

APPENDIX H

TRAFFIC MODELING AND CALCULATIONS

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Belmont Pool

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Scenario 1: 01 Existing No Project AM

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3/4/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.700	-	B
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Left	0.612	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	NB Left	0.490	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Left	0.403	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.006	8.4	A
6	Ximeno Avenue/Livingston Drive	Signalized	ICU 1	EB Left	0.144	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Left	0.690	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	NB Left	0.296	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru		9.6	A
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru		8.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: B
Volume to Capacity (v/c): 0.700

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	TT		TTL		TT	
Turning Movement	Left	Right	Left	Thru	Thru	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	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	105	74	51	707	1435	113
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]	105	74	51	707	1435	113
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	19	13	182	370	29
Total Analysis Volume [veh/h]	108	76	53	730	1481	117
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.700

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: B
Volume to Capacity (v/c): 0.612

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	TT		T		T	
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	8	17	10	805	1534	29
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]	8	17	10	805	1534	29
Peak Hour Factor	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	4	3	206	393	7
Total Analysis Volume [veh/h]	8	17	10	826	1573	30
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.612

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.490

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			T			TTT			TTT		
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	1	0	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	411	0	3	0	0	7	18	629	0	0	1132	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	411	0	3	0	0	7	18	629	0	0	1132	10
Peak Hour Factor	0.9730	1.0000	0.9730	1.0000	1.0000	0.9730	0.9730	0.9730	1.0000	1.0000	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	106	0	1	0	0	2	5	162	0	0	291	3
Total Analysis Volume [veh/h]	422	0	3	0	0	7	18	646	0	0	1163	10
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.490

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.403

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	1	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	24	0	64	30	22	5	0	618	12	45	1106	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	24	0	64	30	22	5	0	618	12	45	1106	0
Peak Hour Factor	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	17	8	6	1	0	162	3	12	290	0
Total Analysis Volume [veh/h]	25	0	67	31	23	5	0	647	13	47	1158	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.403

Intersection Level Of Service Report

Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵				↵	
Turning Movement	Left	Right	Left	Thru	Thru	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		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	4	0	0	7	4
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]	0	4	0	0	7	4
Peak Hour Factor	1.0000	0.6250	1.0000	1.0000	0.6250	0.6250
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	0	3	2
Total Analysis Volume [veh/h]	0	6	0	0	11	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.40	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh]	0.00	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.42	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.40		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]			2.19			
Intersection LOS			A			

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.144

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↱		↶		↵	
Turning Movement	Left	Right	Left	Thru	Thru	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		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	39	66	0	1116	1
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]	0	39	66	0	1116	1
Peak Hour Factor	1.0000	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	10	17	0	295	0
Total Analysis Volume [veh/h]	0	41	70	0	1180	1
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected/Permissi	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-



Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.144

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: B
Volume to Capacity (v/c): 0.690

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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]	100.00	100.00	100.00	100.00	100.00	100.00	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	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	1	0	87	616	0	93	7	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	0	0	0	0	1	0	87	616	0	93	7	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	23	162	0	24	2	1
Total Analysis Volume [veh/h]	0	0	0	0	1	0	92	648	0	98	7	3
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.690

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	1030	155	2	4	13	187	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	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	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
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1030	155	2	4	13	187	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	271	41	1	1	3	49	0	0
Total Analysis Volume [veh/h]	0	1084	163	2	4	14	197	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.690

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.296

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	70.00	100.00	100.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	34	28	17	27	33	11	44	212	20	49	353	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	34	28	17	27	33	11	44	212	20	49	353	39
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	8	5	7	9	3	12	57	5	13	95	11
Total Analysis Volume [veh/h]	37	30	18	29	36	12	48	229	22	53	381	42
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.296

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 9.6
Level Of Service: A

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	60.00	100.00	100.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	16	0	5	0	0	0	30	239	8	39	372	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	16	0	5	0	0	0	30	239	8	39	372	4
Peak Hour Factor	0.9280	0.9280	0.9280	1.0000	1.0000	1.0000	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	0	1	0	0	0	8	64	2	11	100	1
Total Analysis Volume [veh/h]	17	0	5	0	0	0	32	258	9	42	401	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.10	0.02		0.17	0.72	0.72	0.04	0.21	1.19	1.19	0.02
95th-Percentile Queue Length [ft]	2.39	0.57		4.15	17.88	17.88	0.90	5.30	29.84	29.84	0.38
Approach Delay [s/veh]	9.15		0.00	9.31			9.83				
Approach LOS	A		A	A			A				
Intersection Delay [s/veh]	9.61										
Intersection LOS	A										

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 8.6
Level Of Service: A

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	60.00	100.00	100.00
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
	1	4	8	16	5	19	17	213	2	18	268	14
Base Volume Input [veh/h]	1	4	8	16	5	19	17	213	2	18	268	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	1	4	8	16	5	19	17	213	2	18	268	14
Peak Hour Factor	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	2	4	1	5	5	57	1	5	72	4
Total Analysis Volume [veh/h]	1	4	9	17	5	20	18	229	2	19	288	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.06	0.20	0.08	0.55	0.55	0.01	0.09	0.72	0.72	0.05
95th-Percentile Queue Length [ft]	1.56	4.99	2.09	13.81	13.81	0.18	2.19	18.01	18.01	1.33
Approach Delay [s/veh]	8.35	8.72	8.50		8.64					
Approach LOS	A	A	A		A					
Intersection Delay [s/veh]	8.58									
Intersection LOS	A									

