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Honolulu Village Project

Traffic Analysis

City of Glendale, CA

March 7, 2016



Prepared by:

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Jano Baghdanian & Associates, LLC

Traffic, Transportation & Parking Consultants

JB & Associates is pleased to present the Honolulu Village Project (the “Project”) Traffic Analysis. The purpose of this memorandum is to document and determine if the proposed Project exceeds the City’s thresholds for the preparation of a Traffic Impact Study.

Project Location

The Project site consists of four continuous parcels with a total area of 43,609 square feet. The Project is located at 2612 Honolulu Avenue and is bound by Honolulu Avenue to the north and Sycamore Avenue to the south. Please refer to **Figure 1** for an aerial of the Project location.

The Project consists of the construction of either:

- Scenario 1: 28 multifamily residential condominium units; or
- Scenario 2: 28 multifamily residential apartments

In either scenario, the Project will also include a subterranean parking structure to provide access to the residential units. Further, the Project will involve the demolition and removal of the existing structure and adjacent parking lot which are both currently vacant.

Alternative transportation modes are available and in walking distance from in the Project site. The Los Angeles County Metropolitan Transportation Authority (MTA) and the City of Glendale (Beeline) presently operate bus routes (MTA routes 90/91 & Beeline routes 3/32) along Honolulu Avenue. All routes serving the Project connect to additional routes and stop at the Glendale Transportation Center (GTC), which provides access to the greater Los Angeles Metropolitan region via bus and commuter trains. The GTC also provides statewide access via Amtrak long-distance trains.

Project Access

The proposed Project will have a subterranean parking structure to serve the multifamily units. Due to the residential nature of the project, the Project’s access point will be from a 20ft driveway located on Sycamore Avenue. Please refer to **Figure 2** for an illustration of the Project’s site plan.

Access to the project site was also considered from Honolulu Avenue. However, the following concerns justified providing the Project’s vehicular access from Sycamore Avenue:

- Access from Honolulu Avenue would be difficult as it would involve crossing a double yellow centerline

- A driveway on Honolulu Avenue would be too close to the all-way stop controlled intersection of Honolulu Avenue & Rosemont Avenue. Queueing from the stop sign could make access to and from the project site difficult.
- There is a school located at the northeast corner of Honolulu Avenue & Rosemont Avenue and it is best to keep the Project related traffic away from the school.
- The Glendale transportation plan calls for a future bicycle lane on Honolulu Avenue and a driveway near the future bicycle lanes would create an additional conflict zone between bicyclists and vehicles.



Source: Google Earth, 2015

Project Trip Generation Methodology

Trip rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual 9th Edition* were used in this analysis.

Tables 1 & 2 summarize the trip generation findings for the two scenarios:

TABLE 1: PROJECT TRIP GENERATION (SCENARIO 1: CONDOMINIUMS)

Land Use (ITE Code)	Size	Units	AM Peak Hour Trips				PM Peak Hour Trips				Daily Trips	
			Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total
New Project Land Use Added												
Residential Condominiums (230)	28	du	0.44	12	2	10	0.52	15	10	5	5.81	163
Total Trip Generation				12	2	10	-	15	10	5	-	163

TABLE 2: PROJECT TRIP GENERATION (SCENARIO 2: APARTMENTS)

Land Use (ITE Code)	Size	Units	AM Peak Hour Trips				PM Peak Hour Trips				Daily Trips	
			Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total
New Project Land Use Added												
Apartments (220)	28	du	0.51	14	3	11	0.62	17	11	6	6.65	186
Total Trip Generation				14	3	11	-	17	11	6	-	186

As illustrated by **Tables 1 & 2**, the Project would result in either:

- Scenario 1 (condominiums): 12 a.m. peak hour trips and 15 p.m. peak hour trips; or
- Scenario 2 (apartments): 14 a.m. peak hour trips and 17 p.m. peak hour trips.

While both scenarios have been evaluated separately and result in different values, it is clear that the change in trips between the two scenarios is not meaningfully different.

Stop Controlled Intersection Analysis

Based on the project trip generations shown in **Table 1** and the expected geographic distribution of project trips, a proposed study area for the traffic analysis was derived. The proposed study area includes 2 stop controlled intersections in the vicinity of the project site.

1. Honolulu Avenue & Rosemont Avenue (All-Way Stop Controlled)
2. Sycamore Avenue & Rosemont Avenue (One-Way Stop Controlled)

As part of the analysis for the Project, AM & PM peak turning movement counts were conducted on Tuesday, May 12, 2015 (**Appendix A**) at the study intersections. Please refer to **Figure 3** for an illustration of the existing turning movement counts at the study intersections, **Figure 4** for the Project's Trip Distribution and **Figure 5** for the Project's Trip Assignment.

