				16.3		6.8
Green Ext Time (p_c), s	1.2	3.3				10.3		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	14.8
HCM 2010 LOS	B

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	259	373	1071	381	676	818
Number	3	18	2	12	1	6
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	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	301	434	1245	443	786	951
Adj No. of Lanes	1	1	2	0	2	2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	335	659	1197	413	808	2611
Arrive On Green	0.19	0.19	0.45	0.45	0.22	0.72
Sat Flow, veh/h	1810	1615	2731	909	3619	3705
Grp Volume(v), veh/h	301	434	840	848	786	951
Grp Sat Flow(s),veh/h/ln	1810	1615	1805	1740	1810	1805
Q Serve(g_s), s	19.5	0.0	54.5	54.5	25.9	11.9
Cycle Q Clear(g_c), s	19.5	0.0	54.5	54.5	25.9	11.9
Prop In Lane	1.00	1.00		0.52	1.00	
Lane Grp Cap(c), veh/h	335	659	820	790	808	2611
V/C Ratio(X)	0.90	0.66	1.02	1.07	0.97	0.36
Avail Cap(c_a), veh/h	397	714	820	790	808	2611
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	0.80	0.80
Uniform Delay (d), s/veh	47.8	28.7	32.8	32.8	46.2	6.2
Incr Delay (d2), s/veh	18.8	1.4	37.8	53.6	21.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.5	11.8	35.7	37.9	15.3	5.9
LnGrp Delay(d),s/veh	66.6	30.2	70.6	86.3	68.0	6.6
LnGrp LOS	E	C	F	F	E	A
Approach Vol, veh/h	735		1688			1737
Approach Delay, s/veh	45.1		78.5			34.4
Approach LOS	D		E			C

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	32.3	60.0				92.3		27.7
Change Period (Y+Rc), s	5.5	* 5.5				5.5		5.5
Max Green Setting (Gmax), s	23.7	* 55				82.7		26.3
Max Q Clear Time (g_c+I1), s	27.9	56.5				13.9		21.5
Green Ext Time (p_c), s	0.0	0.0				6.2		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	54.2
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	347	106	120	102	636	0	279	40	700	473	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	81	496	151	171	146	909	0	399	53	1000	676	50
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	103	454	385	149	519	1207	488	957	422	1664	1695	758
Arrive On Green	0.06	0.24	0.24	0.08	0.27	0.27	0.00	0.27	0.27	0.47	0.47	0.47
Sat Flow, veh/h	1810	1900	1612	1810	1900	1615	1810	3610	1593	3510	3610	1615
Grp Volume(v), veh/h	81	496	151	171	146	909	0	399	53	1000	676	50
Grp Sat Flow(s),veh/h/ln	1810	1900	1612	1810	1900	1615	1810	1805	1593	1755	1805	1615
Q Serve(g_s), s	5.1	27.5	9.0	9.5	7.0	14.3	0.0	10.5	2.9	24.1	14.1	2.3
Cycle Q Clear(g_c), s	5.1	27.5	9.0	9.5	7.0	14.3	0.0	10.5	2.9	24.1	14.1	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	103	454	385	149	519	1207	488	957	422	1664	1695	758
V/C Ratio(X)	0.78	1.09	0.39	1.14	0.28	0.75	0.00	0.42	0.13	0.60	0.40	0.07
Avail Cap(c_a), veh/h	173	454	385	149	519	1207	488	957	422	1664	1695	758
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	0.49	0.49	0.49	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	43.8	36.7	52.7	32.9	14.1	0.0	34.9	32.1	22.3	19.9	23.5
Incr Delay (d2), s/veh	4.8	69.3	0.2	96.1	0.1	1.2	0.0	1.3	0.6	0.4	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	23.1	4.0	8.7	3.7	20.6	0.0	5.4	1.3	11.8	7.1	1.1
LnGrp Delay(d),s/veh	58.3	113.1	37.0	148.8	32.9	15.3	0.0	36.2	32.7	22.7	20.6	23.7
LnGrp LOS	E	F	D	F	C	B		D	C	C	C	C
Approach Vol, veh/h		728			1226			452			1726	
Approach Delay, s/veh		91.2			36.0			35.8			21.9	
Approach LOS		F			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	59.0	36.0	15.0	33.0	35.5	59.5	11.1	36.9
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	27.5	30.5	9.5	* 28	4.0	54.0	11.0	26.0
Max Q Clear Time (g_c+I1), s	26.1	12.5	11.5	29.5	0.0	16.1	7.1	16.3
Green Ext Time (p_c), s	0.4	1.4	0.0	0.0	0.0	2.8	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	39.8
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	47	1682	20	30	1267	10	5	10	26	10	10	168
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	52	1848	22	33	1392	11	5	11	29	11	11	185
Adj No. of Lanes	1	3	0	1	3	0	0	1	0	0	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	66	2138	25	47	2087	16	91	194	426	60	57	583
Arrive On Green	0.04	0.38	0.38	0.03	0.37	0.37	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1810	5621	67	1810	5647	45	103	484	1065	31	142	1458
Grp Volume(v), veh/h	52	1249	621	33	937	466	45	0	0	207	0	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1888	1810	1900	1892	1653	0	0	1631	0	0
Q Serve(g_s), s	2.3	24.3	24.3	1.4	16.5	16.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.3	24.3	24.3	1.4	16.5	16.5	1.3	0.0	0.0	6.9	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.02	0.11		0.64	0.05		0.89
Lane Grp Cap(c), veh/h	66	1445	718	47	1404	699	711	0	0	700	0	0
V/C Ratio(X)	0.78	0.86	0.86	0.70	0.67	0.67	0.06	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	97	1445	718	93	1404	699	711	0	0	700	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)	0.86	0.86	0.86	0.30	0.30	0.30	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	38.2	22.9	22.9	38.7	21.1	21.1	14.8	0.0	0.0	16.5	0.0	0.0
Incr Delay (d2), s/veh	10.9	6.2	11.5	2.1	0.8	1.5	0.2	0.0	0.0	1.1	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	1.3	13.9	14.9	0.8	8.7	8.8	0.6	0.0	0.0	3.3	0.0	0.0
LnGrp Delay(d),s/veh	49.1	29.1	34.4	40.8	21.9	22.6	15.0	0.0	0.0	17.6	0.0	0.0
LnGrp LOS	D	C	C	D	C	C	B			B		
Approach Vol, veh/h		1922			1436			45			207	
Approach Delay, s/veh		31.3			22.6			15.0			17.6	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.6	35.9		37.5	7.4	35.1		37.5
Change Period (Y+Rc), s	4.5	5.5		5.5	4.5	5.5		5.5
Max Green Setting (Gmax), s	4.1	28.4		32.0	4.3	28.2		32.0
Max Q Clear Time (g_c+I1), s	3.4	26.3		8.9	4.3	18.5		3.3
Green Ext Time (p_c), s	0.0	2.0		0.9	0.0	8.1		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	138	229	484	200	70	82	263	572	184	265	523	134
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	162	269	569	235	82	96	309	673	216	312	615	158
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	306	339	691	171	176	148	451	1013	430	431	971	413
Arrive On Green	0.28	0.30	0.30	0.09	0.09	0.09	0.25	0.27	0.27	0.24	0.26	0.26
Sat Flow, veh/h	1810	1900	1615	1810	1900	1599	1810	3800	1611	1810	3800	1615
Grp Volume(v), veh/h	162	269	569	235	82	96	309	673	216	312	615	158
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1599	1810	1900	1611	1810	1900	1615
Q Serve(g_s), s	6.8	11.7	9.5	8.5	3.7	5.2	13.9	14.2	7.4	14.3	12.9	7.3
Cycle Q Clear(g_c), s	6.8	11.7	9.5	8.5	3.7	5.2	13.9	14.2	7.4	14.3	12.9	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	306	339	691	171	176	148	451	1013	430	431	971	413
V/C Ratio(X)	0.53	0.79	0.82	1.38	0.46	0.65	0.68	0.66	0.50	0.72	0.63	0.38
Avail Cap(c_a), veh/h	306	570	887	171	574	483	451	1013	430	431	971	413
HCM Platoon Ratio	1.67	1.67	1.67	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	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	30.1	6.9	40.8	38.7	39.4	30.6	29.4	14.5	31.6	29.8	27.6
Incr Delay (d2), s/veh	0.9	1.6	3.9	198.1	0.6	1.6	3.6	3.4	4.2	5.2	3.1	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	6.2	6.0	13.6	2.0	2.4	7.4	7.9	3.8	7.7	7.2	3.6
LnGrp Delay(d),s/veh	30.2	31.7	10.8	238.9	39.3	41.0	34.1	32.8	18.6	36.7	32.9	30.3
LnGrp LOS	C	C	B	F	D	D	C	C	B	D	C	C
Approach Vol, veh/h		1000			413			1198			1085	
Approach Delay, s/veh		19.6			153.2			30.6			33.6	
Approach LOS		B			F			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	25.9	29.5	13.0	21.6	26.9	28.5	20.7	13.9
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	10.5	24.0	8.5	27.0	11.5	23.0	8.3	* 27
Max Q Clear Time (g_c+I1), s	16.3	16.2	10.5	13.7	15.9	14.9	8.8	7.2
Green Ext Time (p_c), s	0.0	2.0	0.0	1.9	0.0	1.8	0.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	42.2
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	87	721	1283	262	474	234	684	817	292	436	987	93
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	95	784	852	285	515	145	743	888	208	474	1073	92
Adj No. of Lanes	1	2	2	2	2	1	2	2	1	2	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	118	862	1346	299	962	644	721	2151	1047	531	1768	151
Arrive On Green	0.13	0.45	0.45	0.17	0.51	0.51	0.40	1.00	1.00	0.29	1.00	1.00
Sat Flow, veh/h	1810	3800	3098	3619	3800	1607	3619	3800	1614	3619	3442	295
Grp Volume(v), veh/h	95	784	852	285	515	145	743	888	208	474	592	573
Grp Sat Flow(s),veh/h/ln	1810	1900	1549	1810	1900	1607	1810	1900	1614	1810	1900	1837
Q Serve(g_s), s	5.9	22.1	26.1	9.0	10.6	5.0	22.9	0.0	0.0	14.4	0.0	0.0
Cycle Q Clear(g_c), s	5.9	22.1	26.1	9.0	10.6	5.0	22.9	0.0	0.0	14.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	118	862	1346	299	962	644	721	2151	1047	531	976	943
V/C Ratio(X)	0.81	0.91	0.63	0.95	0.54	0.23	1.03	0.41	0.20	0.89	0.61	0.61
Avail Cap(c_a), veh/h	140	862	1346	299	962	644	721	2151	1047	664	976	943
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.61	0.61	0.61	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	30.3	19.6	47.8	23.8	14.7	34.6	0.0	0.0	39.8	0.0	0.0
Incr Delay (d2), s/veh	2.3	1.5	0.1	39.2	0.3	0.1	34.4	0.4	0.3	10.9	2.8	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	11.6	13.2	6.1	5.5	2.2	14.7	0.1	0.1	8.0	0.8	0.8
LnGrp Delay(d),s/veh	51.6	31.8	19.7	87.0	24.1	14.8	69.0	0.4	0.3	50.7	2.8	2.9
LnGrp LOS	D	C	B	F	C	B	F	A	A	D	A	A
Approach Vol, veh/h		1731			945			1839			1639	
Approach Delay, s/veh		26.9			41.6			28.1			16.7	
Approach LOS		C			D			C			B	