Belmont Pool

Vistro File: P:\...Belmont Pool.vistro

Scenario 2: 01 Existing No Project PM

Report File: P:\...01 Existing No Project PM.pdf

3/4/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.722	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	EB Left	0.650	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	NB Left	0.584	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Left	0.630	-	B
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.005	8.4	A
6	Ximeno Avenue/Livingston Drive	Signalized	ICU 1	EB Left	0.185	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Left	0.617	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.402	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru		11.2	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru		9.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: C
Volume to Capacity (v/c): 0.722

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	TT		T		T	
Turning Movement	Left	Right	Left	Thru	Thru	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	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	242	91	85	1459	888	134
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]	242	91	85	1459	888	134
Peak Hour Factor	0.9770	0.9770	0.9770	0.9770	0.9770	0.9770
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	23	22	373	227	34
Total Analysis Volume [veh/h]	248	93	87	1493	909	137
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	C
Intersection V/C	0.722

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: B
Volume to Capacity (v/c): 0.650

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	TT		T		TT	
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	10	8	27	1677	1004	45
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]	10	8	27	1677	1004	45
Peak Hour Factor	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	7	435	261	12
Total Analysis Volume [veh/h]	10	8	28	1741	1043	47
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.650

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.584

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			T			TTT			TTT		
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	1	0	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	348	0	6	0	0	17	20	1137	0	0	770	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	348	0	6	0	0	17	20	1137	0	0	770	21
Peak Hour Factor	0.9790	1.0000	0.9790	1.0000	1.0000	0.9790	0.9790	0.9790	1.0000	1.0000	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	0	2	0	0	4	5	290	0	0	197	5
Total Analysis Volume [veh/h]	355	0	6	0	0	17	20	1161	0	0	787	21
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.584

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: B
Volume to Capacity (v/c): 0.630

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	1	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	52	0	105	28	50	4	0	1132	29	112	729	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	52	0	105	28	50	4	0	1132	29	112	729	0
Peak Hour Factor	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	0	27	7	13	1	0	296	8	29	191	0
Total Analysis Volume [veh/h]	54	0	110	29	52	4	0	1185	30	117	763	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4
Auxiliary Signal Groups											
Lead / Lag	Lead	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.630

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type: Two-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 8.4
Level Of Service: A
Volume to Capacity (v/c): 0.005

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵				↵	
Turning Movement	Left	Right	Left	Thru	Thru	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		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	14	3
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]	0	5	0	0	14	3
Peak Hour Factor	1.0000	0.9170	1.0000	1.0000	0.9170	0.9170
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	0	4	1
Total Analysis Volume [veh/h]	0	5	0	0	15	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.40	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.35	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.40		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]			1.83			
Intersection LOS			A			

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.185

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↱		↶		↵	
Turning Movement	Left	Right	Left	Thru	Thru	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		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	67	130	0	786	2
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]	0	67	130	0	786	2
Peak Hour Factor	1.0000	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	34	0	205	1
Total Analysis Volume [veh/h]	0	70	136	0	820	2
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected/Permissi	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.185

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: B
Volume to Capacity (v/c): 0.617

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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]	100.00	100.00	100.00	100.00	100.00	100.00	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	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	5	0	121	1036	1	113	32	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	0	0	0	0	5	0	121	1036	1	113	32	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9820	1.0000	0.9820	0.9820	1.0000	0.9820	0.9820	0.9820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	31	264	0	29	8	1
Total Analysis Volume [veh/h]	0	0	0	0	5	0	123	1055	1	115	33	5
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00



Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.617

Intersection Setup

Name	2nd Street					2nd Street			
Approach	Northwestbound					Southeastbound			
Lane Configuration									
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00			
Grade [%]	0.00					0.00			
Crosswalk	Yes					No			

Volumes

Name	2nd Street					2nd Street			
Base Volume Input [veh/h]	0	654	178	8	15	37	202	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	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	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
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	654	178	8	15	37	202	0	0
Peak Hour Factor	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	166	45	2	4	9	51	0	0
Total Analysis Volume [veh/h]	0	666	181	8	15	38	206	0	0
Pedestrian Volume [ped/h]	0					0			
Bicycle Volume [bicycles/h]	0					0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.617

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.402

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	70.00	100.00	100.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	42	60	33	84	63	28	63	481	66	47	271	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	42	60	33	84	63	28	63	481	66	47	271	53
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	15	8	21	16	7	16	123	17	12	69	14
Total Analysis Volume [veh/h]	43	61	34	86	64	29	64	492	67	48	277	54
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.402

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 11.2
Level Of Service: B

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	60.00	100.00	100.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	25	3	18	0	0	0	54	513	28	38	326	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	25	3	18	0	0	0	54	513	28	38	326	17
Peak Hour Factor	0.9320	0.9320	0.9320	1.0000	1.0000	1.0000	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	1	5	0	0	0	14	138	8	10	87	5
Total Analysis Volume [veh/h]	27	3	19	0	0	0	58	550	30	41	350	18
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.18	0.09		0.32	2.09	2.09	0.13	0.23	1.16	1.16	0.08
95th-Percentile Queue Length [ft]	4.53	2.36		8.00	52.23	52.23	3.13	5.80	29.04	29.04	1.98
Approach Delay [s/veh]	9.46		0.00		11.70		10.56				
Approach LOS	A		A		B		B				
Intersection Delay [s/veh]	11.17										
Intersection LOS	B										