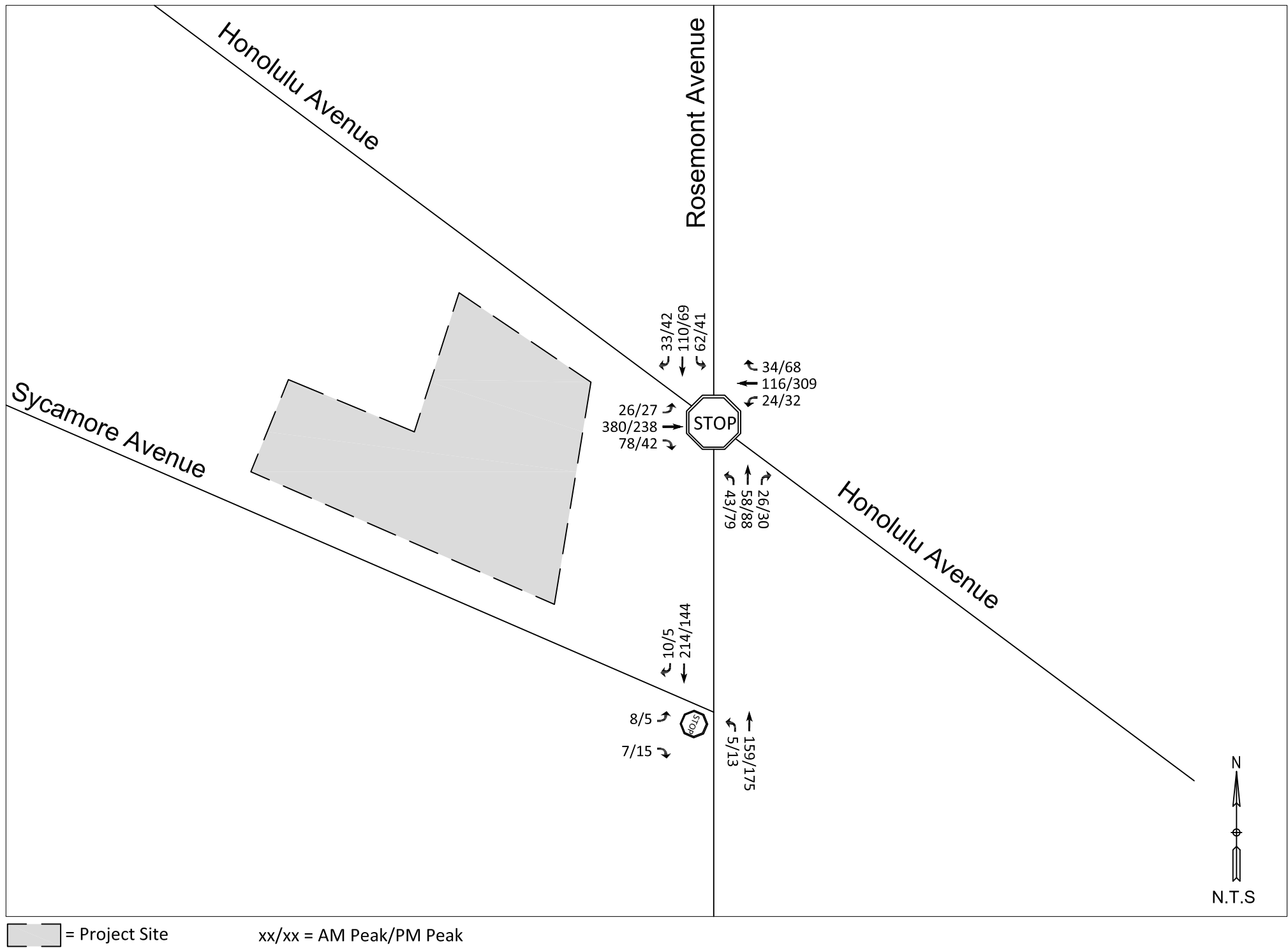
Based on the traffic counts collected, the Project's Trip Distribution & Trip Assignment, the intersections' delays and Level of Services (LOS) were evaluated for both Existing and Existing + Project scenarios (refer to **Appendix B** for LOS calculations). The analysis used the procedures of the *Highway Capacity Manual, 2010*. **Table 3** summarizes the findings.