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	21.4	71.6	15.0	31.6	27.4	65.6	12.0	34.6
Change Period (Y+Rc), s	4.5	5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	21.1	38.3	9.5	* 26	22.9	36.5	8.9	26.7
Max Q Clear Time (g_c+I1), s	16.4	2.0	11.0	28.1	24.9	2.0	7.9	12.6
Green Ext Time (p_c), s	0.4	10.9	0.0	0.0	0.0	10.8	0.0	2.5

Intersection Summary	
HCM 2010 Ctrl Delay	26.8
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	79	172	877	403	80	22	473	1163	351	117	1721	142
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	86	187	681	438	87	10	514	1264	333	127	1871	150
Adj No. of Lanes	1	1	2	2	1	1	2	2	1	1	3	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	315	249	1117	418	138	116	779	1851	972	153	1809	144
Arrive On Green	0.35	0.26	0.26	0.23	0.14	0.14	0.43	0.97	0.97	0.17	0.69	0.69
Sat Flow, veh/h	1810	1900	3215	3619	1900	1602	3619	3800	1612	1810	5211	416
Grp Volume(v), veh/h	86	187	681	438	87	10	514	1264	333	127	1362	659
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	1900	1602	1810	1900	1612	1810	1900	1827
Q Serve(g_s), s	3.8	9.9	0.0	12.7	4.7	0.5	12.4	2.8	0.2	7.5	38.2	38.2
Cycle Q Clear(g_c), s	3.8	9.9	0.0	12.7	4.7	0.5	12.4	2.8	0.2	7.5	38.2	38.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	315	249	1117	418	138	116	779	1851	972	153	1320	634
V/C Ratio(X)	0.27	0.75	0.61	1.05	0.63	0.09	0.66	0.68	0.34	0.83	1.03	1.04
Avail Cap(c_a), veh/h	315	415	1396	418	442	373	779	1851	972	156	1320	634
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Uniform Delay (d), s/veh	30.8	38.9	24.3	42.3	45.6	28.9	28.1	0.8	0.1	45.0	16.8	16.8
Incr Delay (d2), s/veh	0.2	1.7	0.2	57.2	1.8	0.1	1.7	2.1	1.0	11.0	23.4	31.2
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	1.9	5.3	6.9	9.6	2.5	0.2	6.3	1.2	0.3	4.2	23.4	23.8
LnGrp Delay(d),s/veh	31.0	40.6	24.5	99.5	47.4	29.0	29.8	2.8	1.1	56.0	40.2	48.0
LnGrp LOS	C	D	C	F	D	C	C	A	A	E	F	F
Approach Vol, veh/h		954			535			2111			2148	
Approach Delay, s/veh		28.2			89.7			9.1			43.5	
Approach LOS		C			F			A			D	