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 9.6
Level Of Service: A

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	60.00	100.00	100.00
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
	15	14	16	23	5	27	49	416	8	13	273	32
Base Volume Input [veh/h]	15	14	16	23	5	27	49	416	8	13	273	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	15	14	16	23	5	27	49	416	8	13	273	32
Peak Hour Factor	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	4	4	6	1	7	13	110	2	3	72	8
Total Analysis Volume [veh/h]	16	15	17	24	5	28	52	439	8	14	288	34
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.25	0.30	0.27	1.34	1.34	0.03	0.07	0.80	0.80	0.14
95th-Percentile Queue Length [ft]	6.30	7.50	6.63	33.54	33.54	0.75	1.73	19.91	19.91	3.40
Approach Delay [s/veh]	9.32	9.34	9.99				9.19			
Approach LOS	A		A		A			A		
Intersection Delay [s/veh]	9.63									
Intersection LOS	A									

Belmont Pool

Vistro File: P:\...Belmont Pool.vistro

Scenario 3: 01 Existing No Project Weekend

Report File: P:\...01 Existing No Project Weekend.pdf

3/4/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.593	-	A
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.461	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	NB Left	0.452	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Left	0.468	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.007	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	EB Left	0.169	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Left	0.647	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.339	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru		10.8	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru		9.5	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.593

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	TT		T		TT	
Turning Movement	Left	Right	Left	Thru	Thru	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	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	179	101	71	805	828	166
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]	179	101	71	805	828	166
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	27	19	213	219	44
Total Analysis Volume [veh/h]	189	107	75	851	875	175
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.593

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.461

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	TT		T		TT	
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	18	17	16	956	977	38
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]	18	17	16	956	977	38
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	5	4	255	260	10
Total Analysis Volume [veh/h]	19	18	17	1019	1042	41
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.461

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.452

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			T			TTT			TTT		
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	1	0	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	433	0	7	0	0	21	13	596	0	0	644	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	433	0	7	0	0	21	13	596	0	0	644	24
Peak Hour Factor	0.9500	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	114	0	2	0	0	6	3	157	0	0	169	6
Total Analysis Volume [veh/h]	456	0	7	0	0	22	14	627	0	0	678	25
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.452

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.468

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	1	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	39	0	131	16	39	5	0	592	20	115	630	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	39	0	131	16	39	5	0	592	20	115	630	0
Peak Hour Factor	0.9490	1.0000	0.9490	0.9490	0.9490	0.9490	1.0000	0.9490	0.9490	0.9490	0.9490	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	0	35	4	10	1	0	156	5	30	166	0
Total Analysis Volume [veh/h]	41	0	138	17	41	5	0	624	21	121	664	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4
Auxiliary Signal Groups											
Lead / Lag	Lead	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.468

Intersection Level Of Service Report

Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵				↵	
Turning Movement	Left	Right	Left	Thru	Thru	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		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	5	1
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]	0	5	0	0	5	1
Peak Hour Factor	1.0000	0.6880	1.0000	1.0000	0.6880	0.6880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	0	2	0
Total Analysis Volume [veh/h]	0	7	0	0	7	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.37	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh]	0.00	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.49	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.37		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]			3.91			
Intersection LOS			A			

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.169

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↱		↶		↵	
Turning Movement	Left	Right	Left	Thru	Thru	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		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	70	108	0	685	10
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]	0	70	108	0	685	10
Peak Hour Factor	1.0000	0.9740	0.9740	1.0000	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	18	28	0	176	3
Total Analysis Volume [veh/h]	0	72	111	0	703	10
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected/Permissi	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-



Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.169

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: B
Volume to Capacity (v/c): 0.647

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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]	100.00	100.00	100.00	100.00	100.00	100.00	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	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	2	0	86	610	2	121	41	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	0	0	0	0	2	0	86	610	2	121	41	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9350	1.0000	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	23	163	1	32	11	2
Total Analysis Volume [veh/h]	0	0	0	0	2	0	92	652	2	129	44	9
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.647

Intersection Setup

Name	2nd Street					2nd Street				
Approach	Northwestbound					Southeastbound				
Lane Configuration										
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2	
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00				
Grade [%]	0.00					0.00				
Crosswalk	Yes					No				

Volumes

Name	2nd Street					2nd Street				
Base Volume Input [veh/h]	0	597	212	15	16	39	200	0	0	
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	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	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	
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Total Hourly Volume [veh/h]	0	597	212	15	16	39	200	0	0	
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	1.0000	
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute Volume [veh/h]	0	160	57	4	4	10	53	0	0	
Total Analysis Volume [veh/h]	0	639	227	16	17	42	214	0	0	
Pedestrian Volume [ped/h]	0					0				
Bicycle Volume [bicycles/h]	0					0				

