

2030 Alternative 2 With Project - PM Peak Hour

163: Pacific View & Beach

Synchro 6 Report

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	0.97	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	5085	4958	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	5085	4958	
Volume (vph)	200	50	140	1018	547	110
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	200	50	140	1018	547	110
RTOR Reduction (vph)	0	40	0	0	20	0
Lane Group Flow (vph)	200	10	140	1018	637	0
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	10.0	10.0	6.4	32.3	21.9	
Effective Green, g (s)	10.0	10.0	6.4	32.3	21.9	
Actuated g/C Ratio	0.20	0.20	0.13	0.64	0.44	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	352	315	225	3265	2159	
v/s Ratio Prot	c0.11		c0.08	c0.20	0.13	
v/s Ratio Perm		0.01				
v/c Ratio	0.57	0.03	0.62	0.31	0.29	
Uniform Delay, d1	18.2	16.2	20.8	4.0	9.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.1	0.0	5.3	0.1	0.1	
Delay (s)	20.3	16.3	26.1	4.1	9.3	
Level of Service	C	B	C	A	A	
Approach Delay (s)	19.5			6.7	9.3	
Approach LOS	B			A	A	
Intersection Summary						
HCM Average Control Delay			9.1		HCM Level of Service	A
HCM Volume to Capacity ratio			0.41			
Actuated Cycle Length (s)			50.3		Sum of lost time (s)	8.0
Intersection Capacity Utilization			41.9%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

**YEAR (2030) WITH PROJECT WITH
ALTERNATIVE 3 CONDITIONS
(HCM METHODOLOGY)**

2030 Alternative 3 With Project - AM Peak Hour

39: Pacific Coast Hwy & Warner

Synchro 6 Report

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	0.88
Fr _t	1.00	1.00		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Fl _t Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	3526		1770	3539	1583	1770	1826		3433	1863	2787
Fl _t Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	3526		1770	3539	1583	1770	1826		3433	1863	2787
Volume (vph)	560	1509	40	30	1278	266	20	200	30	306	50	770
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	560	1509	40	30	1278	266	20	200	30	306	50	770
RTOR Reduction (vph)	0	1	0	0	0	83	0	4	0	0	0	425
Lane Group Flow (vph)	560	1548	0	30	1278	183	20	226	0	306	50	345
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	20.9	63.1		3.3	45.5	45.5	1.5	19.8		12.4	30.7	30.7
Effective Green, g (s)	20.9	63.1		3.3	45.5	45.5	1.5	19.8		12.4	30.7	30.7
Actuated g/C Ratio	0.18	0.55		0.03	0.40	0.40	0.01	0.17		0.11	0.27	0.27
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	626	1941		51	1405	629	23	315		371	499	747
v/s Ratio Prot	c0.16	0.44		0.02	c0.36		0.01	c0.12		c0.09	0.03	
v/s Ratio Perm						0.12						0.12
v/c Ratio	0.89	0.80		0.59	0.91	0.29	0.87	0.72		0.82	0.10	0.46
Uniform Delay, d1	45.8	20.6		55.0	32.6	23.5	56.5	44.8		50.0	31.6	35.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.2	2.4		16.1	8.9	0.3	127.6	7.6		13.8	0.1	0.5
Delay (s)	61.0	23.0		71.1	41.5	23.8	184.0	52.3		63.9	31.6	35.5
Level of Service	E	C		E	D	C	F	D		E	C	D
Approach Delay (s)		33.1			39.1			62.9			43.0	
Approach LOS		C			D			E			D	

Intersection Summary

HCM Average Control Delay	38.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	114.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - AM Peak Hour

125: Pacific Coast Hwy & Seapoint

Synchro 6 Report

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Fr _t	1.00	1.00	0.99		1.00	0.85
Fl _t Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3519		3433	1583
Fl _t Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3519		3433	1583
Volume (vph)	150	1505	1153	46	96	350
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	150	1505	1153	46	96	350
RTOR Reduction (vph)	0	0	3	0	0	30
Lane Group Flow (vph)	150	1505	1196	0	96	320
Turn Type	Prot				pm+ov	
Protected Phases	7	4	8		6	7
Permitted Phases						6
Actuated Green, G (s)	11.0	41.2	26.2		7.5	18.5
Effective Green, g (s)	11.0	41.2	26.2		7.5	18.5
Actuated g/C Ratio	0.19	0.73	0.46		0.13	0.33
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	343	2572	1626		454	628
v/s Ratio Prot	0.08	c0.43	c0.34		0.03	c0.10
v/s Ratio Perm						0.10
v/c Ratio	0.44	0.59	0.74		0.21	0.51
Uniform Delay, d1	20.1	3.7	12.4		22.0	15.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.9	0.3	1.8		0.2	0.7
Delay (s)	21.0	4.0	14.2		22.2	16.1
Level of Service	C	A	B		C	B
Approach Delay (s)		5.6	14.2		17.4	
Approach LOS		A	B		B	

Intersection Summary

HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	56.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - AM Peak Hour