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	13.8	59.1	17.2	19.9	29.2	43.7	23.7	13.5
Change Period (Y+Rc), s	4.5	5.5	4.5	5.5	5.5	* 5.5	4.5	5.5
Max Green Setting (Gmax), s	9.5	43.8	12.7	24.0	15.1	* 38	11.1	25.6
Max Q Clear Time (g_c+I1), s	10.5	4.8	14.7	11.9	14.4	40.2	5.8	6.7
Green Ext Time (p_c), s	0.0	8.6	0.0	1.9	0.1	0.0	0.5	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	552	1341	199	204	916	366	285	1094	172	633	1396	966
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	600	1458	216	222	996	398	310	1189	187	688	1517	1046
Adj No. of Lanes	2	3	1	2	3	1	2	2	1	2	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	614	1725	622	1581	3298	1198	299	1107	470	617	1474	900
Arrive On Green	0.34	0.61	0.61	0.87	1.00	1.00	0.17	0.58	0.58	0.34	0.78	0.78
Sat Flow, veh/h	3619	5700	1615	3619	5700	1595	3619	3800	1615	3619	3800	1615
Grp Volume(v), veh/h	600	1458	216	222	996	398	310	1189	187	688	1517	1046
Grp Sat Flow(s),veh/h/ln	1810	1900	1615	1810	1900	1595	1810	1900	1615	1810	1900	1615
Q Serve(g_s), s	18.9	23.8	5.2	1.0	0.0	0.0	9.5	33.5	7.2	19.6	44.6	44.6
Cycle Q Clear(g_c), s	18.9	23.8	5.2	1.0	0.0	0.0	9.5	33.5	7.2	19.6	44.6	44.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	614	1725	622	1581	3298	1198	299	1107	470	617	1474	900
V/C Ratio(X)	0.98	0.85	0.35	0.14	0.30	0.33	1.04	1.07	0.40	1.12	1.03	1.16
Avail Cap(c_a), veh/h	614	1725	622	1581	3298	1198	299	1107	470	617	1474	900
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.46	0.46	0.46	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.8	20.5	15.1	4.2	0.0	0.0	48.0	24.0	18.5	37.9	12.9	15.5
Incr Delay (d2), s/veh	19.3	2.5	0.7	0.0	0.2	0.7	62.0	49.3	2.5	72.2	31.3	85.2
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	10.9	12.4	2.3	0.5	0.1	0.2	7.3	24.6	3.4	15.9	28.3	50.0
LnGrp Delay(d),s/veh	57.1	23.0	15.8	4.2	0.2	0.7	110.0	73.3	21.0	110.1	44.2	100.7
LnGrp LOS	E	C	B	A	A	A	F	F	C	F	F	F
Approach Vol, veh/h		2274			1616			1686			3251	
Approach Delay, s/veh		31.3			0.9			74.2			76.3	
Approach LOS		C			A			E			E	

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	56.7	40.3	14.0	50.1	24.0	73.0	25.1	39.0
Change Period (Y+Rc), s	5.5	* 5.5	4.5	5.5	4.5	5.5	5.5	* 5.5
Max Green Setting (Gmax), s	7.1	* 35	9.5	43.6	19.5	22.4	19.6	* 34
Max Q Clear Time (g_c+I1), s	13.0	25.8	11.5	46.6	20.9	2.0	21.6	35.5
Green Ext Time (p_c), s	2.3	4.7	0.0	0.0	0.0	5.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	50.5
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



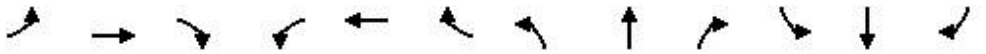
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	376	1286	499	164	715	189	293	1421	233	248	1878	265
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking 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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	384	1312	488	167	730	184	299	1450	227	253	1916	259
Adj No. of Lanes	2	3	1	1	2	0	2	3	1	1	3	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	440	1639	627	476	1276	322	357	1810	512	280	2066	585
Arrive On Green	0.12	0.29	0.29	0.26	0.44	0.44	0.10	0.32	0.32	0.15	0.36	0.36
Sat Flow, veh/h	3619	5700	1610	1810	2921	736	3510	5700	1613	1810	5700	1615
Grp Volume(v), veh/h	384	1312	488	167	475	439	299	1450	227	253	1916	259
Grp Sat Flow(s),veh/h/ln	1810	1900	1610	1810	1900	1757	1755	1900	1613	1810	1900	1615
Q Serve(g_s), s	12.5	25.6	19.6	9.0	22.5	22.5	10.0	27.9	10.3	16.5	38.7	14.4
Cycle Q Clear(g_c), s	12.5	25.6	19.6	9.0	22.5	22.5	10.0	27.9	10.3	16.5	38.7	14.4
Prop In Lane	1.00		1.00	1.00		0.42	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	440	1639	627	476	830	768	357	1810	512	280	2066	585
V/C Ratio(X)	0.87	0.80	0.78	0.35	0.57	0.57	0.84	0.80	0.44	0.90	0.93	0.44
Avail Cap(c_a), veh/h	467	1639	627	476	830	768	395	1810	512	326	2066	585
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	51.8	39.6	32.1	35.9	25.4	25.4	52.9	37.5	19.3	49.8	36.7	28.4
Incr Delay (d2), s/veh	14.8	4.2	9.2	0.2	2.9	3.1	12.3	3.8	2.8	22.9	8.8	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	14.0	10.3	4.5	12.4	11.5	5.5	15.3	5.0	10.0	21.9	6.8
LnGrp Delay(d),s/veh	66.6	43.8	41.3	36.1	28.2	28.4	65.3	41.3	22.1	72.8	45.5	30.8
LnGrp LOS	E	D	D	D	C	C	E	D	C	E	D	C
Approach Vol, veh/h		2184			1081			1976			2428	
Approach Delay, s/veh		47.2			29.5			42.7			46.8	
Approach LOS		D			C			D			D	

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	37.7	40.0	17.7	49.0	19.1	58.6	23.1	43.6
Change Period (Y+Rc), s	5.5	* 5.5	5.5	* 5.5	4.5	5.5	4.5	5.5
Max Green Setting (Gmax), s	8.5	* 35	13.5	* 44	15.5	27.5	21.6	35.4
Max Q Clear Time (g_c+I1), s	11.0	27.6	12.0	40.7	14.5	24.5	18.5	29.9
Green Ext Time (p_c), s	0.0	3.9	0.2	2.2	0.1	1.3	0.1	3.6

Intersection Summary	
HCM 2010 Ctrl Delay	43.4
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	114	242	169	314	184	179	120	1990	227	231	1933	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	125	266	170	345	202	97	132	2187	224	254	2124	99
Adj No. of Lanes	1	2	0	1	2	1	2	3	1	2	3	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	155	349	216	275	855	357	126	2565	716	205	2548	118
Arrive On Green	0.09	0.16	0.16	0.15	0.23	0.23	0.03	0.45	0.45	0.06	0.47	0.47
Sat Flow, veh/h	1810	2199	1358	1810	3800	1586	3619	5700	1591	3619	5402	251
Grp Volume(v), veh/h	125	229	207	345	202	97	132	2187	224	254	1491	732
Grp Sat Flow(s),veh/h/ln	1810	1900	1657	1810	1900	1586	1810	1900	1591	1810	1900	1852
Q Serve(g_s), s	7.8	13.2	13.8	17.5	5.0	5.8	4.0	39.4	5.7	6.5	39.2	39.7
Cycle Q Clear(g_c), s	7.8	13.2	13.8	17.5	5.0	5.8	4.0	39.4	5.7	6.5	39.2	39.7
Prop In Lane	1.00		0.82	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	155	301	263	275	855	357	126	2565	716	205	1793	874
V/C Ratio(X)	0.81	0.76	0.79	1.25	0.24	0.27	1.05	0.85	0.31	1.24	0.83	0.84
Avail Cap(c_a), veh/h	230	496	432	275	1087	454	126	2565	716	205	1793	874
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	51.6	46.3	46.5	48.8	36.5	36.8	55.5	28.2	6.1	54.3	26.4	26.5
Incr Delay (d2), s/veh	7.2	1.5	2.0	140.1	0.1	0.2	93.8	3.8	1.1	143.1	4.7	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	7.0	6.5	19.4	2.6	2.6	3.6	21.6	2.7	7.3	21.7	22.4
LnGrp Delay(d),s/veh	58.8	47.7	48.5	188.9	36.5	36.9	149.7	32.1	7.3	197.4	31.1	35.9
LnGrp LOS	E	D	D	F	D	D	F	C	A	F	C	D
Approach Vol, veh/h		561			644			2543			2477	
Approach Delay, s/veh		50.5			118.2			36.0			49.6	
Approach LOS		D			F			D			D	