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.647

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.339

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	70.00	100.00	100.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	48	54	23	68	71	12	57	328	50	53	338	82
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	48	54	23	68	71	12	57	328	50	53	338	82
Peak Hour Factor	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	14	6	17	18	3	15	84	13	14	87	21
Total Analysis Volume [veh/h]	49	55	24	70	73	12	59	337	51	54	347	84
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.339

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 10.8
Level Of Service: B

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	60.00	100.00	100.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	48	1	22	0	0	0	51	357	37	48	395	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	48	1	22	0	0	0	51	357	37	48	395	18
Peak Hour Factor	0.9150	0.9150	0.9150	1.0000	1.0000	1.0000	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	0	6	0	0	0	14	98	10	13	108	5
Total Analysis Volume [veh/h]	52	1	24	0	0	0	56	390	40	52	432	20
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.33	0.12		0.32	1.33	1.33	0.18	0.29	1.52	1.52	0.09
95th-Percentile Queue Length [ft]	8.24	2.94		8.06	33.26	33.26	4.47	7.37	38.09	38.09	2.15
Approach Delay [s/veh]	9.70		0.00		10.66			11.05			
Approach LOS	A		A		B			B			
Intersection Delay [s/veh]	10.77										
Intersection LOS	B										

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 9.5
Level Of Service: A

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	60.00	100.00	100.00
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	16	12	26	26	3	31	35	287	20	38	312	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	16	12	26	26	3	31	35	287	20	38	312	35
Peak Hour Factor	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	3	7	7	1	9	10	82	6	11	89	10
Total Analysis Volume [veh/h]	18	14	30	30	3	36	40	329	23	44	358	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.32	0.36	0.21	0.95	0.95	0.09	0.23	1.05	1.05	0.16
95th-Percentile Queue Length [ft]	8.03	9.03	5.17	23.74	23.74	2.28	5.69	26.29	26.29	4.02
Approach Delay [s/veh]	9.24	9.32	9.51		9.55					
Approach LOS	A	A	A		A					
Intersection Delay [s/veh]	9.50									
Intersection LOS	A									

Belmont Pool

Vistro File: P:\...\Belmont Pool.vistro

Scenario 4: 02 Existing Plus Project AM

Report File: P:\...\02 Existing Plus Project AM.pdf

3/4/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.732	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.653	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	NB Left	0.522	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Left	0.414	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.006	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	EB Left	0.145	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Left	0.692	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	NB Left	0.343	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru		10.7	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru		8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: C
Volume to Capacity (v/c): 0.732

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	TT		TTL		TT	
Turning Movement	Left	Right	Left	Thru	Thru	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	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	118	74	51	731	1483	139
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]	118	74	51	731	1483	139
Peak Hour Factor	0.9690	0.9690	0.9690	0.9690	0.9690	0.9690
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	19	13	189	383	36
Total Analysis Volume [veh/h]	122	76	53	754	1530	143
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	C
Intersection V/C	0.732

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	TT		T T		T	
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	21	17	10	842	1608	55
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]	21	17	10	842	1608	55
Peak Hour Factor	0.9750	0.9750	0.9750	0.9750	0.9750	0.9750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	4	3	216	412	14
Total Analysis Volume [veh/h]	22	17	10	864	1649	56
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.653

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.522

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			T			TTT			TTT		
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	1	0	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	511	0	3	0	0	7	18	629	0	0	1132	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	511	0	3	0	0	7	18	629	0	0	1132	18
Peak Hour Factor	0.9730	1.0000	0.9730	1.0000	1.0000	0.9730	0.9730	0.9730	1.0000	1.0000	0.9730	0.9730
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	131	0	1	0	0	2	5	162	0	0	291	5
Total Analysis Volume [veh/h]	525	0	3	0	0	7	18	646	0	0	1163	18
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.522

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.414

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	1	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	32	0	81	30	26	5	0	618	12	53	1106	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	32	0	81	30	26	5	0	618	12	53	1106	0
Peak Hour Factor	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	21	8	7	1	0	162	3	14	290	0
Total Analysis Volume [veh/h]	34	0	85	31	27	5	0	647	13	55	1158	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	0	7	4	0
Auxiliary Signal Groups													
Lead / Lag	Lead	-	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.414

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type: Two-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 8.4
Level Of Service: A
Volume to Capacity (v/c): 0.006

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵				↵	
Turning Movement	Left	Right	Left	Thru	Thru	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		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	4	0	0	7	4
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]	0	4	0	0	7	4
Peak Hour Factor	1.0000	0.6250	1.0000	1.0000	0.6250	0.6250
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	0	3	2
Total Analysis Volume [veh/h]	0	6	0	0	11	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.40	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh]	0.00	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.42	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.40		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]			2.19			
Intersection LOS			A			

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.145

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↱		↶		↵	
Turning Movement	Left	Right	Left	Thru	Thru	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		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	40	68	0	1123	1
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]	0	40	68	0	1123	1
Peak Hour Factor	1.0000	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	18	0	297	0
Total Analysis Volume [veh/h]	0	42	72	0	1187	1
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected/Permissi	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.145

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: B
Volume to Capacity (v/c): 0.692

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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]	100.00	100.00	100.00	100.00	100.00	100.00	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	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	1	0	87	631	0	93	7	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	0	0	0	0	1	0	87	631	0	93	7	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9500	1.0000	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0	23	166	0	24	2	1
Total Analysis Volume [veh/h]	0	0	0	0	1	0	92	664	0	98	7	3
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00



Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.692

Intersection Setup

Name	2nd Street					2nd Street				
Approach	Northwestbound					Southeastbound				
Lane Configuration										
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2	
Lane Width [ft]	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	
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
Speed [mph]	30.00					30.00				
Grade [%]	0.00					0.00				
Crosswalk	Yes					No				

Volumes

Name	2nd Street					2nd Street				
Base Volume Input [veh/h]	0	1037	155	2	4	13	187	0	0	
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	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	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	
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Total Hourly Volume [veh/h]	0	1037	155	2	4	13	187	0	0	
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute Volume [veh/h]	0	273	41	1	1	3	49	0	0	
Total Analysis Volume [veh/h]	0	1092	163	2	4	14	197	0	0	
Pedestrian Volume [ped/h]	0					0				
Bicycle Volume [bicycles/h]	0					0				

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.692

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.343

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	70.00	100.00	100.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	59	53	17	27	45	11	44	250	32	49	428	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	59	53	17	27	45	11	44	250	32	49	428	39
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	14	5	7	12	3	12	67	9	13	116	11
Total Analysis Volume [veh/h]	64	57	18	29	49	12	48	270	35	53	462	42
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.343

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 10.7
Level Of Service: B

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	60.00	100.00	100.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	91	0	80	0	0	0	30	239	46	77	372	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	91	0	80	0	0	0	30	239	46	77	372	4
Peak Hour Factor	0.9280	0.9280	0.9280	1.0000	1.0000	1.0000	0.9280	0.9280	0.9280	0.9280	0.9280	0.9280
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	0	22	0	0	0	8	64	12	21	100	1
Total Analysis Volume [veh/h]	98	0	86	0	0	0	32	258	50	83	401	4
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.66	0.46		0.19	0.84	0.84	0.25	0.52	1.44	1.44	0.02
95th-Percentile Queue Length [ft]	16.54	11.47		4.74	21.11	21.11	6.18	12.92	35.89	35.89	0.44
Approach Delay [s/veh]	10.07		0.00	10.29			11.26				
Approach LOS	B		A	B			B				
Intersection Delay [s/veh]	10.72										
Intersection LOS	B										

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 8.8
Level Of Service: A

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	60.00	100.00	100.00
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
	1	4	8	16	5	29	35	251	2	18	287	14
Base Volume Input [veh/h]	1	4	8	16	5	29	35	251	2	18	287	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	1	4	8	16	5	29	35	251	2	18	287	14
Peak Hour Factor	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	2	4	1	8	9	67	1	5	77	4
Total Analysis Volume [veh/h]	1	4	9	17	5	31	38	269	2	19	308	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.06	0.26	0.18	0.68	0.68	0.01	0.09	0.80	0.80	0.05
95th-Percentile Queue Length [ft]	1.60	6.47	4.59	16.99	16.99	0.18	2.23	20.03	20.03	1.36
Approach Delay [s/veh]	8.49	8.88	8.77		8.89					
Approach LOS	A	A	A		A					
Intersection Delay [s/veh]	8.83									
Intersection LOS	A									

Belmont Pool

Vistro File: P:\...\Belmont Pool.vistro

Scenario 5: 02 Existing Plus Project PM

Report File: P:\...\02 Existing Plus Project PM.pdf

3/4/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.753	-	C
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.691	-	B
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	NB Left	0.608	-	B
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Left	0.648	-	B
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.005	8.4	A
6	Ximeno Avenue/Livingston Drive	Signalized	ICU 1	EB Left	0.186	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Left	0.621	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.444	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru		12.3	B
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	EB Thru		10.1	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: C
Volume to Capacity (v/c): 0.753

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	TT		TTL		TT	
Turning Movement	Left	Right	Left	Thru	Thru	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	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	268	91	85	1507	928	151
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]	268	91	85	1507	928	151
Peak Hour Factor	0.9770	0.9770	0.9770	0.9770	0.9770	0.9770
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	23	22	386	237	39
Total Analysis Volume [veh/h]	274	93	87	1542	950	155
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	C
Intersection V/C	0.753

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.691

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	TT		T		TT	
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	36	8	27	1751	1061	62
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]	36	8	27	1751	1061	62
Peak Hour Factor	0.9630	0.9630	0.9630	0.9630	0.9630	0.9630
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	2	7	455	275	16
Total Analysis Volume [veh/h]	37	8	28	1818	1102	64
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.691

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: B
Volume to Capacity (v/c): 0.608

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			T			TTT			TTT		
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	1	0	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	422	0	6	0	0	17	20	1137	0	0	770	36
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	422	0	6	0	0	17	20	1137	0	0	770	36
Peak Hour Factor	0.9790	1.0000	0.9790	1.0000	1.0000	0.9790	0.9790	0.9790	1.0000	1.0000	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	108	0	2	0	0	4	5	290	0	0	197	9
Total Analysis Volume [veh/h]	431	0	6	0	0	17	20	1161	0	0	787	37
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.608

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: B
Volume to Capacity (v/c): 0.648