126: Pacific Coast Hwy & Goldenwest

Synchro 6 Report

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t	1.00	1.00	1.00	0.85	1.00	0.85
Fl _t Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Fl _t Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Volume (vph)	190	1441	1168	189	329	290
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	190	1441	1168	189	329	290
RTOR Reduction (vph)	0	0	0	98	0	214
Lane Group Flow (vph)	190	1441	1168	91	329	76
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	11.0	49.2	34.2	34.2	20.2	20.2
Effective Green, g (s)	11.0	49.2	34.2	34.2	20.2	20.2
Actuated g/C Ratio	0.14	0.64	0.44	0.44	0.26	0.26
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	252	2250	1564	699	462	413
v/s Ratio Prot	c0.11	0.41	c0.33		c0.19	
v/s Ratio Perm				0.06		0.05
v/c Ratio	0.75	0.64	0.75	0.13	0.71	0.18
Uniform Delay, d ₁	31.9	8.7	18.0	12.8	26.0	22.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d ₂	12.0	0.6	2.0	0.1	5.1	0.2
Delay (s)	43.9	9.3	20.0	12.9	31.1	22.4
Level of Service	D	A	B	B	C	C
Approach Delay (s)		13.3	19.0		27.0	
Approach LOS		B	B		C	

Intersection Summary

HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	77.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - AM Peak Hour

127: Pacific Coast Hwy & 17th St

Synchro 6 Report

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t	1.00	1.00	1.00	0.85	1.00	0.85
Fl _t Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Fl _t Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Volume (vph)	80	1631	1338	30	90	90
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	1631	1338	30	90	90
RTOR Reduction (vph)	0	0	0	14	0	76
Lane Group Flow (vph)	80	1631	1338	16	90	14
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	4.7	38.4	29.7	29.7	8.9	8.9
Effective Green, g (s)	4.7	38.4	29.7	29.7	8.9	8.9
Actuated g/C Ratio	0.08	0.69	0.54	0.54	0.16	0.16
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	150	2457	1901	850	285	255
v/s Ratio Prot	0.05	c0.46	0.38		c0.05	
v/s Ratio Perm				0.01		0.01
v/c Ratio	0.53	0.66	0.70	0.02	0.32	0.06
Uniform Delay, d ₁	24.2	4.8	9.5	6.0	20.5	19.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d ₂	3.6	0.7	1.2	0.0	0.6	0.1
Delay (s)	27.9	5.5	10.7	6.0	21.1	19.7
Level of Service	C	A	B	A	C	B
Approach Delay (s)		6.5	10.6		20.4	
Approach LOS		A	B		C	

Intersection Summary

HCM Average Control Delay	9.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - AM Peak Hour

165: Pacific Coast Hwy & 9th St

Synchro 6 Report

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Volume (vph)	20	1692	1360	10	40	20
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	1692	1360	10	40	20
RTOR Reduction (vph)	0	0	0	4	0	17
Lane Group Flow (vph)	20	1692	1360	6	40	3
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	1.0	33.4	28.4	28.4	7.0	7.0
Effective Green, g (s)	1.0	33.4	28.4	28.4	7.0	7.0
Actuated g/C Ratio	0.02	0.69	0.59	0.59	0.14	0.14
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	37	2442	2077	929	256	229
v/s Ratio Prot	0.01	c0.48	0.38		c0.02	
v/s Ratio Perm				0.00		0.00
v/c Ratio	0.54	0.69	0.65	0.01	0.16	0.01
Uniform Delay, d1	23.5	4.5	6.7	4.1	18.1	17.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.1	0.9	0.8	0.0	0.3	0.0
Delay (s)	38.6	5.3	7.5	4.2	18.4	17.8
Level of Service	D	A	A	A	B	B
Approach Delay (s)		5.7	7.4		18.2	
Approach LOS		A	A		B	
Intersection Summary						
HCM Average Control Delay			6.7		HCM Level of Service	A
HCM Volume to Capacity ratio			0.60			
Actuated Cycle Length (s)			48.4		Sum of lost time (s)	8.0
Intersection Capacity Utilization			56.8%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

2030 Alternative 3 With Project - AM Peak Hour

129: Pacific Coast Hwy & 6th St

Synchro 6 Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.96		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1770	5076		1770	5044			1740		1770	1666	
Flt Permitted	0.95	1.00		0.95	1.00			0.75		0.65	1.00	
Satd. Flow (perm)	1770	5076		1770	5044			1332		1216	1666	
Volume (vph)	71	1660	20	30	1177	68	40	20	30	69	30	71
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	1660	20	30	1177	68	40	20	30	69	30	71
RTOR Reduction (vph)	0	1	0	0	6	0	0	16	0	0	63	0
Lane Group Flow (vph)	71	1679	0	30	1239	0	0	74	0	69	38	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	7.2	41.1		3.7	37.6			10.8		10.8	10.8	
Effective Green, g (s)	7.2	41.1		3.7	37.6			10.8		10.8	10.8	
Actuated g/C Ratio	0.07	0.42		0.04	0.38			0.11		0.11	0.11	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	129	2114		66	1922			146		133	182	
v/s Ratio Prot	c0.04	c0.33		0.02	0.25						0.02	
v/s Ratio Perm								0.06		c0.06		
v/c Ratio	0.55	0.79		0.45	0.64			0.51		0.52	0.21	
Uniform Delay, d1	44.2	25.1		46.5	25.1			41.4		41.5	40.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	5.0	2.1		4.9	0.8			2.8		3.4	0.6	
Delay (s)	49.2	27.2		51.4	25.8			44.2		44.9	40.6	
Level of Service	D	C		D	C			D		D	D	
Approach Delay (s)		28.1			26.4			44.2			42.4	
Approach LOS		C			C			D			D	