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	11.0	57.3	23.0	23.7	8.5	59.8	15.4	31.4
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	6.5	40.0	17.5	30.0	4.0	42.5	14.6	32.9
Max Q Clear Time (g_c+I1), s	8.5	41.4	19.5	15.8	6.0	41.7	9.8	7.8
Green Ext Time (p_c), s	0.0	0.0	0.0	1.6	0.0	0.8	0.1	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	51.2
HCM 2010 LOS	D

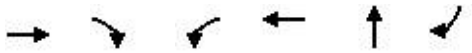
Notes

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

APPENDIX 7.13:

GENERAL PLAN BUILDOUT (POST 2035) WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Lane Group	EBT	EBR	WBL	WBT	NBT	SBR
Lane Group Flow (vph)	1118	711	980	1935	933	1054
v/c Ratio	0.95	0.72	0.99	0.83	5.65	1.01
Control Delay	47.9	10.6	61.2	17.7	0.0	61.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	10.6	61.2	17.7	0.0	61.3
Queue Length 50th (ft)	308	60	278	393	0	~281
Queue Length 95th (ft)	#436	190	#407	496	0	#417
Internal Link Dist (ft)	658			955	1615	
Turn Bay Length (ft)						
Base Capacity (vph)	1178	981	988	2334	165	1045
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.72	0.99	0.83	5.65	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	943	151	254	549	1541	754
v/c Ratio	0.86	0.25	0.80	0.34	0.87	0.76
Control Delay	39.5	12.0	60.8	18.3	28.4	20.3
Queue Delay	0.0	0.0	0.0	0.7	0.0	0.0
Total Delay	39.5	12.0	60.8	18.9	28.4	20.3
Queue Length 50th (ft)	252	25	72	102	378	255
Queue Length 95th (ft)	#351	71	#131	140	475	407
Internal Link Dist (ft)	844			267		1109
Turn Bay Length (ft)		100	80			
Base Capacity (vph)	1101	614	316	1608	1773	992
Starvation Cap Reductn	0	0	0	676	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.25	0.80	0.59	0.87	0.76

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBR
Lane Group Flow (vph)	150	1423	414	2666	446	870	1020	235	286
v/c Ratio	0.84	0.55	0.22	0.97	0.45	0.99	0.87	0.81	0.38
Control Delay	87.8	22.5	0.3	47.2	14.6	71.3	44.6	71.8	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.8	22.5	0.3	47.2	14.6	71.3	44.6	71.8	15.8
Queue Length 50th (ft)	53	235	0	459	139	308	354	83	39
Queue Length 95th (ft)	#110	276	0	#541	222	#437	#453	#144	63
Internal Link Dist (ft)		240		1109			1221		
Turn Bay Length (ft)	175					145		100	
Base Capacity (vph)	179	2611	1900	2736	983	877	1169	290	756
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.55	0.22	0.97	0.45	0.99	0.87	0.81	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

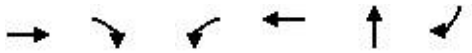


Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	638	1900	646	683	176	463
v/c Ratio	1.22	0.80	0.37	0.36	0.32	0.79
Control Delay	159.9	20.2	22.0	0.5	35.1	45.5
Queue Delay	0.0	47.7	0.0	0.0	0.0	0.0
Total Delay	159.9	67.9	22.0	0.5	35.1	45.5
Queue Length 50th (ft)	~303	515	159	0	106	297
Queue Length 95th (ft)	#417	612	203	0	170	#430
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	522	2375	1741	1900	554	589
Starvation Cap Reductn	0	840	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.22	1.24	0.37	0.36	0.32	0.79

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	NBT	SBR
Lane Group Flow (vph)	2211	844	1426	1843	1028	447
v/c Ratio	1.15	0.81	1.22	0.57	9.35	1.30
Control Delay	105.2	26.3	142.7	3.6	0.0	185.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	105.2	26.3	142.7	3.6	0.0	185.6
Queue Length 50th (ft)	~1010	429	~677	156	0	~176
Queue Length 95th (ft)	#1139	618	#808	185	0	#279
Internal Link Dist (ft)	658			955	1615	
Turn Bay Length (ft)						
Base Capacity (vph)	1915	1048	1171	3214	110	345
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.15	0.81	1.22	0.57	9.35	1.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	948	206	709	1014	847	798
v/c Ratio	0.93	0.35	0.87	0.50	0.63	1.09
Control Delay	48.5	13.4	45.7	6.6	26.6	88.0
Queue Delay	0.0	0.0	0.7	1.6	0.0	0.0
Total Delay	48.5	13.4	46.4	8.2	26.6	88.0
Queue Length 50th (ft)	262	38	221	139	197	~483
Queue Length 95th (ft)	#376	94	#297	m127	257	#710
Internal Link Dist (ft)	844			267		1109
Turn Bay Length (ft)		100	80			
Base Capacity (vph)	1021	597	814	2026	1351	731
Starvation Cap Reductn	0	0	16	778	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.35	0.89	0.81	0.63	1.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBR
Lane Group Flow (vph)	528	1773	872	3258	160	268	746	328	1026
v/c Ratio	1.14	0.51	0.55	0.98	0.16	0.88	1.13	1.13	0.87
Control Delay	131.0	12.8	1.4	43.0	2.3	79.4	119.0	139.2	41.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	131.0	12.8	1.4	43.0	2.3	79.4	119.0	139.2	41.4
Queue Length 50th (ft)	~218	220	0	555	5	95	~306	~134	360
Queue Length 95th (ft)	#323	254	0	#647	21	#168	#424	#223	#471
Internal Link Dist (ft)		240		1109			1221		
Turn Bay Length (ft)	175					145		100	
Base Capacity (vph)	462	3471	1595	3316	1028	304	659	290	1174
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.51	0.55	0.98	0.16	0.88	1.13	1.13	0.87

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	763	1131	1407	1747	415	255
v/c Ratio	1.25	0.45	0.79	0.93	0.98	0.50
Control Delay	154.2	2.8	24.5	11.3	76.7	20.1
Queue Delay	0.0	0.3	0.5	0.0	0.0	0.0
Total Delay	154.2	3.0	25.0	11.3	76.7	20.1
Queue Length 50th (ft)	~239	33	326	0	236	67
Queue Length 95th (ft)	m#234	m42	403	#78	#415	138
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	612	2533	1773	1877	422	512
Starvation Cap Reductn	0	656	0	0	0	0
Spillback Cap Reductn	0	0	97	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.25	0.60	0.84	0.93	0.98	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 7.14:

GENERAL PLAN BUILDOUT (POST 2035) WITH PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Lane Group	EBT	EBR	WBL	WBT	SBR
Lane Group Flow (vph)	1118	711	980	1935	1054
v/c Ratio	0.95	0.72	0.99	0.83	1.01
Control Delay	47.9	10.6	61.2	17.7	61.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	10.6	61.2	17.7	61.3
Queue Length 50th (ft)	308	60	278	393	~281
Queue Length 95th (ft)	#436	190	#407	496	#417
Internal Link Dist (ft)	658			955	
Turn Bay Length (ft)					
Base Capacity (vph)	1178	981	988	2334	1045
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.95	0.72	0.99	0.83	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	943	151	273	549	1676	754
v/c Ratio	0.86	0.25	0.86	0.34	0.95	0.76
Control Delay	39.8	12.0	67.7	18.3	35.7	20.2
Queue Delay	0.0	0.0	0.0	0.7	0.0	0.0
Total Delay	39.8	12.0	67.7	19.0	35.7	20.2
Queue Length 50th (ft)	252	25	78	102	437	255
Queue Length 95th (ft)	#351	71	#145	140	#601	407
Internal Link Dist (ft)	844			267		1109
Turn Bay Length (ft)		100	80			
Base Capacity (vph)	1097	612	316	1604	1773	992
Starvation Cap Reductn	0	0	0	676	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.25	0.86	0.59	0.95	0.76