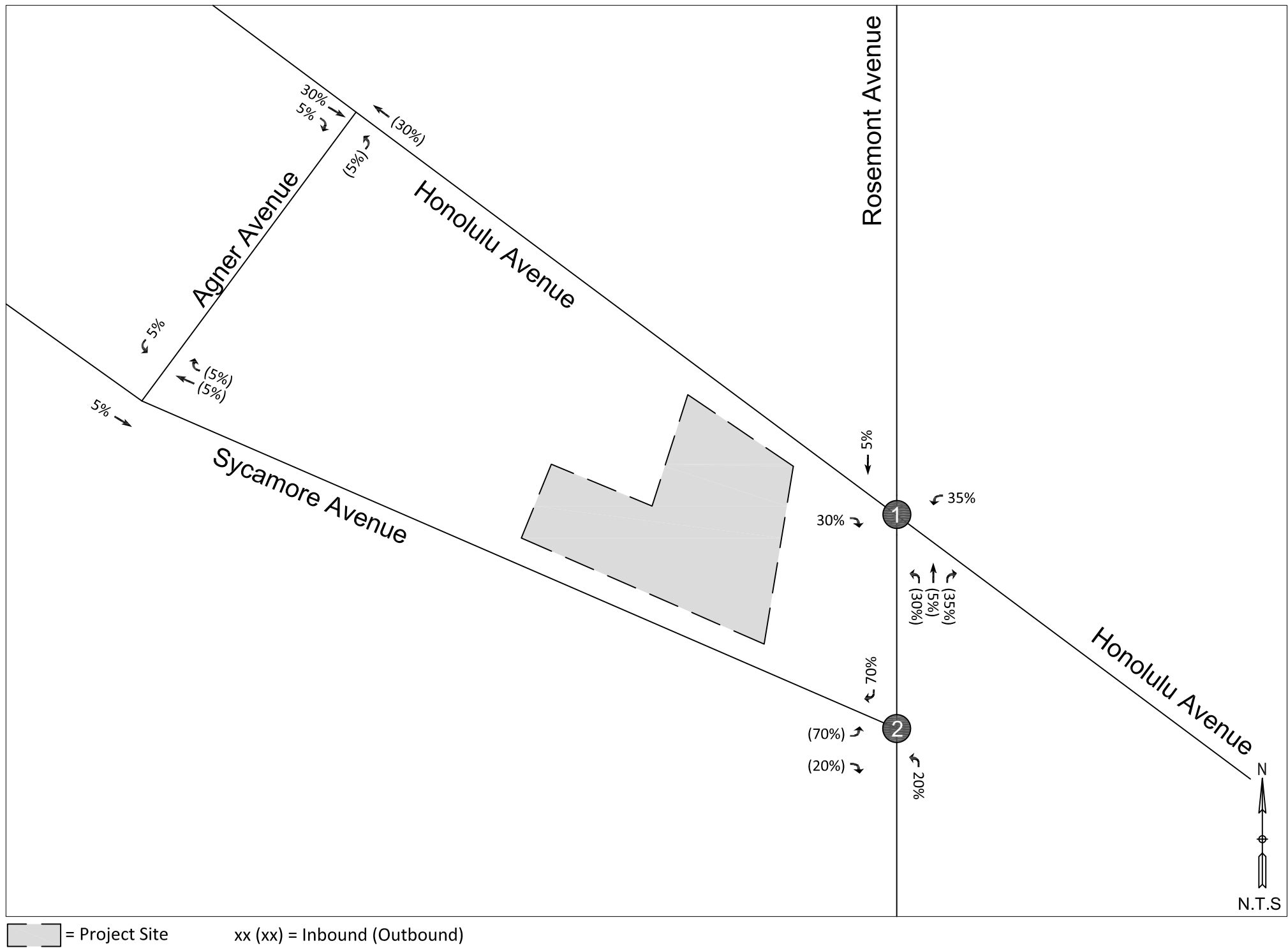
TABLE 3: STOP CONTROLLED INTERSECTION ANALYSIS

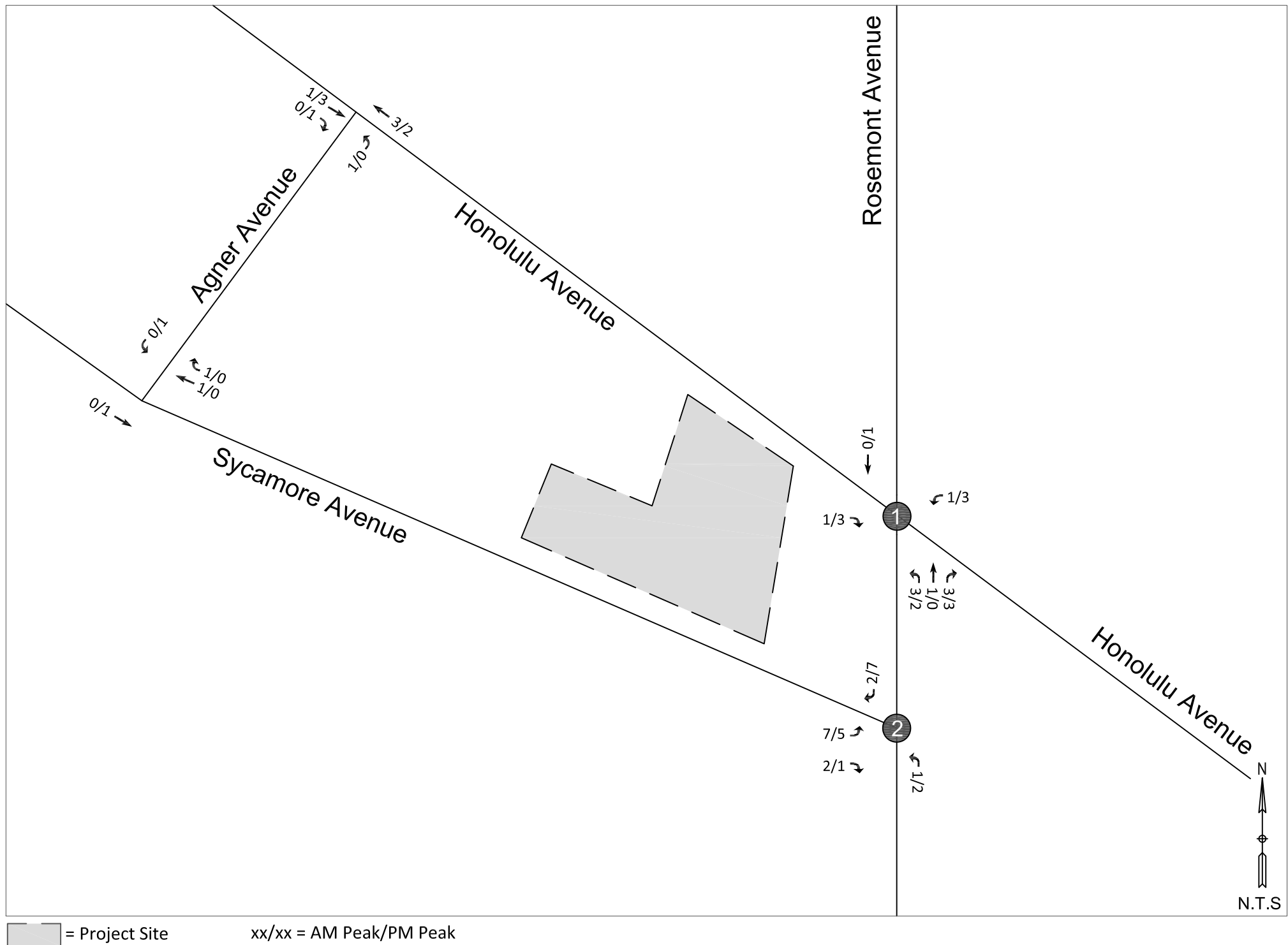
Highway Capacity Manual (2010)		Existing Conditions				Existing Plus Project Conditions							
		AM Peak Hour		PM Peak Hour		AM Peak Hour				PM Peak Hour			
		Delay	LOS	Delay	LOS	Delay	LOS	Change in Delay	Significant Impact	Delay	LOS	Change in Delay	Significant Impact
1	Honolulu Avenue & Rosemont Avenue	11.3 sec	B	11.5 sec	B	11.3 sec	B	0.0 sec	No	11.6 sec	B	0.1 sec	No
2	Sycamore Avenue & Rosemont Avenue*	11.0 sec	B	10.7 sec	B	11.1 sec	B	0.1 sec	No	10.8 sec	B	0.2 sec	No

*Delay for stop controlled approach (Sycamore Avenue)

As illustrated in **Table 3**, the neighboring intersections are currently operating at a LOS B during the AM and PM Peak hours. Further, the addition of the Project only increases the delay to the study intersections by no more than 0.2 seconds and both intersections remain at a LOS B. Therefore, it is clear that there is no significant impact to either of the study intersections and that they can both accommodate the Project related traffic based on available capacity of each intersection.







Residential Street Segment Analysis

In addition to the stop-controlled intersection analysis, a street segment analysis was also performed on Sycamore Avenue to determine if the addition of the project traffic would exceed the environmental capacity of the street.

On Wednesday, May 20, 2015, Average Daily Traffic (ADT) counts were conducted on Sycamore Avenue (**Appendix A**).

To determine whether an impact would occur, the street segment capacity was obtained through the *City of Glendale Circulation Element*. According to the document, Sycamore Avenue is defined as a Local Street. The Circulation Element assigns the following environmental capacities to the street segment:

1. Sycamore Avenue (Local Street): Up to 2,500 vehicles per day

Furthermore, a significant impact to the residential street segments would occur under the following scenarios:

- If the addition of the Project's Average Daily Traffic (ADT) to a residential street causes the street's environmental capacity to be exceeded
- If the street's environmental capacity is exceeded with or without the Project, an impact would only occur if the Project increases the without-Project ADT by more than 10 percent.

Please refer to the following table for a summary of the Project's Street Segment Analysis for Sycamore Avenue:

TABLE 4: STREET SEGMENT ENVIRONMENTAL CAPACITY

Street Segment	Scenario	Existing ADT	Honolulu Village Project			
			Project Added Daily Traffic ¹	Total ADT w/ Project	Environmental Capacity (veh/day)	Significant Impact?
Sycamore Avenue (between La Crescenta & Rosemont)	Condominiums	811	16	827	2,500	No
	Apartments		19	830		No

1. 10% of Project traffic is forecast to use the residential segment of Sycamore Avenue

As shown in **Table 4**, the addition of the Project would not result in a significant impact to the neighboring residential street segment under either scenario.