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	1	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	67	0	116	28	58	4	0	1132	29	129	729	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	67	0	116	28	58	4	0	1132	29	129	729	0
Peak Hour Factor	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000	0.9550	0.9550	0.9550	0.9550	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	0	30	7	15	1	0	296	8	34	191	0
Total Analysis Volume [veh/h]	70	0	121	29	61	4	0	1185	30	135	763	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4
Auxiliary Signal Groups											
Lead / Lag	Lead	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.648

Intersection Level Of Service Report
Intersection 5: Bennett Avenue/Livingston Drive

Control Type: Two-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 8.4
Level Of Service: A
Volume to Capacity (v/c): 0.005

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵				↵	
Turning Movement	Left	Right	Left	Thru	Thru	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		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	14	3
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]	0	5	0	0	14	3
Peak Hour Factor	1.0000	0.9170	1.0000	1.0000	0.9170	0.9170
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	0	4	1
Total Analysis Volume [veh/h]	0	5	0	0	15	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.40	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.35	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.40		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]			1.83			
Intersection LOS			A			

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.186

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵		↵		↵↶	
Turning Movement	Left	Right	Left	Thru	Thru	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		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	69	131	0	801	2
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]	0	69	131	0	801	2
Peak Hour Factor	1.0000	0.9580	0.9580	0.9580	0.9580	0.9580
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	18	34	0	209	1
Total Analysis Volume [veh/h]	0	72	137	0	836	2
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected/Permissi	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.186

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: B
Volume to Capacity (v/c): 0.621

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration					TTT				T			
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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]	100.00	100.00	100.00	100.00	100.00	100.00	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	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	5	0	121	1046	1	113	32	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	0	0	0	0	5	0	121	1046	1	113	32	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9820	1.0000	0.9820	0.9820	1.0000	0.9820	0.9820	0.9820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	31	266	0	29	8	1
Total Analysis Volume [veh/h]	0	0	0	0	5	0	123	1065	1	115	33	5
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.621

Intersection Setup

Name	2nd Street					2nd Street				
Approach	Northwestbound					Southeastbound				
Lane Configuration										
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2	
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00				
Grade [%]	0.00					0.00				
Crosswalk	Yes					No				

Volumes

Name	2nd Street					2nd Street				
Base Volume Input [veh/h]	0	669	178	8	15	37	202	0	0	
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	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	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	
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Total Hourly Volume [veh/h]	0	669	178	8	15	37	202	0	0	
Peak Hour Factor	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	0.9820	1.0000	
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute Volume [veh/h]	0	170	45	2	4	9	51	0	0	
Total Analysis Volume [veh/h]	0	681	181	8	15	38	206	0	0	
Pedestrian Volume [ped/h]	0					0				
Bicycle Volume [bicycles/h]	0					0				

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.621

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.444

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	70.00	100.00	100.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	58	76	33	84	88	28	63	556	91	47	320	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	58	76	33	84	88	28	63	556	91	47	320	53
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	19	8	21	22	7	16	142	23	12	82	14
Total Analysis Volume [veh/h]	59	78	34	86	90	29	64	569	93	48	327	54
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.444

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 12.3
Level Of Service: B

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	60.00	100.00	100.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	74	3	67	0	0	0	54	513	103	113	326	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	74	3	67	0	0	0	54	513	103	113	326	17
Peak Hour Factor	0.9320	0.9320	0.9320	1.0000	1.0000	1.0000	0.9320	0.9320	0.9320	0.9320	0.9320	0.9320
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	1	18	0	0	0	14	138	28	30	87	5
Total Analysis Volume [veh/h]	79	3	72	0	0	0	58	550	111	121	350	18
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

	0.56	0.40		0.36	2.49	2.49	0.60	0.89	1.33	1.33	0.09
95th-Percentile Queue Length [veh]	0.56	0.40		0.36	2.49	2.49	0.60	0.89	1.33	1.33	0.09
95th-Percentile Queue Length [ft]	13.94	9.98		8.94	62.37	62.37	15.01	22.33	33.15	33.15	2.21
Approach Delay [s/veh]	10.21		0.00	13.08		11.81					
Approach LOS	B		A	B		B					
Intersection Delay [s/veh]	12.30										
Intersection LOS	B										

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 10.1
Level Of Service: B

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	60.00	100.00	100.00
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	15	14	16	23	5	46	61	441	8	13	311	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	15	14	16	23	5	46	61	441	8	13	311	32
Peak Hour Factor	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480	0.9480
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	4	4	6	1	12	16	116	2	3	82	8
Total Analysis Volume [veh/h]	16	15	17	24	5	49	64	465	8	14	328	34
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.26	0.43	0.34	1.51	1.51	0.03	0.07	0.97	0.97	0.14
95th-Percentile Queue Length [ft]	6.48	10.67	8.54	37.73	37.73	0.77	1.77	24.26	24.26	3.50
Approach Delay [s/veh]	9.50	9.61	10.44				9.66			
Approach LOS	A		A		B			A		
Intersection Delay [s/veh]	10.05									
Intersection LOS	B									