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBR
Lane Group Flow (vph)	150	1562	414	2698	446	870	1020	235	286
v/c Ratio	0.84	0.60	0.22	0.99	0.45	0.99	0.87	0.81	0.38
Control Delay	87.8	23.4	0.3	49.5	14.6	71.3	44.6	71.8	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.8	23.4	0.3	49.5	14.6	71.3	44.6	71.8	15.8
Queue Length 50th (ft)	53	267	0	467	139	308	354	83	39
Queue Length 95th (ft)	#110	311	0	#552	222	#437	#453	#144	63
Internal Link Dist (ft)		240		1109			1221		
Turn Bay Length (ft)	175					145		100	
Base Capacity (vph)	179	2611	1900	2736	983	877	1169	290	756
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.60	0.22	0.99	0.45	0.99	0.87	0.81	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	638	2037	665	713	176	551
v/c Ratio	1.22	0.86	0.38	0.38	0.32	0.94
Control Delay	159.9	23.0	22.1	0.6	35.1	62.4
Queue Delay	0.0	47.1	0.0	0.0	0.0	0.0
Total Delay	159.9	70.1	22.1	0.6	35.1	62.4
Queue Length 50th (ft)	~303	595	165	0	106	384
Queue Length 95th (ft)	#417	707	210	0	170	#604
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	522	2375	1741	1900	554	589
Starvation Cap Reductn	0	774	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.22	1.27	0.38	0.38	0.32	0.94

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBR
Lane Group Flow (vph)	2211	844	1426	1843	447
v/c Ratio	1.15	0.81	1.22	0.57	1.30
Control Delay	105.2	26.3	142.7	3.6	185.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	105.2	26.3	142.7	3.6	185.6
Queue Length 50th (ft)	~1010	429	~677	156	~176
Queue Length 95th (ft)	#1139	618	#808	185	#279
Internal Link Dist (ft)	658			955	
Turn Bay Length (ft)					
Base Capacity (vph)	1915	1048	1171	3214	345
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.15	0.81	1.22	0.57	1.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	948	206	801	1014	882	798
v/c Ratio	0.98	0.36	0.93	0.50	0.65	1.09
Control Delay	58.1	14.2	48.6	5.8	27.1	88.0
Queue Delay	0.0	0.0	11.8	1.6	0.0	0.0
Total Delay	58.1	14.2	60.4	7.5	27.1	88.0
Queue Length 50th (ft)	267	40	250	125	207	~483
Queue Length 95th (ft)	#391	98	m#317	m116	269	#710
Internal Link Dist (ft)	844			267		1109
Turn Bay Length (ft)		100	80			
Base Capacity (vph)	971	572	865	2026	1351	731
Starvation Cap Reductn	0	0	67	786	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.36	1.00	0.82	0.65	1.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBR
Lane Group Flow (vph)	528	1810	872	3412	160	268	746	328	1026
v/c Ratio	1.14	0.52	0.55	1.03	0.16	0.88	1.13	1.13	0.87
Control Delay	131.0	13.0	1.4	54.7	2.3	79.4	119.0	139.2	41.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	131.0	13.0	1.4	54.7	2.3	79.4	119.0	139.2	41.4
Queue Length 50th (ft)	~218	227	0	~645	5	95	~306	~134	360
Queue Length 95th (ft)	#323	261	0	#702	21	#168	#424	#223	#471
Internal Link Dist (ft)		240		1109			1221		
Turn Bay Length (ft)	175					145		100	
Base Capacity (vph)	462	3471	1595	3316	1028	304	659	290	1174
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.52	0.55	1.03	0.16	0.88	1.13	1.13	0.87

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR
Lane Group Flow (vph)	763	1169	1504	1902	415	278
v/c Ratio	1.25	0.45	0.83	1.01	1.03	0.57
Control Delay	152.4	2.9	25.3	27.7	91.1	24.0
Queue Delay	0.0	0.2	1.2	0.0	0.0	0.0
Total Delay	152.4	3.1	26.4	27.7	91.1	24.0
Queue Length 50th (ft)	~237	38	354	~30	~256	83
Queue Length 95th (ft)	m#213	m43	437	#263	#427	160
Internal Link Dist (ft)		267	594		929	
Turn Bay Length (ft)	60			100		265
Base Capacity (vph)	612	2575	1815	1877	401	488
Starvation Cap Reductn	0	620	0	0	0	0
Spillback Cap Reductn	0	0	133	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.25	0.60	0.89	1.01	1.03	0.57

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

APPENDIX 7.15:

GENERAL PLAN BUILDOUT (POST 2035) WITHOUT PROJECT CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6662	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	8
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.962

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1883	pc/h/ln
S	64.6	mph
D = v_p / S	29.2	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6381	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1777	pc/h/ln
S	66.1	mph
D = v_p / S	26.9	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5921	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2199	pc/h/ln
S	58.4	mph
D = v_p / S	37.6	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4171	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	7
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.966

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1564	pc/h/ln
S	68.5	mph
D = v_p / S	22.8	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5349	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	10
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.952

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	5	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1221	pc/h/ln
S	70.0	mph
D = v_p / S	17.4	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6315	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	7
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.966

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1776	pc/h/ln
S	66.2	mph
D = v_p / S	26.8	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

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Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5898	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2190	pc/h/ln
S	58.6	mph
D = v_p / S	37.4	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

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Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5275	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1949	pc/h/ln
S	63.5	mph
D = v_p / S	30.7	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6641	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	8
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.962

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1877	pc/h/ln
S	64.7	mph
D = v_p / S	29.0	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7396	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	7
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.966

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2080	pc/h/ln
S	61.0	mph
D = v_p / S	34.1	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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Date Performed	7/14/15
Analysis Time Period	PM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5900	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2191	pc/h/ln
S	58.6	mph
D = v_p / S	37.4	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
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Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5222	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1930	pc/h/ln
S	63.8	mph
D = v_p / S	30.2	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
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BASIC FREEWAY SEGMENTS WORKSHEET

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Date Performed	7/14/15
Analysis Time Period	PM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5377	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	10
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.952

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	5	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1227	pc/h/ln
S	70.0	mph
D = v_p / S	17.5	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4347	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1211	pc/h/ln
S	70.0	mph
D = v_p / S	17.3	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5926	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2201	pc/h/ln
S	58.4	mph
D = v_p / S	37.7	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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General Information

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Date Performed	7/14/15
Analysis Time Period	PM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4317	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1603	pc/h/ln
S	68.1	mph
D = v_p / S	23.5	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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APPENDIX 7.16:

GENERAL PLAN BUILDOUT (POST 2035) WITH PROJECT CONDITIONS BASIC FREEWAY SEGMENT ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6805	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	10
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.952

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1942	pc/h/ln
S	63.6	mph
D = v_p / S	30.5	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6438	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1802	pc/h/ln
S	65.8	mph
D = v_p / S	27.4	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5991	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2236	pc/h/ln
S	57.5	mph
D = v_p / S	38.9	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4176	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	7
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.966

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1566	pc/h/ln
S	68.4	mph
D = v_p / S	22.9	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5380	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	10
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.952

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	5	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1228	pc/h/ln
S	70.0	mph
D = v_p / S	17.5	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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General Information