Intersection Summary

HCM Average Control Delay	28.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	98.7	Sum of lost time (s)	43.1
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - AM Peak Hour

130: Pacific Coast Hwy & Main

Synchro 6 Report

							
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	1770	5085	1583	1770	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	1770	5085	1583	1770	1583
Volume (vph)	71	1701	10	1321	103	81	107
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	1701	10	1321	103	81	107
RTOR Reduction (vph)	0	0	0	0	38	0	96
Lane Group Flow (vph)	71	1701	10	1321	65	81	11
Turn Type	Prot		Prot		Perm		Perm
Protected Phases	7	4	3	8		6	
Permitted Phases					8		6
Actuated Green, G (s)	7.4	42.4	1.0	36.0	36.0	9.5	9.5
Effective Green, g (s)	7.4	42.4	1.0	36.0	36.0	9.5	9.5
Actuated g/C Ratio	0.08	0.44	0.01	0.38	0.38	0.10	0.10
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	137	2253	18	1913	595	176	157
v/s Ratio Prot	c0.04	c0.33	0.01	0.26		c0.05	
v/s Ratio Perm					0.04		0.01
v/c Ratio	0.52	0.75	0.56	0.69	0.11	0.46	0.07
Uniform Delay, d1	42.4	22.3	47.1	25.2	19.4	40.7	39.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.3	1.5	32.3	1.1	0.1	1.9	0.2
Delay (s)	45.7	23.8	79.4	26.2	19.5	42.6	39.3
Level of Service	D	C	E	C	B	D	D
Approach Delay (s)		24.7		26.1		40.7	
Approach LOS		C		C		D	

Intersection Summary

HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	95.7	Sum of lost time (s)	42.8
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - AM Peak Hour

133: Pacific Coast Hwy & 1st St

Synchro 6 Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	0.88
Frt	1.00	0.99		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	0.98	1.00
Satd. Flow (prot)	1770	5051		1770	4937		1681	1753	1583	1681	1732	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	0.98	1.00
Satd. Flow (perm)	1770	5051		1770	4937		1681	1753	1583	1681	1732	2787
Volume (vph)	191	1484	70	40	907	218	70	50	20	193	80	469
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	191	1484	70	40	907	218	70	50	20	193	80	469
RTOR Reduction (vph)	0	4	0	0	33	0	0	0	18	0	0	413
Lane Group Flow (vph)	191	1550	0	40	1092	0	58	62	2	133	140	56
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	13.1	38.0		3.1	28.0		9.2	9.2	9.2	13.2	13.2	13.2
Effective Green, g (s)	13.1	38.0		3.1	28.0		9.2	9.2	9.2	13.2	13.2	13.2
Actuated g/C Ratio	0.12	0.35		0.03	0.26		0.08	0.08	0.08	0.12	0.12	0.12
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	212	1751		50	1261		141	147	133	202	209	336
v/s Ratio Prot	c0.11	c0.31		0.02	0.22		0.03	c0.04		0.08	c0.08	
v/s Ratio Perm									0.00			0.02
v/c Ratio	0.90	0.89		0.80	0.87		0.41	0.42	0.01	0.66	0.67	0.17
Uniform Delay, d1	47.6	33.7		52.9	39.0		47.6	47.7	46.0	46.0	46.1	43.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	35.9	5.8		59.1	6.5		1.9	2.0	0.0	7.5	7.9	0.2
Delay (s)	83.5	39.5		112.0	45.5		49.6	49.6	46.1	53.6	54.0	43.5
Level of Service	F	D		F	D		D	D	D	D	D	D
Approach Delay (s)		44.3			47.8			49.1			47.3	
Approach LOS		D			D			D			D	

Intersection Summary

HCM Average Control Delay	46.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	109.6	Sum of lost time (s)	42.1
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

2030 Alternative 3 With Project - AM Peak Hour

134: Pacific Coast Hwy & Huntington

Synchro 6 Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		0.95		0.95	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		3213		1681	1770	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583		3213		1681	1770	1583
Volume (vph)	40	1619	10	50	1076	100	10	20	40	60	80	40
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	1619	10	50	1076	100	10	20	40	60	80	40
RTOR Reduction (vph)	0	0	4	0	0	42	0	36	0	0	0	35
Lane Group Flow (vph)	40	1619	6	50	1076	58	0	34	0	60	80	5
Turn Type	Prot		Perm	Prot		Perm	Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	3.4	42.5	42.5	3.4	42.5	42.5		7.0		9.4	9.4	9.4
Effective Green, g (s)	3.4	42.5	42.5	3.4	42.5	42.5		7.0		9.4	9.4	9.4
Actuated g/C Ratio	0.04	0.54	0.54	0.04	0.54	0.54		0.09		0.12	0.12	0.12
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	77	1921	859	77	1921	859		287		202	212	190
v/s Ratio Prot	0.02	c0.46		c0.03	0.30			c0.01		0.04	c0.05	
v/s Ratio Perm			0.00			0.04						0.00
v/c Ratio	0.52	0.84	0.01	0.65	0.56	0.07		0.12		0.30	0.38	0.03
Uniform Delay, d1	36.7	15.1	8.2	36.9	11.8	8.5		32.8		31.4	31.8	30.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	5.8	3.6	0.0	17.3	0.4	0.0		0.2		0.8	1.1	0.1
Delay (s)	42.5	18.6	8.2	54.2	12.1	8.5		33.0		32.3	32.9	30.5
Level of Service	D	B	A	D	B	A		C		C	C	C
Approach Delay (s)		19.2			13.6			33.0			32.1	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	78.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - AM Peak Hour