Belmont Pool

Vistro File: P:\...\Belmont Pool.vistro

Scenario 6: 02 Existing Plus Project Weekend

Report File: P:\...\02 Existing Plus Project Weekend.pdf

3/4/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Redondo Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.682	-	B
2	Loma Avenue/Ocean Boulevard	Signalized	ICU 1	SB Left	0.563	-	A
3	Ocean Boulevard/Livingston Drive	Signalized	ICU 1	NB Left	0.502	-	A
4	Termino Avenue/Livingston Drive	Signalized	ICU 1	WB Left	0.518	-	A
5	Bennett Avenue/Livingston Drive	Two-way stop	HCM 2010	SB Right	0.007	8.4	A
6	Ximeno Avenue/Livington Drive	Signalized	ICU 1	EB Left	0.171	-	A
7	2nd Street/Livingston Drive	Signalized	ICU 1	NWB Left	0.662	-	B
8	Termino Avenue/Ocean Boulevard	Signalized	ICU 1	SB Thru	0.478	-	A
9	Bennett Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Left		16.4	C
10	Granada Avenue/Ocean Boulevard	All-way stop	HCM 2010	WB Thru		11.0	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Redondo Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: B
Volume to Capacity (v/c): 0.682

Intersection Setup

Name	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	TT		T		TT	
Turning Movement	Left	Right	Left	Thru	Thru	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	Redondo Avenue		Ocean Boulevard		Ocean Boulevard	
Base Volume Input [veh/h]	257	101	71	949	900	205
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]	257	101	71	949	900	205
Peak Hour Factor	0.9460	0.9460	0.9460	0.9460	0.9460	0.9460
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	27	19	251	238	54
Total Analysis Volume [veh/h]	272	107	75	1003	951	217
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Permissive
Signal group	5	0	3	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.682

Intersection Level Of Service Report
Intersection 2: Loma Avenue/Ocean Boulevard

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.563

Intersection Setup

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	TT		T		TT	
Turning Movement	Left	Right	Left	Thru	Thru	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		No	

Volumes

Name	Loma Avenue		Ocean Boulevard		Livingston Drive	
Base Volume Input [veh/h]	96	17	16	1178	1088	77
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]	96	17	16	1178	1088	77
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	5	4	314	290	21
Total Analysis Volume [veh/h]	102	18	17	1256	1160	82
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal group	5	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.563

Intersection Level Of Service Report
Intersection 3: Ocean Boulevard/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.502

Intersection Setup

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			T			TTT			TTT		
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	1	0	0	0	0	1	0	0	0	1
Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	60.00	100.00	100.00	100.00	100.00	50.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ocean Boulevard			Mira Mar Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	583	0	7	0	0	21	13	596	0	0	644	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	583	0	7	0	0	21	13	596	0	0	644	35
Peak Hour Factor	0.9500	1.0000	0.9500	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	153	0	2	0	0	6	3	157	0	0	169	9
Total Analysis Volume [veh/h]	614	0	7	0	0	22	14	627	0	0	678	37
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Permiss	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	1	0	0	0	0	2	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.502

Intersection Level Of Service Report
Intersection 4: Termino Avenue/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.518

Intersection Setup

Name	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	120.00	95.00	100.00	100.00
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	Termino Avenue			Termino Avenue			Livingston Drive			Livingston Drive		
Base Volume Input [veh/h]	50	0	157	16	64	5	0	592	20	165	630	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	50	0	157	16	64	5	0	592	20	165	630	0
Peak Hour Factor	0.9490	1.0000	0.9490	0.9490	0.9490	0.9490	1.0000	0.9490	0.9490	0.9490	0.9490	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	0	41	4	17	1	0	156	5	43	166	0
Total Analysis Volume [veh/h]	53	0	165	17	67	5	0	624	21	174	664	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	1	0	0	0	6	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	-	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.518

Intersection Level Of Service Report

Intersection 5: Bennett Avenue/Livingston Drive

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵				↵	
Turning Movement	Left	Right	Left	Thru	Thru	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		No		No	

Volumes

Name	Bennett Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	5	0	0	5	1
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]	0	5	0	0	5	1
Peak Hour Factor	1.0000	0.6880	1.0000	1.0000	0.6880	0.6880
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	0	2	0
Total Analysis Volume [veh/h]	0	7	0	0	7	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
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	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	8.37	0.00	0.00	0.00	0.00
Movement LOS		A			A	A
95th-Percentile Queue Length [veh]	0.00	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.49	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.37		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]			3.91			
Intersection LOS			A			

Intersection Level Of Service Report
Intersection 6: Ximeno Avenue/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.171

Intersection Setup

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↱		↶		↵	
Turning Movement	Left	Right	Left	Thru	Thru	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		No		Yes	

Volumes

Name	Ximeno Avenue		Livingston Drive		Livingston Drive	
Base Volume Input [veh/h]	0	74	111	0	731	10
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]	0	74	111	0	731	10
Peak Hour Factor	1.0000	0.9740	0.9740	1.0000	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	19	28	0	188	3
Total Analysis Volume [veh/h]	0	76	114	0	751	10
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected/Permissi	Permissive	Permissive	Permissive
Signal group	0	2	3	8	4	0
Auxiliary Signal Groups		2				
Lead / Lag	-	-	Lead	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.171

Intersection Level Of Service Report
Intersection 7: 2nd Street/Livingston Drive

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: B
Volume to Capacity (v/c): 0.662