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Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5327	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	8
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.962

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1505	pc/h/ln
S	68.9	mph
D = v_p / S	21.8	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5913	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2196	pc/h/ln
S	58.5	mph
D = v_p / S	37.5	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	AM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5334	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1981	pc/h/ln
S	62.9	mph
D = v_p / S	31.5	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6676	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	8
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.962

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1887	pc/h/ln
S	64.5	mph
D = v_p / S	29.2	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	7410	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	7
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.966

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2084	pc/h/ln
S	60.9	mph
D = v_p / S	34.2	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5918	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2198	pc/h/ln
S	58.4	mph
D = v_p / S	37.6	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

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Date Performed	7/14/15
Analysis Time Period	PM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Southbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5294	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	5
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.976

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1966	pc/h/ln
S	63.2	mph
D = v_p / S	31.1	pc/mi/ln
LOS	D	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	5532	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	12
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.943

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	5	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1275	pc/h/ln
S	69.9	mph
D = v_p / S	18.2	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Cactus Avenue
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4410	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.5
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	4	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1234	pc/h/ln
S	70.0	mph
D = v_p / S	17.6	pc/mi/ln
LOS	B	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	North of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	6002	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	2240	pc/h/ln
S	57.5	mph
D = v_p / S	39.0	pc/mi/ln
LOS	E	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	CHS
Agency or Company	Urban Crossroads, Inc.
Date Performed	7/14/15
Analysis Time Period	PM Peak Hour-W IMPROV

Site Information

Highway/Direction of Travel	I-215 Northbound
From/To	South of Harley Knox Bl.
Jurisdiction	Caltrans
Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	4321	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	6
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	mi

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.971

Speed Inputs

Lane Width		ft
Rt-Side Lat. Clearance		ft
Number of Lanes, N	3	
Total Ramp Density, TRD		ramps/mi
FFS (measured)	70.0	mph
Base free-flow Speed, BFFS		mph

Calc Speed Adj and FFS

f_{LW}		mph
f_{LC}		mph
TRD Adjustment		mph
FFS	70.0	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	1613	pc/h/ln
S	68.0	mph
D = v_p / S	23.7	pc/mi/ln
LOS	C	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 10-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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APPENDIX 7.17:

GENERAL PLAN BUILDOUT (POST 2035) WITHOUT PROJECT CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off; L_{up} = 1000 ft; V_u = 1001 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	5661
Ramp Volume, V_R	886
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{down} = ft; V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5661	0.92	Level	9	0	0.957	1.00	6430
Ramp	886	0.92	Level	25	0	0.889	1.00	1083
UpStream	1001	0.92	Level	7	0	0.966	1.00	1126
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3414 pc/h

V_3 or V_{av34} 1508 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6430	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5347	Exhibit 13-8	9600	No
V_R	1083	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3414	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 33.6 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.785 (Exhibit 13-12)

S_R = 48.0 mph (Exhibit 13-12)

S_0 = 74.8 mph (Exhibit 13-12)

S = 57.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	5661
Ramp Volume, V_R	886
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{down} = 1500 ft

V_D = 1606 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5661	0.92	Level	9	0	0.957	1.00	6430
Ramp	886	0.92	Level	25	0	0.889	1.00	1083
UpStream								
DownStream	1606	0.92	Level	3	0	0.985	1.00	1772

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3414 pc/h

V_3 or V_{av34} 1508 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6430	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5347	Exhibit 13-8	9600	No
V_R	1083	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3414	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 33.6 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.785 (Exhibit 13-12)

S_R = 48.0 mph (Exhibit 13-12)

S_0 = 74.8 mph (Exhibit 13-12)

S = 57.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	5921
Ramp Volume, V_R	2130
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1420 ft

V_D = 380 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5921	0.92	Level	5	0	0.976	1.00	6597
Ramp	2130	0.92	Level	6	0	0.971	1.00	2385
UpStream								
DownStream	380	0.92	Level	26	0	0.885	1.00	467

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.485 using Equation (Exhibit 13-7)

V_{12} = 4429 pc/h

V_3 or V_{av34} 2168 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6597	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4212	Exhibit 13-8	7200	No
V_R	2385	Exhibit 13-10	2100	Yes

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4429	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 40.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.513 (Exhibit 13-12)

S_R = 55.6 mph (Exhibit 13-12)

S_0 = 72.2 mph (Exhibit 13-12)

S = 60.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 2130 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3791	
	Ramp Volume, V_R: 380	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3791	0.92	Level	5	0	0.976	1.00	4224
Ramp	380	0.92	Level	26	0	0.885	1.00	467
UpStream	2130	0.92	Level	6	0	0.971	1.00	2385
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1070.71 (Equation 13-6 or 13-7)

P_{FM} = 0.585 using Equation (Exhibit 13-6)

V_{12} = 2470 pc/h

V_3 or V_{av34} = 1754 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2470 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4691	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2937	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 26.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.371 (Exibit 13-11)

S_R = 59.6 mph (Exhibit 13-11)

S_0 = 65.5 mph (Exhibit 13-11)

S = 61.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1075 ft	Acceleration Lane Length, L_A: 0	L_{down} = ft
V_u = 406 veh/h	Deceleration Lane Length L_D	V_D = veh/h
	Freeway Volume, V_F: 4372	
	Ramp Volume, V_R: 977	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4372	0.92	Level	10	0	0.952	1.00	4990
Ramp	977	0.92	Level	12	0	0.943	1.00	1126
UpStream	406	0.92	Level	17	0	0.922	1.00	479
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 2882 pc/h

V_3 or V_{av34} = 2108 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2882 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6116	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4008	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 36.2 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.536 (Exibit 13-11)

S_R = 55.0 mph (Exhibit 13-11)

S_0 = 64.2 mph (Exhibit 13-11)

S = 57.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 580 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4695	
	Ramp Volume, V_R: 1203	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4695	0.92	Level	2	0	0.990	1.00	5154
Ramp	1203	0.92	Level	16	0	0.926	1.00	1412
UpStream	580	0.92	Level	17	0	0.922	1.00	684
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1489.72 (Equation 13-6 or 13-7)

P_{FM} = 0.580 using Equation (Exhibit 13-6)

V_{12} = 2988 pc/h

V_3 or V_{av34} = 2166 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2988 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6566	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4400	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 37.3 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.612 (Exibit 13-11)

S_R = 52.9 mph (Exhibit 13-11)

S_0 = 64.0 mph (Exhibit 13-11)

S = 56.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	5275
Ramp Volume, V_R	580
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1395 ft

V_D = 1203 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5275	0.92	Level	4	0	0.980	1.00	5848
Ramp	580	0.92	Level	17	0	0.922	1.00	684
UpStream								
DownStream	1203	0.92	Level	16	0	0.926	1.00	1412

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.582 using Equation (Exhibit 13-7)

V_{12} = 3691 pc/h

V_3 or V_{av34} 2157 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5848	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5164	Exhibit 13-8	7200	No
V_R	684	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3691	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 33.5 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.360 (Exhibit 13-12)

S_R = 59.9 mph (Exhibit 13-12)

S_0 = 72.3 mph (Exhibit 13-12)

S = 64.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 Without Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off; L_{up} = 1000 ft; V_u = 425 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6216
Ramp Volume, V_R	977
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{down} = ft; V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6216	0.92	Level	8	0	0.962	1.00	7027
Ramp	977	0.92	Level	14	0	0.935	1.00	1136
UpStream	425	0.92	Level	10	0	0.952	1.00	485
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3704 pc/h

V_3 or V_{av34} 1661 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7027	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5891	Exhibit 13-8	9600	No
V_R	1136	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3704	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 36.1 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.790 (Exhibit 13-12)