135: Pacific Coast Hwy & Beach

Synchro 6 Report

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5072		1770	3539	1583	1770	3539	1583	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5072		1770	3539	1583	1770	3539	1583	3433	1863	1583
Volume (vph)	131	1680	30	20	1112	310	20	50	10	500	80	192
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	131	1680	30	20	1112	310	20	50	10	500	80	192
RTOR Reduction (vph)	0	2	0	0	0	182	0	0	9	0	0	0
Lane Group Flow (vph)	131	1708	0	20	1112	128	20	50	1	500	80	192
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			Free
Actuated Green, G (s)	6.4	39.0		2.2	34.8	34.8	2.2	10.4	10.4	16.9	25.1	84.5
Effective Green, g (s)	6.4	39.0		2.2	34.8	34.8	2.2	10.4	10.4	16.9	25.1	84.5
Actuated g/C Ratio	0.08	0.46		0.03	0.41	0.41	0.03	0.12	0.12	0.20	0.30	1.00
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	260	2341		46	1457	652	46	436	195	687	553	1583
v/s Ratio Prot	c0.04	c0.34		0.01	0.31		0.01	0.01		c0.15	c0.04	
v/s Ratio Perm						0.08			0.00			0.12
v/c Ratio	0.50	0.73		0.43	0.76	0.20	0.43	0.11	0.01	0.73	0.14	0.12
Uniform Delay, d1	37.5	18.5		40.5	21.3	15.9	40.5	33.0	32.5	31.6	21.8	0.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	1.2		6.5	2.4	0.1	6.5	0.1	0.0	3.9	0.1	0.2
Delay (s)	39.1	19.6		47.0	23.7	16.0	47.0	33.1	32.5	35.5	21.9	0.2
Level of Service	D	B		D	C	B	D	C	C	D	C	A
Approach Delay (s)		21.0			22.4			36.5			25.3	
Approach LOS		C			C			D			C	

Intersection Summary

HCM Average Control Delay	22.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	84.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - AM Peak Hour

136: Pacific Coast Hwy & Newland

Synchro 6 Report

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.91			0.91	1.00		0.95			1.00	1.00
Frt	1.00	1.00			1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		0.98			0.95	1.00
Satd. Flow (prot)	1770	5085			5085	1583		3453			1770	1583
Flt Permitted	0.95	1.00			1.00	1.00		0.85			0.74	1.00
Satd. Flow (perm)	1770	5085			5085	1583		3023			1385	1583
Volume (vph)	100	1860	0	0	1192	30	10	10	0	220	0	220
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	100	1860	0	0	1192	30	10	10	0	220	0	220
RTOR Reduction (vph)	0	0	0	0	0	17	0	0	0	0	0	129
Lane Group Flow (vph)	100	1860	0	0	1192	13	0	20	0	0	220	91
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	5.2	33.2			24.0	24.0		14.1			14.1	14.1
Effective Green, g (s)	5.2	33.2			24.0	24.0		14.1			14.1	14.1
Actuated g/C Ratio	0.09	0.60			0.43	0.43		0.25			0.25	0.25
Clearance Time (s)	4.0	4.0			4.0	4.0		4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	166	3053			2207	687		771			353	404
v/s Ratio Prot	0.06	c0.37			0.23							
v/s Ratio Perm						0.01		0.01			c0.16	0.06
v/c Ratio	0.60	0.61			0.54	0.02		0.03			0.62	0.23
Uniform Delay, d1	24.1	7.0			11.6	8.9		15.4			18.2	16.3
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	6.0	0.3			0.3	0.0		0.0			3.4	0.3
Delay (s)	30.1	7.3			11.8	8.9		15.5			21.7	16.6
Level of Service	C	A			B	A		B			C	B
Approach Delay (s)		8.5			11.8			15.5			19.1	
Approach LOS		A			B			B			B	