CONCLUSION

Based on the above trip generation analysis, the net change in trips generated by the proposed Project under either scenario (condominium or apartment) is well below the 50 vehicular trip threshold (in either the AM or PM peak periods) necessary for the preparation of a full Traffic Impact Analysis. Nonetheless, the neighboring stop controlled intersections and residential street segments were analyzed to ensure that the existing network could accommodate the Project generated trips. The findings of the analysis are summarized as follows:

- The stop controlled intersections in the study area (Honolulu Avenue/Rosemont Avenue & Sycamore Avenue/Rosemont Avenue) are currently operating at a Level of Service B and have the capacity to accommodate the minimal trips added to the roadway network by the Project.
- The neighboring residential street segment (Sycamore Avenue between La Crescenta and Rosemont) has an environmental capacity of 2,500 veh/day. With the addition of the Project generated vehicular trips, the study street segment will be operating at approximately 974 or 997 veh/day (which is approximately only 40% of its capacity).

Appendix A

Traffic Counts

CITY TRAFFIC COUNTERS

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File Name : Rosemont_Honolulu

Site Code : 00000000

Start Date : 5/12/2015

Page No : 1

Groups Printed- Unshifted

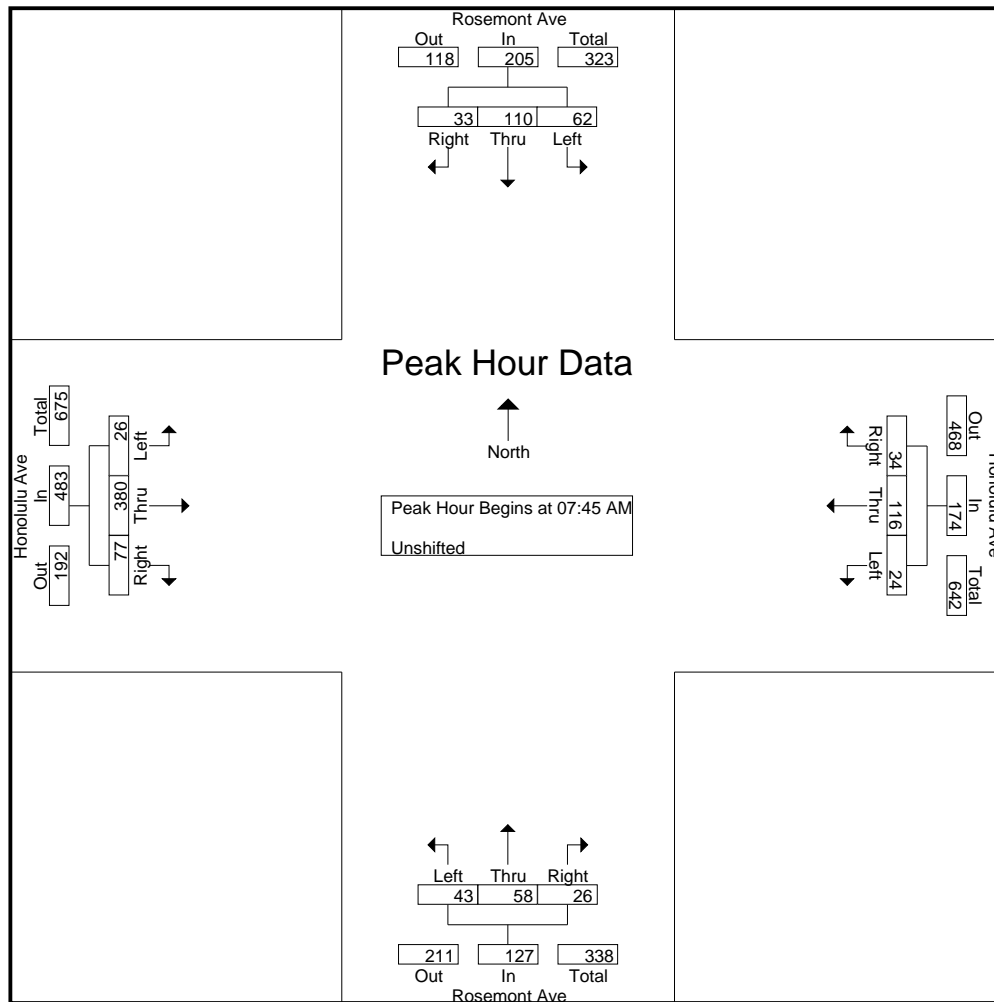
	Rosemont Ave Southbound			Honolulu Ave Westbound			Rosemont Ave Northbound			Honolulu Ave Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	5	3	4	0	19	2	5	3	5	2	28	7	83
07:15 AM	3	24	2	1	14	2	13	18	4	3	43	9	136
07:30 AM	11	28	8	1	17	5	25	22	2	10	55	16	200
07:45 AM	13	45	11	7	20	5	16	28	7	8	106	27	293
Total	32	100	25	9	70	14	59	71	18	23	232	59	712
08:00 AM	14	41	9	7	27	9	11	17	7	6	98	24	270
08:15 AM	21	14	10	8	31	7	9	7	5	7	89	14	222
08:30 AM	14	10	3	2	38	13	7	6	7	5	87	12	204
08:45 AM	11	7	8	11	41	3	16	16	6	4	73	14	210
Total	60	72	30	28	137	32	43	46	25	22	347	64	906
04:00 PM	10	18	8	3	58	16	12	19	9	9	54	9	225
04:15 PM	10	19	6	3	64	15	10	17	10	4	50	6	214
04:30 PM	11	17	3	5	63	13	10	20	7	3	52	13	217
04:45 PM	9	23	7	6	54	10	18	18	3	9	71	16	244
Total	40	77	24	17	239	54	50	74	29	25	227	44	900
05:00 PM	13	15	7	10	73	16	20	24	13	6	59	9	265
05:15 PM	4	23	9	4	72	20	13	20	9	6	58	17	255
05:30 PM	18	19	17	10	87	13	26	20	1	6	70	8	295
05:45 PM	7	12	8	8	77	19	20	24	7	9	51	8	250
Total	42	69	41	32	309	68	79	88	30	27	238	42	1065
Grand Total	174	318	120	86	755	168	231	279	102	97	1044	209	3583
Apprch %	28.4	52	19.6	8.5	74.8	16.7	37.7	45.6	16.7	7.2	77.3	15.5	
Total %	4.9	8.9	3.3	2.4	21.1	4.7	6.4	7.8	2.8	2.7	29.1	5.8	