S_R = 47.9 mph (Exhibit 13-12)

S_0 = 74.2 mph (Exhibit 13-12)

S = 57.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
- ☐ Yes ☐ On
- ☑ No ☐ Off
- L_{up} = ft
- V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6216
Ramp Volume, V_R	977
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp
- ☑ Yes ☑ On
- ☐ No ☐ Off
- L_{down} = 1500 ft
- V_D = 2157 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6216	0.92	Level	8	0	0.962	1.00	7027
Ramp	977	0.92	Level	14	0	0.935	1.00	1136
UpStream								
DownStream	2157	0.92	Level	7	0	0.966	1.00	2427

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3704 pc/h

V_3 or V_{av34} 1661 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7027	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5891	Exhibit 13-8	9600	No
V_R	1136	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3704	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 36.1 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.790 (Exhibit 13-12)

S_R = 47.9 mph (Exhibit 13-12)

S_0 = 74.2 mph (Exhibit 13-12)

S = 57.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	5900
Ramp Volume, V_R	1530
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1420 ft

V_D = 852 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5900	0.92	Level	5	0	0.976	1.00	6573
Ramp	1530	0.92	Level	16	0	0.926	1.00	1796
UpStream								
DownStream	852	0.92	Level	21	0	0.905	1.00	1023

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.513 using Equation (Exhibit 13-7)

V_{12} = 4247 pc/h

V_3 or V_{av34} 2326 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6573	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4777	Exhibit 13-8	7200	No
V_R	1796	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4247	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 39.0 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.460 (Exhibit 13-12)

S_R = 57.1 mph (Exhibit 13-12)

S_0 = 71.6 mph (Exhibit 13-12)

S = 61.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 1530 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4370	
	Ramp Volume, V_R: 852	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4370	0.92	Level	1	0	0.995	1.00	4774
Ramp	852	0.92	Level	21	0	0.905	1.00	1023
UpStream	1530	0.92	Level	16	0	0.926	1.00	1796
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1307.40 (Equation 13-6 or 13-7)

P_{FM} = 0.585 using Equation (Exhibit 13-6)

V_{12} = 2792 pc/h

V_3 or V_{av34} = 1982 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2792 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5797	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3815	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 33.1 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.475 (Exibit 13-11)

S_R = 56.7 mph (Exhibit 13-11)

S_0 = 64.7 mph (Exhibit 13-11)

S = 59.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1075 ft	Acceleration Lane Length, L_A: 0	L_{down} = ft
V_u = 846 veh/h	Deceleration Lane Length L_D	V_D = veh/h
	Freeway Volume, V_F: 4068	
	Ramp Volume, V_R: 1309	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4068	0.92	Level	7	0	0.966	1.00	4576
Ramp	1309	0.92	Level	22	0	0.901	1.00	1579
UpStream	846	0.92	Level	11	0	0.948	1.00	970
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 2643 pc/h

V_3 or V_{av34} = 1933 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2643 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6155	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4222	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 37.7 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.587 (Exibit 13-11)

S_R = 53.6 mph (Exhibit 13-11)

S_0 = 64.8 mph (Exhibit 13-11)

S = 56.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 592 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3725	
	Ramp Volume, V_R: 2201	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3725	0.92	Level	5	0	0.976	1.00	4150
Ramp	2201	0.92	Level	6	0	0.971	1.00	2464
UpStream	592	0.92	Level	11	0	0.948	1.00	679
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1500.00 (Equation 13-6 or 13-7)

P_{FM} = 0.579 using Equation (Exhibit 13-6)

V_{12} = 2404 pc/h

V_3 or V_{av34} = 1746 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2404 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6614	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4868	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 40.4 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.801 (Exibit 13-11)

S_R = 47.6 mph (Exhibit 13-11)

S_0 = 65.5 mph (Exhibit 13-11)

S = 51.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 Without Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	4317
Ramp Volume, V_R	592
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1395 ft

V_D = 2201 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4317	0.92	Level	5	0	0.976	1.00	4810
Ramp	592	0.92	Level	11	0	0.948	1.00	679
UpStream								
DownStream	2201	0.92	Level	6	0	0.971	1.00	2464

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.609 using Equation (Exhibit 13-7)

V_{12} = 3193 pc/h

V_3 or V_{av34} 1617 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4810	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4131	Exhibit 13-8	7200	No
V_R	679	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3193	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 29.2 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.359 (Exhibit 13-12)

S_R = 59.9 mph (Exhibit 13-12)

S_0 = 74.4 mph (Exhibit 13-12)

S = 64.1 mph (Exhibit 13-13)

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APPENDIX 7.18:

GENERAL PLAN BUILDOUT (POST 2035) WITH PROJECT CONDITIONS FREEWAY MERGE/DIVERGE ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off

L_{up} = 1000 ft

V_u = 1001 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	5804
Ramp Volume, V_R	972
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5804	0.92	Level	10	0	0.952	1.00	6624
Ramp	972	0.92	Level	27	0	0.881	1.00	1199
UpStream	1001	0.92	Level	7	0	0.966	1.00	1126
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3564 pc/h

V_3 or V_{av34} 1530 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6624	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5425	Exhibit 13-8	9600	No
V_R	1199	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3564	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 34.9 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.796 (Exhibit 13-12)

S_R = 47.7 mph (Exhibit 13-12)

S_0 = 74.7 mph (Exhibit 13-12)

S = 57.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	5804
Ramp Volume, V_R	972
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1500 ft
V_D = 1606 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5804	0.92	Level	10	0	0.952	1.00	6624
Ramp	972	0.92	Level	27	0	0.881	1.00	1199
UpStream								
DownStream	1606	0.92	Level	3	0	0.985	1.00	1772

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.436 using Equation (Exhibit 13-7)
V_{12} = 3564 pc/h
V_3 or V_{av34} 1530 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6624	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5425	Exhibit 13-8	9600	No
V_R	1199	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3564	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 34.9 (pc/mi/ln)
LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.796 (Exhibit 13-12)
S_R = 47.7 mph (Exhibit 13-12)
S_0 = 74.7 mph (Exhibit 13-12)
S = 57.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	5991
Ramp Volume, V_R	2211
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1420 ft

V_D = 396 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5991	0.92	Level	6	0	0.971	1.00	6707
Ramp	2211	0.92	Level	8	0	0.962	1.00	2499
UpStream								
DownStream	396	0.92	Level	28	0	0.877	1.00	491

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.477 using Equation (Exhibit 13-7)

V_{12} = 4508 pc/h

V_3 or V_{av34} 2199 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6707	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4208	Exhibit 13-8	7200	No
V_R	2499	Exhibit 13-10	2100	Yes

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4508	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 41.3 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.523 (Exhibit 13-12)

S_R = 55.4 mph (Exhibit 13-12)

S_0 = 72.1 mph (Exhibit 13-12)

S = 59.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 2211 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3780	
	Ramp Volume, V_R: 396	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3780	0.92	Level	5	0	0.976	1.00	4211
Ramp	396	0.92	Level	28	0	0.877	1.00	491
UpStream	2211	0.92	Level	8	0	0.962	1.00	2499
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1073.07 (Equation 13-6 or 13-7)

P_{FM} = 0.585 using Equation (Exhibit 13-6)

V_{12} = 2463 pc/h

V_3 or V_{av34} = 1748 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2463 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4702	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2954	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 26.7 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.372 (Exibit 13-11)

S_R = 59.6 mph (Exhibit 13-11)

S_0 = 65.5 mph (Exhibit 13-11)