Intersection Summary

HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - AM Peak Hour

137: Pacific Coast Hwy & Magnolia

Synchro 6 Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95		0.95	0.95	1.00
Frst	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1681	1681		1681	1703	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1681	1681		1681	1703	1583
Volume (vph)	100	1970	30	20	1082	50	10	20	10	160	20	170
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	100	1970	30	20	1082	50	10	20	10	160	20	170
RTOR Reduction (vph)	0	0	14	0	0	28	0	9	0	0	0	147
Lane Group Flow (vph)	100	1970	16	20	1082	22	10	21	0	88	92	23
Turn Type	Prot		Perm	Prot		Perm	Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	8.0	37.6	37.6	2.2	31.8	31.8	7.1	7.1		9.6	9.6	9.6
Effective Green, g (s)	8.0	37.6	37.6	2.2	31.8	31.8	7.1	7.1		9.6	9.6	9.6
Actuated g/C Ratio	0.11	0.52	0.52	0.03	0.44	0.44	0.10	0.10		0.13	0.13	0.13
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	195	2637	821	54	2230	694	165	165		223	226	210
v/s Ratio Prot	c0.06	c0.39		0.01	0.21		0.01	c0.01		0.05	c0.05	
v/s Ratio Perm			0.01			0.01						0.01
v/c Ratio	0.51	0.75	0.02	0.37	0.49	0.03	0.06	0.13		0.39	0.41	0.11
Uniform Delay, d1	30.4	13.7	8.5	34.5	14.5	11.6	29.7	29.9		28.8	28.8	27.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.3	1.2	0.0	4.2	0.2	0.0	0.2	0.3		1.2	1.2	0.2
Delay (s)	32.7	14.9	8.5	38.7	14.7	11.6	29.8	30.2		29.9	30.0	27.9
Level of Service	C	B	A	D	B	B	C	C		C	C	C
Approach Delay (s)		15.7			15.0			30.1			29.0	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	72.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

2030 Alternative 3 With Project - AM Peak Hour

138: Pacific Coast Hwy & Brookhurst

Synchro 6 Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		0.97	1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1723		3433	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1770	1723		3433	1863	1583
Volume (vph)	160	2030	10	10	961	210	10	10	10	670	10	170
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	160	2030	10	10	961	210	10	10	10	670	10	170
RTOR Reduction (vph)	0	0	5	0	0	79	0	9	0	0	0	128
Lane Group Flow (vph)	160	2030	5	10	961	131	10	11	0	670	10	42
Turn Type	Prot		Perm	Prot		pm+ov	Split			Split		Perm
Protected Phases	7	4		3	8	6	2	2		6	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	10.6	43.1	43.1	0.6	33.1	55.1	6.6	6.6		22.0	22.0	22.0
Effective Green, g (s)	10.6	43.1	43.1	0.6	33.1	55.1	6.6	6.6		22.0	22.0	22.0
Actuated g/C Ratio	0.12	0.49	0.49	0.01	0.37	0.62	0.07	0.07		0.25	0.25	0.25
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	212	2482	773	12	1906	988	132	129		855	464	394
v/s Ratio Prot	c0.09	c0.40		0.01	0.19	0.03	0.01	c0.01		c0.20	0.01	
v/s Ratio Perm			0.00			0.05						0.03
v/c Ratio	0.75	0.82	0.01	0.83	0.50	0.13	0.08	0.08		0.78	0.02	0.11
Uniform Delay, d1	37.6	19.3	11.6	43.8	21.3	6.8	38.0	38.0		30.9	25.0	25.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	14.1	2.2	0.0	168.3	0.2	0.1	0.2	0.3		4.7	0.0	0.1
Delay (s)	51.7	21.5	11.6	212.1	21.5	6.9	38.3	38.3		35.7	25.0	25.7
Level of Service	D	C	B	F	C	A	D	D		D	C	C
Approach Delay (s)		23.6			20.5			38.3			33.6	
Approach LOS		C			C			D			C	

Intersection Summary

HCM Average Control Delay	24.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	88.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	SA	Intersection	Main Street/Walnut Avenue
Agency/Co.		Jurisdiction	
Date Performed	3/31/2009	Analysis Year	2030 Base Case+Project+Alt 3
Analysis Time Period	AM Peak		

Project ID	
East/West Street: <i>Walnut Avenue</i>	North/South Street: <i>Main Street</i>

Volume Adjustments and Site Characteristics						
Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	0	33	14	12	114	0
%Thrus Left Lane						

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	0	0	84	0	0	0
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	<i>LTR</i>		<i>LTR</i>		<i>LTR</i>			
PHF	1.00		1.00		1.00			
Flow Rate (veh/h)	47		126		84			
% Heavy Vehicles	0		0		0			
No. Lanes	1		1		1		0	
Geometry Group	1		1		1			
Duration, T	0.25							

Saturation Headway Adjustment Worksheet							
Prop. Left-Turns	0.0		0.1		0.0		
Prop. Right-Turns	0.3		0.0		1.0		
Prop. Heavy Vehicle	0.0		0.0		0.0		
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	
hadj, computed	-0.2		0.0		-0.6		

Departure Headway and Service Time							
hd, initial value (s)	3.20		3.20		3.20		
x, initial	0.04		0.11		0.07		
hd, final value (s)	4.01		4.13		3.67		
x, final value	0.05		0.14		0.09		
Move-up time, m (s)	2.0		2.0		2.0		
Service Time, t _s (s)	2.0		2.1		1.7		