CITY TRAFFIC COUNTERS

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File Name : Rosemont_Honolulu
Site Code : 00000000
Start Date : 5/12/2015
Page No : 2

	Rosemont Ave Southbound				Honolulu Ave Westbound				Rosemont Ave Northbound				Honolulu Ave 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 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	13	45	11	69	7	20	5	32	16	28	7	51	8	106	27	141	293
08:00 AM	14	41	9	64	7	27	9	43	11	17	7	35	6	98	24	128	270
08:15 AM	21	14	10	45	8	31	7	46	9	7	5	21	7	89	14	110	222
08:30 AM	14	10	3	27	2	38	13	53	7	6	7	20	5	87	12	104	204
Total Volume	62	110	33	205	24	116	34	174	43	58	26	127	26	380	77	483	989
% App. Total	30.2	53.7	16.1		13.8	66.7	19.5		33.9	45.7	20.5		5.4	78.7	15.9		
PHF	.738	.611	.750	.743	.750	.763	.654	.821	.672	.518	.929	.623	.813	.896	.713	.856	.844



CITY TRAFFIC COUNTERS

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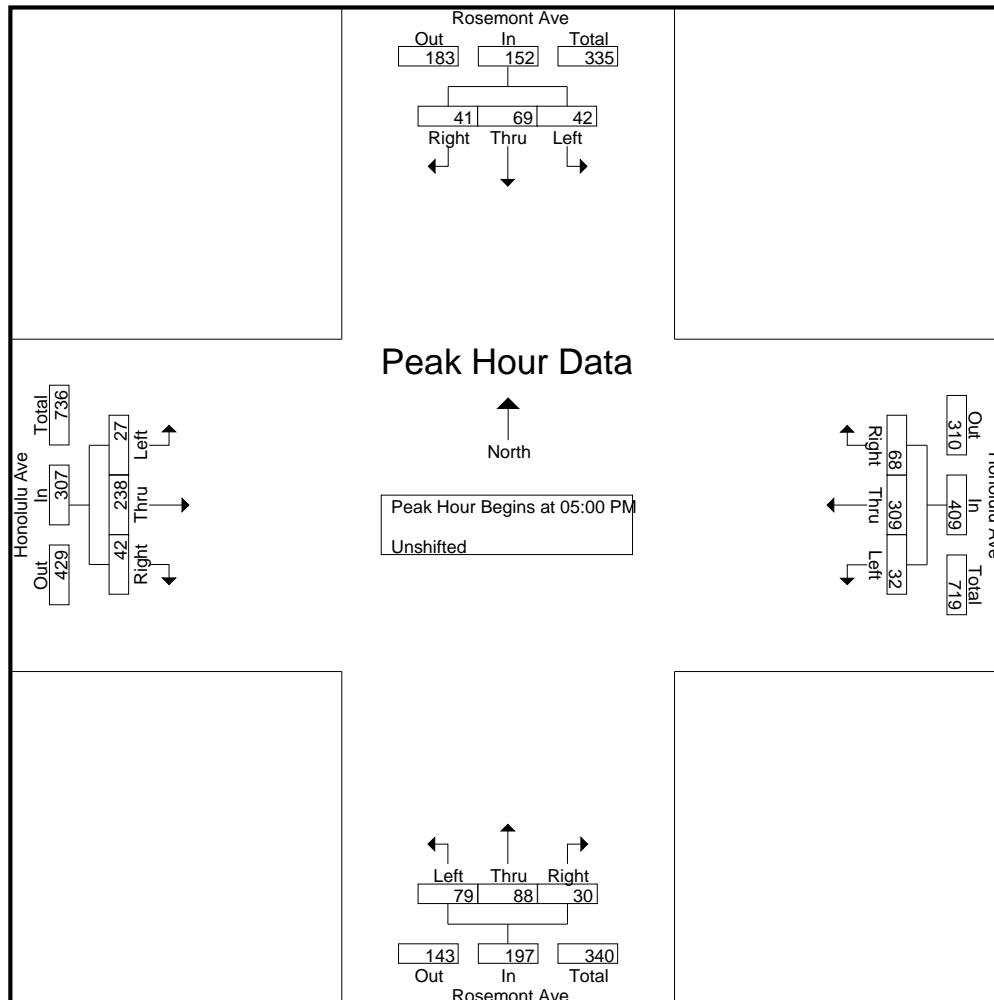
File Name : Rosemont_Honolulu

Site Code : 00000000

Start Date : 5/12/2015

Page No : 3

	Rosemont Ave Southbound				Honolulu Ave Westbound				Rosemont Ave Northbound				Honolulu Ave 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 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	13	15	7	35	10	73	16	99	20	24	13	57	6	59	9	74	265
05:15 PM	4	23	9	36	4	72	20	96	13	20	9	42	6	58	17	81	255
05:30 PM	18	19	17	54	10	87	13	110	26	20	1	47	6	70	8	84	295
05:45 PM	7	12	8	27	8	77	19	104	20	24	7	51	9	51	8	68	250
Total Volume	42	69	41	152	32	309	68	409	79	88	30	197	27	238	42	307	1065
% App. Total	27.6	45.4	27		7.8	75.6	16.6		40.1	44.7	15.2		8.8	77.5	13.7		
PHF	.583	.750	.603	.704	.800	.888	.850	.930	.760	.917	.577	.864	.750	.850	.618	.914	.903



CITY TRAFFIC COUNTERS

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File Name : Rosemont_Sycamore