S = 61.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1075 ft	Acceleration Lane Length, L_A: 0	L_{down} = ft
V_u = 406 veh/h	Deceleration Lane Length L_D	V_D = veh/h
	Freeway Volume, V_F: 4384	
	Ramp Volume, V_R: 996	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4384	0.92	Level	10	0	0.952	1.00	5003
Ramp	996	0.92	Level	12	0	0.943	1.00	1148
UpStream	406	0.92	Level	17	0	0.922	1.00	479
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 2889 pc/h

V_3 or V_{av34} = 2114 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2889 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6151	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4037	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 36.4 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.542 (Exibit 13-11)

S_R = 54.8 mph (Exhibit 13-11)

S_0 = 64.2 mph (Exhibit 13-11)

S = 57.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 642 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4692	
	Ramp Volume, V_R: 1221	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4692	0.92	Level	2	0	0.990	1.00	5151
Ramp	1221	0.92	Level	16	0	0.926	1.00	1433
UpStream	642	0.92	Level	23	0	0.897	1.00	778
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1493.58 (Equation 13-6 or 13-7)

P_{FM} = 0.580 using Equation (Exhibit 13-6)

V_{12} = 2985 pc/h

V_3 or V_{av34} = 2166 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2985 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6584	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4418	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 37.4 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.617 (Exibit 13-11)

S_R = 52.7 mph (Exhibit 13-11)

S_0 = 64.0 mph (Exhibit 13-11)

S = 56.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	5334
Ramp Volume, V_R	642
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1395 ft; V_D = 1221 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5334	0.92	Level	5	0	0.976	1.00	5943
Ramp	642	0.92	Level	23	0	0.897	1.00	778
UpStream								
DownStream	1221	0.92	Level	16	0	0.926	1.00	1433

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.576 using Equation (Exhibit 13-7)

V_{12} = 3751 pc/h

V_3 or V_{av34} 2192 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5943	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5165	Exhibit 13-8	7200	No
V_R	778	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3751	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 34.0 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.368 (Exhibit 13-12)

S_R = 59.7 mph (Exhibit 13-12)

S_0 = 72.1 mph (Exhibit 13-12)

S = 63.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Upstream
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 With Project

Project Description Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off; L_{up} = 1000 ft; V_u = 425 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6251
Ramp Volume, V_R	998
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{down} = ft; V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6251	0.92	Level	8	0	0.962	1.00	7066
Ramp	998	0.92	Level	15	0	0.930	1.00	1166
UpStream	425	0.92	Level	10	0	0.952	1.00	485
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3738 pc/h

V_3 or V_{av34} 1664 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7066	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5900	Exhibit 13-8	9600	No
V_R	1166	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3738	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 36.4 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.793 (Exhibit 13-12)

S_R = 47.8 mph (Exhibit 13-12)

S_0 = 74.2 mph (Exhibit 13-12)

S = 57.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus Off-ramp Loop Downstrea
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	0
Freeway Volume, V_F	6251
Ramp Volume, V_R	998
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	15.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1500 ft
V_D = 2157 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6251	0.92	Level	8	0	0.962	1.00	7066
Ramp	998	0.92	Level	15	0	0.930	1.00	1166
UpStream								
DownStream	2157	0.92	Level	7	0	0.966	1.00	2427

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.436 using Equation (Exhibit 13-7)
V_{12} = 3738 pc/h
V_3 or V_{av34} 1664 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7066	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5900	Exhibit 13-8	9600	No
V_R	1166	Exhibit 13-10	1800	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3738	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 36.4 (pc/mi/ln)
LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.793 (Exhibit 13-12)
S_R = 47.8 mph (Exhibit 13-12)
S_0 = 74.2 mph (Exhibit 13-12)
S = 57.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off; L_{up} = ft; V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	5918
Ramp Volume, V_R	1550
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off; L_{down} = 1420 ft; V_D = 926 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5918	0.92	Level	5	0	0.976	1.00	6593
Ramp	1550	0.92	Level	16	0	0.926	1.00	1820
UpStream								
DownStream	926	0.92	Level	25	0	0.889	1.00	1132

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.511 using Equation (Exhibit 13-7)

V_{12} = 4261 pc/h

V_3 or V_{av34} 2332 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6593	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4773	Exhibit 13-8	7200	No
V_R	1820	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4261	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 39.1 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.462 (Exhibit 13-12)

S_R = 57.1 mph (Exhibit 13-12)

S_0 = 71.6 mph (Exhibit 13-12)

S = 61.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1420 ft	Acceleration Lane Length, L_A: 260	L_{down} = ft
V_u = 1550 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4368	
	Ramp Volume, V_R: 926	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4368	0.92	Level	1	0	0.995	1.00	4772
Ramp	926	0.92	Level	25	0	0.889	1.00	1132
UpStream	1550	0.92	Level	16	0	0.926	1.00	1820
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1330.30 (Equation 13-6 or 13-7)

P_{FM} = 0.585 using Equation (Exhibit 13-6)

V_{12} = 2791 pc/h

V_3 or V_{av34} = 1981 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2791 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5904	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3923	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 33.9 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.495 (Exibit 13-11)

S_R = 56.1 mph (Exhibit 13-11)

S_0 = 64.7 mph (Exhibit 13-11)

S = 58.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Cactus On-ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{up} = 1075 ft

V_u = 846 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	0
Deceleration Lane Length L_D	
Freeway Volume, V_F	4131
Ramp Volume, V_R	1401
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4131	0.92	Level	8	0	0.962	1.00	4670
Ramp	1401	0.92	Level	24	0	0.893	1.00	1706
UpStream	846	0.92	Level	11	0	0.948	1.00	970
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.577 using Equation (Exhibit 13-6)

V_{12} = 2697 pc/h

V_3 or V_{av34} = 1973 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2697 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6376	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4403	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 39.0 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.640 (Exibit 13-11)

S_R = 52.1 mph (Exhibit 13-11)

S_0 = 64.7 mph (Exhibit 13-11)

S = 55.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox On-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1395 ft	Acceleration Lane Length, L_A: 300	L_{down} = ft
V_u = 607 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3714	
	Ramp Volume, V_R: 2288	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 45.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3714	0.92	Level	5	0	0.976	1.00	4138
Ramp	2288	0.92	Level	8	0	0.962	1.00	2586
UpStream	607	0.92	Level	12	0	0.943	1.00	699
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1523.54 (Equation 13-6 or 13-7)

P_{FM} = 0.578 using Equation (Exhibit 13-6)

V_{12} = 2390 pc/h

V_3 or V_{av34} = 1748 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2390 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6724	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4976	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 41.2 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.859 (Exibit 13-11)

S_R = 45.9 mph (Exhibit 13-11)

S_0 = 65.5 mph (Exhibit 13-11)

S = 49.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-215 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Harley Knox Off-Ramp
Date Performed	7/14/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour-W IMPROV	Analysis Year	GPBO P-2035 With Project

Project Description: Moreno Valley Logistics Center TIA (JN 09301)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	280
Freeway Volume, V_F	4321
Ramp Volume, V_R	607
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	45.0

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 1395 ft

V_D = 2288 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4321	0.92	Level	6	0	0.971	1.00	4838
Ramp	607	0.92	Level	12	0	0.943	1.00	699
UpStream								
DownStream	2288	0.92	Level	8	0	0.962	1.00	2586

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.607 using Equation (Exhibit 13-7)

V_{12} = 3211 pc/h

V_3 or V_{av34} 1627 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4838	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4139	Exhibit 13-8	7200	No
V_R	699	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3211	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = 29.3 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.361 (Exhibit 13-12)

S_R = 59.9 mph (Exhibit 13-12)

S_0 = 74.3 mph (Exhibit 13-12)

S = 64.1 mph (Exhibit 13-13)

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