Capacity and Level of Service								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	297		376		334			
Delay (s/veh)	7.24		7.83		7.02			
LOS	A		A		A			
Approach: Delay (s/veh)	7.24		7.83		7.02			
LOS	A		A		A			
Intersection Delay (s/veh)	7.46							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	SA	Intersection	Main Street/Olive Avenue
Agency/Co.		Jurisdiction	
Date Performed	3/31/2009	Analysis Year	2030 Base Case+Project+Alt 3
Analysis Time Period	AM Peak		

Project ID	
East/West Street: Olive Avenue	North/South Street: Main Street

Volume Adjustments and Site Characteristics						
Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	0	76	0	0	71	165
%Thrus Left Lane						

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	0	0	0	0	0	34
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR				LTR	
PHF	1.00		1.00				1.00	
Flow Rate (veh/h)	76		236				34	
% Heavy Vehicles	0		0				0	
No. Lanes	1		1		0		1	
Geometry Group	1		1				1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet								
Prop. Left-Turns	0.0		0.0				0.0	
Prop. Right-Turns	0.0		0.7				1.0	
Prop. Heavy Vehicle	0.0		0.0				0.0	
hLT-adj	0.2	0.2	0.2	0.2			0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6			-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7			1.7	1.7
hadj, computed	0.0		-0.4				-0.6	

Departure Headway and Service Time								
hd, initial value (s)	3.20		3.20				3.20	
x, initial	0.07		0.21				0.03	
hd, final value (s)	4.17		3.63				3.91	
x, final value	0.09		0.24				0.04	
Move-up time, m (s)	2.0		2.0				2.0	
Service Time, t _s (s)	2.2		1.6				1.9	

Capacity and Level of Service								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	326		486				284	
Delay (s/veh)	7.57		7.75				7.06	
LOS	A		A				A	
Approach: Delay (s/veh)	7.57		7.75				7.06	
LOS	A		A				A	
Intersection Delay (s/veh)	7.65							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	SA	Intersection	Lake Street/6th Street
Agency/Co.		Jurisdiction	
Date Performed	3/31/2009	Analysis Year	2030 Base Case+Project+Alt 3
Analysis Time Period	AM Peak		

Project ID	
East/West Street: 6th Street	North/South Street: Lake Street

Volume Adjustments and Site Characteristics						
Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	11	30	42	0	80	30
%Thrus Left Lane						

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	11	71	0	60	105	47
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	1.00		1.00		1.00		1.00	
Flow Rate (veh/h)	83		110		82		212	
% Heavy Vehicles	0		0		0		0	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet								
Prop. Left-Turns	0.1		0.0		0.1		0.3	
Prop. Right-Turns	0.5		0.3		0.0		0.2	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	-0.3		-0.2		0.0		-0.1	

Departure Headway and Service Time								
hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.07		0.10		0.07		0.19	
hd, final value (s)	4.45		4.52		4.63		4.38	
x, final value	0.10		0.14		0.11		0.26	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t _s (s)	2.4		2.5		2.6		2.4	

Capacity and Level of Service								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	333		360		332		462	
Delay (s/veh)	7.95		8.25		8.17		8.89	
LOS	A		A		A		A	
Approach: Delay (s/veh)	7.95		8.25		8.17		8.89	
LOS	A		A		A		A	
Intersection Delay (s/veh)	8.47							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	SA	Intersection	Lake Street/Orange Avenue
Agency/Co.		Jurisdiction	
Date Performed	3/31/2009	Analysis Year	2030 Base Case+Project+Alt 3
Analysis Time Period	AM Peak		

Project ID	
East/West Street: Orange Avenue	North/South Street: Lake Street

Volume Adjustments and Site Characteristics								
Approach	Eastbound			Westbound				
	L	T	R	L	T	R		
Movement								
Volume (veh/h)	30	284	62	26	230	21		
%Thrus Left Lane								
Approach	Northbound			Southbound				
	L	T	R	L	T	R		
Movement								
Volume (veh/h)	30	58	18	32	86	62		
%Thrus Left Lane								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	1.00		1.00		1.00		1.00	
Flow Rate (veh/h)	376		277		106		180	
% Heavy Vehicles	0		0		0		0	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet								
Prop. Left-Turns	0.1		0.1		0.3		0.2	
Prop. Right-Turns	0.2		0.1		0.2		0.3	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	-0.1		-0.0		-0.0		-0.2	

Departure Headway and Service Time								
hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.33		0.25		0.09		0.16	
hd, final value (s)	5.11		5.30		5.95		5.66	
x, final value	0.53		0.41		0.18		0.28	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t _s (s)	3.1		3.3		3.9		3.7	

Capacity and Level of Service								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	626		527		356		430	
Delay (s/veh)	13.81		11.91		10.21		10.88	
LOS	B		B		B		B	
Approach: Delay (s/veh)	13.81		11.91		10.21		10.88	
LOS	B		B		B		B	
Intersection Delay (s/veh)	12.28							
Intersection LOS	B							