Intersection Setup

Name	Quincy Avenue				Livingston Drive				Livingston Drive			
Approach	Southbound				Eastbound				Westbound			
Lane Configuration												
Turning Movement	Left	Left	Right	Right	Left	Left	Thru	Right	Left	Thru	Right	Right2
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]	100.00	100.00	100.00	100.00	100.00	100.00	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	Quincy Avenue				Livingston Drive				Livingston Drive			
Base Volume Input [veh/h]	0	0	0	0	2	0	86	633	2	121	41	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	0	0	0	0	2	0	86	633	2	121	41	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	0.9350	1.0000	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	1	0	23	169	1	32	11	2
Total Analysis Volume [veh/h]	0	0	0	0	2	0	92	677	2	129	44	9
Pedestrian Volume [ped/h]	0				0				0			
Bicycle Volume [bicycles/h]	0				0				0			

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Overlap	Permiss	Permiss	Permiss	Permiss
Signal group	0	0	0	0	0	0	8	0	0	4	0	0
Auxiliary Signal Groups							8					
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.662

Intersection Setup

Name	2nd Street					2nd Street				
Approach	Northwestbound					Southeastbound				
Lane Configuration										
Turning Movement	U-turn	Left	Thru	Right	Right2	Left	Thru	Right	Right2	
Lane Width [ft]	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
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00					30.00				
Grade [%]	0.00					0.00				
Crosswalk	Yes					No				

Volumes

Name	2nd Street					2nd Street				
Base Volume Input [veh/h]	0	643	212	15	16	39	200	0	0	
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	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	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	
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Total Hourly Volume [veh/h]	0	643	212	15	16	39	200	0	0	
Peak Hour Factor	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	0.9350	1.0000	
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute Volume [veh/h]	0	172	57	4	4	10	53	0	0	
Total Analysis Volume [veh/h]	0	688	227	16	17	42	214	0	0	
Pedestrian Volume [ped/h]	0					0				
Bicycle Volume [bicycles/h]	0					0				

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Split	Split	Split
Signal group	0	0	6	0	0	0	2	0	0
Auxiliary Signal Groups									
Lead / Lag	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	B
Intersection V/C	0.662

Intersection Level Of Service Report
Intersection 8: Termino Avenue/Ocean Boulevard

Control Type: Signalized
Analysis Method: ICU 1
Analysis Period: 15 minutes
Delay (sec / veh): -
Level Of Service: A
Volume to Capacity (v/c): 0.478

Intersection Setup

Name	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	0	0	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	70.00	100.00	100.00
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	Termino Avenue			Termino Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	85	91	23	68	146	12	57	553	125	53	451	82
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	85	91	23	68	146	12	57	553	125	53	451	82
Peak Hour Factor	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740	0.9740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	23	6	17	37	3	15	142	32	14	116	21
Total Analysis Volume [veh/h]	87	93	24	70	150	12	59	568	128	54	463	84
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	10.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	6	0	0	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

Intersection LOS	A
Intersection V/C	0.478

Intersection Level Of Service Report
Intersection 9: Bennett Avenue/Ocean Boulevard

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 16.4
Level Of Service: C

Intersection Setup

Name	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	100.00	60.00	100.00	100.00
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	Bennett Avenue			Bennett Avenue			Ocean Boulevard			Ocean Boulevard		
Base Volume Input [veh/h]	161	1	135	0	0	0	51	357	262	273	395	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	161	1	135	0	0	0	51	357	262	273	395	18
Peak Hour Factor	0.9150	0.9150	0.9150	1.0000	1.0000	1.0000	0.9150	0.9150	0.9150	0.9150	0.9150	0.9150
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	0	37	0	0	0	14	98	72	75	108	5
Total Analysis Volume [veh/h]	176	1	148	0	0	0	56	390	286	298	432	20
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.67	1.06		0.42	1.94	1.94	3.16	4.50	2.21	2.21	0.11
95th-Percentile Queue Length [ft]	41.70	26.60		10.54	48.42	48.42	79.09	112.5	55.13	55.13	2.85
Approach Delay [s/veh]	13.10		0.00	15.65			18.68				
Approach LOS	B		A	C			C				
Intersection Delay [s/veh]	16.45										
Intersection LOS	C										

Intersection Level Of Service Report
Intersection 10: Granada Avenue/Ocean Boulevard

Control Type: All-way stop
Analysis Method: HCM 2010
Analysis Period: 15 minutes
Delay (sec / veh): 11.0
Level Of Service: B

Intersection Setup

Name	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
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	1	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	60.00	100.00	100.00	60.00	100.00	100.00
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	Granada Avenue			Granada Avenue			Ocean Boulevard			Ocean Boulevard		
	16	12	26	26	3	87	63	344	20	38	425	35
Base Volume Input [veh/h]	16	12	26	26	3	87	63	344	20	38	425	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	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	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]	16	12	26	26	3	87	63	344	20	38	425	35
Peak Hour Factor	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720	0.8720
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	3	7	7	1	25	18	99	6	11	122	10
Total Analysis Volume [veh/h]	18	14	30	30	3	100	72	394	23	44	487	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.35	0.80	0.43	1.35	1.35	0.10	0.25	1.82	1.82	0.18
95th-Percentile Queue Length [ft]	8.65	20.08	10.70	33.81	33.81	2.51	6.13	45.39	45.39	4.40
Approach Delay [s/veh]	9.73	10.34	10.79		11.47					
Approach LOS	A		B		B		B			
Intersection Delay [s/veh]	11.00									
Intersection LOS	B									