Site Code : 00000000

Start Date : 5/12/2015

Page No : 1

Groups Printed- Unshifted

	Rosemont Ave Southbound			Westbound			Rosemont Ave Northbound			Sycamore Ave Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	9	0	0	0	0	1	12	0	0	0	0	22
07:15 AM	0	31	3	0	0	0	0	33	0	2	0	2	71
07:30 AM	0	44	1	0	0	0	0	47	0	0	0	2	94
07:45 AM	0	73	2	0	0	0	3	49	0	3	0	2	132
Total	0	157	6	0	0	0	4	141	0	5	0	6	319
08:00 AM	1	66	4	0	0	0	2	30	0	3	0	1	107
08:15 AM	0	31	2	0	0	0	1	21	0	1	0	0	56
08:30 AM	1	22	1	0	0	0	0	17	0	1	0	2	44
08:45 AM	1	29	3	0	0	0	2	36	0	0	0	8	79
Total	3	148	10	0	0	0	5	104	0	5	0	11	286
04:00 PM	1	28	2	0	0	2	1	35	0	1	0	2	72
04:15 PM	0	24	2	0	0	1	7	38	0	3	0	4	79
04:30 PM	0	28	5	1	0	1	8	31	0	2	0	8	84
04:45 PM	0	42	3	1	0	0	1	35	0	0	0	6	88
Total	1	122	12	2	0	4	17	139	0	6	0	20	323
05:00 PM	0	31	0	1	0	1	5	54	0	2	0	2	96
05:15 PM	0	39	0	2	0	0	3	39	0	2	0	3	88
05:30 PM	0	32	2	1	0	0	4	47	0	1	0	4	91
05:45 PM	1	26	1	0	0	0	2	44	0	2	0	4	80
Total	1	128	3	4	0	1	14	184	0	7	0	13	355
Grand Total	5	555	31	6	0	5	40	568	0	23	0	50	1283
Apprch %	0.8	93.9	5.2	54.5	0	45.5	6.6	93.4	0	31.5	0	68.5	
Total %	0.4	43.3	2.4	0.5	0	0.4	3.1	44.3	0	1.8	0	3.9	

CITY TRAFFIC COUNTERS

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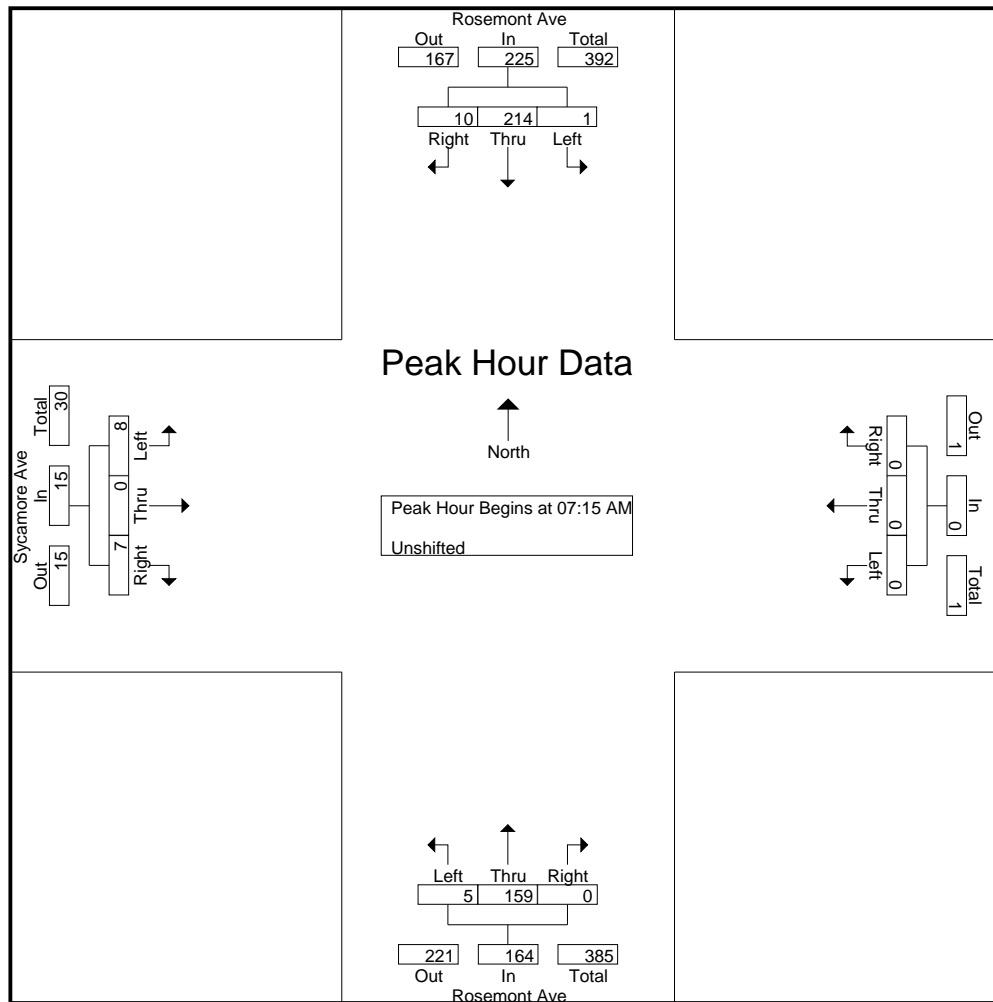
File Name : Rosemont_Sycamore

Site Code : 00000000

Start Date : 5/12/2015

Page No : 2

	Rosemont Ave Southbound				Westbound				Rosemont Ave Northbound				Sycamore Ave 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 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	31	3	34	0	0	0	0	0	33	0	33	2	0	2	4	71
07:30 AM	0	44	1	45	0	0	0	0	0	47	0	47	0	0	2	2	94
07:45 AM	0	73	2	75	0	0	0	0	3	49	0	52	3	0	2	5	132
08:00 AM	1	66	4	71	0	0	0	0	2	30	0	32	3	0	1	4	107
Total Volume	1	214	10	225	0	0	0	0	5	159	0	164	8	0	7	15	404
% App. Total	0.4	95.1	4.4		0	0	0		3	97	0		53.3	0	46.7		
PHF	.250	.733	.625	.750	.000	.000	.000	.000	.417	.811	.000	.788	.667	.000	.875	.750	.765