2030 Alternative 3 With Project - AM Peak Hour

108: Atlanta & Beach

Synchro 6 Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	4957		1770	4895	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	4957		1770	4895	
Volume (vph)	104	303	50	65	504	180	20	426	86	190	647	215
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	303	50	65	504	180	20	426	86	190	647	215
RTOR Reduction (vph)	0	0	35	0	0	134	0	24	0	0	48	0
Lane Group Flow (vph)	104	303	15	65	504	46	20	488	0	190	814	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	7.2	19.1	19.1	4.6	16.5	16.5	1.1	15.6		9.7	24.2	
Effective Green, g (s)	7.2	19.1	19.1	4.6	16.5	16.5	1.1	15.6		9.7	24.2	
Actuated g/C Ratio	0.11	0.29	0.29	0.07	0.25	0.25	0.02	0.24		0.15	0.37	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	196	1040	465	125	898	402	30	1190		264	1822	
v/s Ratio Prot	c0.06	c0.09		0.04	c0.14		0.01	0.10		c0.11	c0.17	
v/s Ratio Perm			0.01			0.03						
v/c Ratio	0.53	0.29	0.03	0.52	0.56	0.11	0.67	0.41		0.72	0.45	
Uniform Delay, d1	27.3	17.7	16.4	29.1	21.1	18.6	31.8	20.8		26.4	15.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	0.2	0.0	3.9	0.8	0.1	44.1	0.2		9.0	0.2	
Delay (s)	30.1	17.9	16.4	33.0	21.9	18.8	75.9	21.1		35.4	15.5	
Level of Service	C	B	B	C	C	B	E	C		D	B	
Approach Delay (s)		20.5			22.1			23.1			19.1	
Approach LOS		C			C			C			B	

Intersection Summary

HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - AM Peak Hour

163: Pacific View & Beach

Synchro 6 Report

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	0.97	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	5085	4950	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	5085	4950	
Volume (vph)	40	50	50	366	698	150
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	50	50	366	698	150
RTOR Reduction (vph)	0	45	0	0	17	0
Lane Group Flow (vph)	40	5	50	366	831	0
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	6.3	6.3	4.3	46.2	37.9	
Effective Green, g (s)	6.3	6.3	4.3	46.2	37.9	
Actuated g/C Ratio	0.10	0.10	0.07	0.76	0.63	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	184	165	126	3883	3101	
v/s Ratio Prot	c0.02		c0.03	0.07	c0.17	
v/s Ratio Perm		0.00				
v/c Ratio	0.22	0.03	0.40	0.09	0.27	
Uniform Delay, d1	24.8	24.4	26.9	1.8	5.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	0.1	2.1	0.0	0.0	
Delay (s)	25.4	24.4	28.9	1.8	5.1	
Level of Service	C	C	C	A	A	
Approach Delay (s)	24.9			5.1	5.1	
Approach LOS	C			A	A	

Intersection Summary

HCM Average Control Delay	6.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	60.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	33.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - PM Peak Hour

39: Pacific Coast Hwy & Warner

Synchro 6 Report

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	3527		1770	3539	1583	1770	1788		3433	1863	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	3527		1770	3539	1583	1770	1788		3433	1863	2787
Volume (vph)	410	1284	30	20	1616	339	30	110	40	359	70	830
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	410	1284	30	20	1616	339	30	110	40	359	70	830
RTOR Reduction (vph)	0	1	0	0	0	81	0	11	0	0	0	262
Lane Group Flow (vph)	410	1313	0	20	1616	258	30	139	0	359	70	568
Turn Type	Prot			Prot		Perm	Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	15.1	70.5		1.9	57.3	57.3	2.3	16.3		14.4	28.4	28.4
Effective Green, g (s)	15.1	70.5		1.9	57.3	57.3	2.3	16.3		14.4	28.4	28.4
Actuated g/C Ratio	0.13	0.59		0.02	0.48	0.48	0.02	0.14		0.12	0.24	0.24
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	435	2088		28	1703	762	34	245		415	444	665
v/s Ratio Prot	c0.12	0.37		0.01	c0.46		0.02	0.08		c0.10	0.04	
v/s Ratio Perm						0.16						c0.20
v/c Ratio	0.94	0.63		0.71	0.95	0.34	0.88	0.57		0.87	0.16	0.85
Uniform Delay, d1	51.6	15.8		58.3	29.5	19.1	58.3	48.1		51.4	35.9	43.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	28.9	0.6		60.5	11.7	0.3	106.5	3.0		16.9	0.2	10.4
Delay (s)	80.5	16.4		118.9	41.2	19.4	164.8	51.1		68.3	36.1	53.8
Level of Service	F	B		F	D	B	F	D		E	D	D
Approach Delay (s)		31.6			38.3			70.0			56.9	
Approach LOS		C			D			E			E	

Intersection Summary

HCM Average Control Delay	41.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	119.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

2030 Alternative 3 With Project - PM Peak Hour

125: Pacific Coast Hwy & Seapoint

Synchro 6 Report

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		0.97	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3510		3433	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3510		3433	1583
Volume (vph)	340	1433	1555	89	59	410
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	340	1433	1555	89	59	410
RTOR Reduction (vph)	0	0	3	0	0	12
Lane Group Flow (vph)	340	1433	1641	0	59	398
Turn Type	Prot					pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases						6
Actuated Green, G (s)	21.8	74.8	49.0		7.4	29.2
Effective Green, g (s)	21.8	74.8	49.0		7.4	29.2
Actuated g/C Ratio	0.24	0.83	0.54		0.08	0.32
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	428	2935	1907		282	583
v/s Ratio Prot	c0.19	0.40	c0.47		0.02	c0.16
v/s Ratio Perm						0.09
v/c Ratio	0.79	0.49	0.86		0.21	0.68
Uniform Delay, d1	32.1	2.2	17.7		38.7	26.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	9.8	0.1	4.2		0.4	3.3
Delay (s)	41.9	2.3	21.9		39.0	29.8
Level of Service	D	A	C		D	C
Approach Delay (s)		9.9	21.9		30.9	
Approach LOS		A	C		C	