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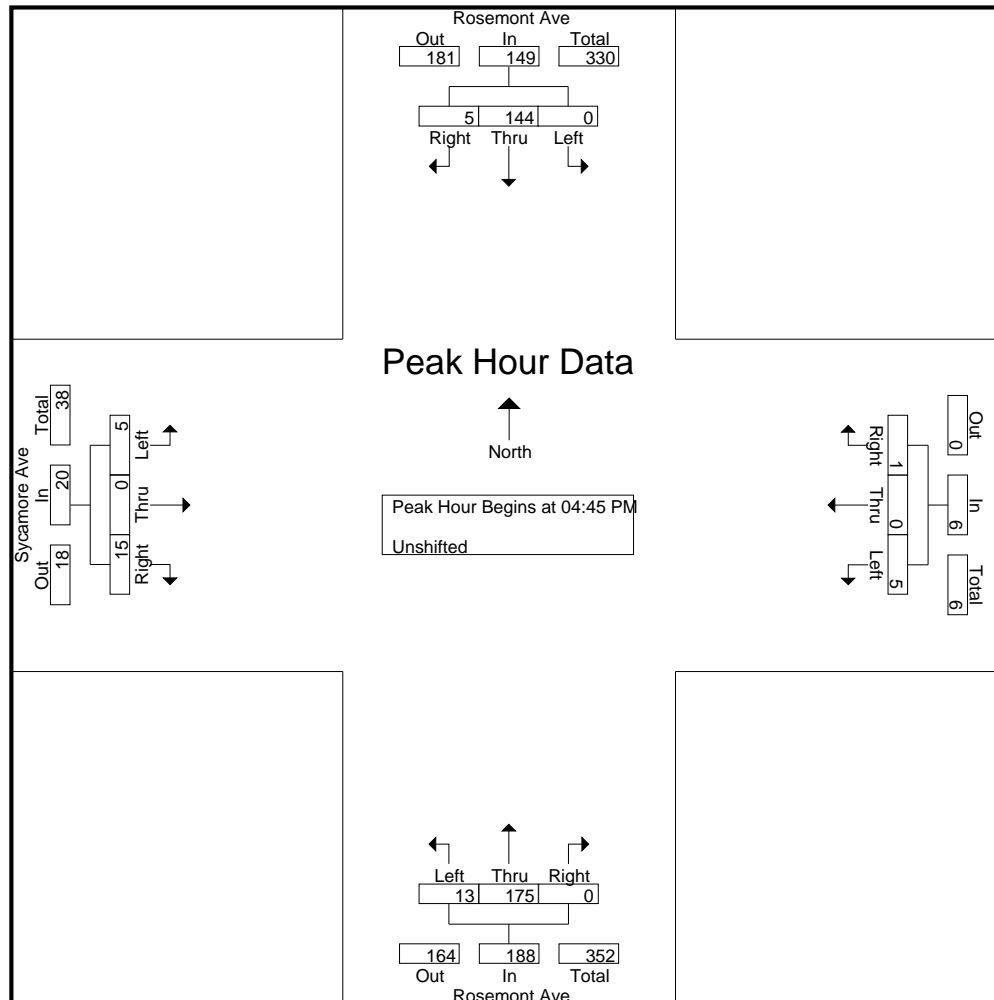
File Name : Rosemont_Sycamore

Site Code : 00000000

Start Date : 5/12/2015

Page No : 3

	Rosemont Ave Southbound				Westbound				Rosemont Ave Northbound				Sycamore Ave 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 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	42	3	45	1	0	0	1	1	35	0	36	0	0	6	6	88
05:00 PM	0	31	0	31	1	0	1	2	5	54	0	59	2	0	2	4	96
05:15 PM	0	39	0	39	2	0	0	2	3	39	0	42	2	0	3	5	88
05:30 PM	0	32	2	34	1	0	0	1	4	47	0	51	1	0	4	5	91
Total Volume	0	144	5	149	5	0	1	6	13	175	0	188	5	0	15	20	363
% App. Total	0	96.6	3.4		83.3	0	16.7		6.9	93.1	0		25	0	75		
PHF	.000	.857	.417	.828	.625	.000	.250	.750	.650	.810	.000	.797	.625	.000	.625	.833	.945



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Sycamore Ave
W/O Rosemont Ave

Start Time	20-May-15 Wed	East		Hour Totals		West		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		2	3			2	2				
12:15		1	2			2	2				
12:30		2	6			2	4				
12:45		0	4	5	15	0	3	6	11	11	26
01:00		0	5			0	6				
01:15		1	3			0	1				
01:30		0	4			0	4				
01:45		0	12	1	24	0	8	0	19	1	43
02:00		0	11			0	20				
02:15		2	4			1	7				
02:30		0	6			1	12				
02:45		0	7	2	28	0	12	2	51	4	79
03:00		0	0			0	7				
03:15		0	2			0	9				
03:30		0	7			0	20				
03:45		0	2	0	11	0	6	0	42	0	53
04:00		0	4			0	16				
04:15		0	8			0	10				
04:30		2	2			2	2				
04:45		1	10	3	24	0	12	2	40	5	64
05:00		1	8			1	10				
05:15		2	4			3	15				
05:30		1	5			0	7				
05:45		4	8	8	25	2	21	6	53	14	78
06:00		6	6			1	10				
06:15		1	4			0	12				
06:30		0	6			0	6				
06:45		0	3	7	19	0	7	1	35	8	54
07:00		8	3			8	6				
07:15		4	10			3	12				
07:30		8	4			12	5				
07:45		8	3	28	20	8	9	31	32	59	52
08:00		8	2			7	2				
08:15		6	1			6	2				
08:30		5	3			5	2				
08:45		3	2	22	8	3	4	21	10	43	18
09:00		8	0			8	1				
09:15		4	2			7	4				
09:30		6	0			12	2				
09:45		6	3	24	5	4	5	31	12	55	17
10:00		6	4			7	2				
10:15		7	1			6	1				
10:30		8	6			4	4				
10:45		4	1	25	12	2	2	19	9	44	21
11:00		8	1			11	2				
11:15		4	3			4	4				
11:30		5	0			4	2				
11:45		7	1	24	5	6	0	25	8	49	13
Total		149	196			144	322			293	518
Percent		43.2%	56.8%			30.9%	69.1%			36.1%	63.9%
Grand Total		149	196			144	322			293	518
Percent		43.2%	56.8%			30.9%	69.1%			36.1%	63.9%

ADT

ADT 811

AADT 811

Appendix B

Level of Service Calculations

Intersection Level Of Service Report
Intersection 1: Honolulu Avenue & Rosemont Avenue





Control Type:
 Analysis Method:
 Analysis Period:

All-way stop
 HCM 2010
 15 minutes

Delay (sec / veh):
 Level Of Service:

11.3
 B

Intersection Setup

Name	Rosemont Avenue			Rosemont Avenue			Honolulu Avenue			Honolulu Avenue		
Approach	Northbound			Southbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Rosemont Avenue			Rosemont Avenue			Honolulu Avenue			Honolulu Avenue		
Base Volume Input [veh/h]	43	58	26	62	110	33	24	116	34	26	380	77
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	43	58	26	62	110	33	24	116	34	26	380	77
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	11	15	7	16	28	8	6	29	9	7	95	19
Total Analysis Volume [veh/h]	43	58	26	62	110	33	24	116	34	26	380	77
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes




Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.77	1.41	0.54	0.50	1.86	1.73
95th-Percentile Queue Length [ft]	19.23	35.13	13.45	12.43	46.59	43.25
Approach Delay [s/veh]	10.35	11.42	9.90		11.92	
Approach LOS	B	B	A		B	
Intersection Delay [s/veh]	11.26					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Rosemont Avenue & Sycamore Avenue

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Rosemont Avenue		Rosemont Avenue		Sycamore Avenue	
Approach	Northbound		Southbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Rosemont Avenue		Rosemont Avenue		Sycamore Avenue	
Base Volume Input [veh/h]	5	159	214	10	8	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	159	214	10	8	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	40	54	3	2	2
Total Analysis Volume [veh/h]	5	159	214	10	8	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.69	0.00	0.00	0.00	10.99	9.50
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.42	0.42	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft]	10.39	10.39	0.00	0.00	1.65	1.65
d_A, Approach Delay [s/veh]	0.23		0.00		10.29	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.48					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Honolulu Avenue & Rosemont Avenue





Control Type:
 Analysis Method:
 Analysis Period:

All-way stop
 HCM 2010
 15 minutes

Delay (sec / veh):
 Level Of Service:

11.5
 B

Intersection Setup

Name	Rosemont Avenue			Rosemont Avenue			Honolulu Avenue			Honolulu Avenue		
Approach	Northbound			Southbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Rosemont Avenue			Rosemont Avenue			Honolulu Avenue			Honolulu Avenue		
Base Volume Input [veh/h]	79	88	30	42	69	41	32	309	68	27	238	42
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	79	88	30	42	69	41	32	309	68	27	238	42
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	20	22	8	11	17	10	8	77	17	7	60	11
Total Analysis Volume [veh/h]	79	88	30	42	69	41	32	309	68	27	238	42
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes




Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.43	1.01	1.57	1.46	1.09	1.02
95th-Percentile Queue Length [ft]	35.74	25.14	39.26	36.42	27.13	25.55
Approach Delay [s/veh]	11.93	11.07	11.82		11.09	
Approach LOS	B	B	B		B	
Intersection Delay [s/veh]	11.52					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Rosemont Avenue & Sycamore Avenue

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Rosemont Avenue		Rosemont Avenue		Sycamore Avenue	
Approach	Northbound		Southbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Rosemont Avenue		Rosemont Avenue		Sycamore Avenue	
Base Volume Input [veh/h]	13	175	144	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	175	144	5	5	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	44	36	1	1	4
Total Analysis Volume [veh/h]	13	175	144	5	5	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.01	0.02
d_M, Delay for Movement [s/veh]	7.54	0.00	0.00	0.00	10.71	9.11
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.45	0.45	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft]	11.30	11.30	0.00	0.00	1.88	1.88
d_A, Approach Delay [s/veh]	0.52		0.00		9.51	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.81					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Honolulu Avenue & Rosemont Avenue





Control Type:
 Analysis Method:
 Analysis Period:

All-way stop
 HCM 2010
 15 minutes

Delay (sec / veh):
 Level Of Service:

11.3
 B

Intersection Setup

Name	Rosemont Avenue			Rosemont Avenue			Honolulu Avenue			Honolulu Avenue		
Approach	Northbound			Southbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Rosemont Avenue			Rosemont Avenue			Honolulu Avenue			Honolulu Avenue		
Base Volume Input [veh/h]	43	58	26	62	110	33	24	116	34	26	380	78
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	1	3	0	0	0	1	0	0	0	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	46	59	29	62	110	33	25	116	34	26	380	79
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	12	15	7	16	28	8	6	29	9	7	95	20
Total Analysis Volume [veh/h]	46	59	29	62	110	33	25	116	34	26	380	79
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes




Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.82	1.41	0.55	0.50	1.89	1.75
95th-Percentile Queue Length [ft]	20.61	35.37	13.63	12.60	47.24	43.81
Approach Delay [s/veh]	10.47	11.48	9.95		12.01	
Approach LOS	B	B	A		B	
Intersection Delay [s/veh]	11.33					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Rosemont Avenue & Sycamore Avenue

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.025

Intersection Setup

Name	Rosemont Avenue		Rosemont Avenue		Sycamore Avenue	
Approach	Northbound		Southbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Rosemont Avenue		Rosemont Avenue		Sycamore Avenue	
Base Volume Input [veh/h]	5	159	214	10	8	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	0	2	7	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	159	214	12	15	9
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	40	54	3	4	2
Total Analysis Volume [veh/h]	6	159	214	12	15	9
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	7.69	0.00	0.00	0.00	11.10	9.59
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.42	0.42	0.00	0.00	0.11	0.11
95th-Percentile Queue Length [ft]	10.48	10.48	0.00	0.00	2.76	2.76
d_A, Approach Delay [s/veh]	0.28		0.00		10.53	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.72					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Honolulu Avenue & Rosemont Avenue





Control Type:
 Analysis Method:
 Analysis Period:

All-way stop
 HCM 2010
 15 minutes

Delay (sec / veh):
 Level Of Service:

11.6
 B

Intersection Setup

Name	Rosemont Avenue			Rosemont Avenue			Honolulu Avenue					
Approach	Northbound			Southbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Rosemont Avenue			Rosemont Avenue			Honolulu Avenue					
Base Volume Input [veh/h]	79	88	30	42	69	41	32	309	68	27	238	42
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	3	0	1	0	3	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	88	33	42	70	41	35	309	68	27	238	45
Peak Hour Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	20	22	8	11	18	10	9	77	17	7	60	11
Total Analysis Volume [veh/h]	81	88	33	42	70	41	35	309	68	27	238	45
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes




Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.49	1.02	1.60	1.48	1.11	1.04
95th-Percentile Queue Length [ft]	37.21	25.55	40.05	37.11	27.68	26.01
Approach Delay [s/veh]	12.08	11.15	11.94		11.17	
Approach LOS	B	B	B		B	
Intersection Delay [s/veh]	11.63					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Rosemont Avenue & Sycamore Avenue

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name	Rosemont Avenue		Rosemont Avenue		Sycamore Avenue	
Approach	Northbound		Southbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Rosemont Avenue		Rosemont Avenue		Sycamore Avenue	
Base Volume Input [veh/h]	13	175	144	5	5	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	7	5	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	175	144	12	10	16
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	44	36	3	3	4
Total Analysis Volume [veh/h]	15	175	144	12	10	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.02	0.02
d_M, Delay for Movement [s/veh]	7.56	0.00	0.00	0.00	10.83	9.18
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh]	0.46	0.46	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft]	11.51	11.51	0.00	0.00	2.60	2.60
d_A, Approach Delay [s/veh]	0.60		0.00		9.81	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.99					
Intersection LOS	B					