Intersection Summary

HCM Average Control Delay	17.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - PM Peak Hour

126: Pacific Coast Hwy & Goldenwest

Synchro 6 Report

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Volume (vph)	550	1461	1494	262	252	490
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	550	1461	1494	262	252	490
RTOR Reduction (vph)	0	0	0	110	0	398
Lane Group Flow (vph)	550	1461	1494	152	252	92
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	38.0	93.0	51.0	51.0	18.6	18.6
Effective Green, g (s)	38.0	93.0	51.0	51.0	18.6	18.6
Actuated g/C Ratio	0.32	0.78	0.43	0.43	0.16	0.16
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	562	2752	1509	675	275	246
v/s Ratio Prot	c0.31	0.41	c0.42		c0.14	
v/s Ratio Perm				0.10		0.06
v/c Ratio	0.98	0.53	0.99	0.23	0.92	0.37
Uniform Delay, d1	40.4	5.0	34.0	21.8	49.7	45.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	32.2	0.2	20.7	0.2	32.8	1.0
Delay (s)	72.6	5.2	54.8	21.9	82.5	46.2
Level of Service	E	A	D	C	F	D
Approach Delay (s)		23.6	49.9		58.6	
Approach LOS		C	D		E	

Intersection Summary

HCM Average Control Delay	39.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	119.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - PM Peak Hour

127: Pacific Coast Hwy & 17th St

Synchro 6 Report

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Volume (vph)	330	1403	1736	60	110	100
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	330	1403	1736	60	110	100
RTOR Reduction (vph)	0	0	0	21	0	89
Lane Group Flow (vph)	330	1403	1736	39	110	11
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	22.2	80.9	54.7	54.7	11.5	11.5
Effective Green, g (s)	22.2	80.9	54.7	54.7	11.5	11.5
Actuated g/C Ratio	0.22	0.81	0.54	0.54	0.11	0.11
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	391	2852	1928	862	203	181
v/s Ratio Prot	c0.19	0.40	c0.49		c0.06	
v/s Ratio Perm				0.02		0.01
v/c Ratio	0.84	0.49	0.90	0.05	0.54	0.06
Uniform Delay, d1	37.4	3.1	20.4	10.7	42.0	39.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.2	0.1	6.2	0.0	2.9	0.1
Delay (s)	52.7	3.3	26.6	10.7	44.9	39.8
Level of Service	D	A	C	B	D	D
Approach Delay (s)		12.7	26.1		42.5	
Approach LOS		B	C		D	

Intersection Summary

HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - PM Peak Hour

165: Pacific Coast Hwy & 9th St

Synchro 6 Report

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Volume (vph)	20	1457	1870	30	50	20
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	1457	1870	30	50	20
RTOR Reduction (vph)	0	0	0	11	0	17
Lane Group Flow (vph)	20	1457	1870	20	50	3
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	2.0	47.6	41.6	41.6	8.4	8.4
Effective Green, g (s)	2.0	47.6	41.6	41.6	8.4	8.4
Actuated g/C Ratio	0.03	0.74	0.65	0.65	0.13	0.13
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	55	2632	2300	1029	232	208
v/s Ratio Prot	0.01	c0.41	c0.53		c0.03	
v/s Ratio Perm				0.01		0.00
v/c Ratio	0.36	0.55	0.81	0.02	0.22	0.01
Uniform Delay, d1	30.4	3.6	8.3	4.0	24.9	24.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.1	0.3	2.3	0.0	0.5	0.0
Delay (s)	34.4	3.8	10.6	4.0	25.3	24.2
Level of Service	C	A	B	A	C	C
Approach Delay (s)		4.2	10.5		25.0	
Approach LOS		A	B		C	

Intersection Summary

HCM Average Control Delay	8.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	64.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - PM Peak Hour

129: Pacific Coast Hwy & 6th St

Synchro 6 Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99			0.93		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1770	5068		1770	5030			1701		1770	1654	
Flt Permitted	0.95	1.00		0.95	1.00			0.83		0.53	1.00	
Satd. Flow (perm)	1770	5068		1770	5030			1442		995	1654	
Volume (vph)	174	1330	30	40	1661	129	40	20	70	131	30	89
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	174	1330	30	40	1661	129	40	20	70	131	30	89
RTOR Reduction (vph)	0	2	0	0	7	0	0	36	0	0	76	0
Lane Group Flow (vph)	174	1358	0	40	1783	0	0	94	0	131	43	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	13.5	53.1		5.5	45.1			17.6		17.6	17.6	
Effective Green, g (s)	13.5	53.1		5.5	45.1			17.6		17.6	17.6	
Actuated g/C Ratio	0.11	0.45		0.05	0.38			0.15		0.15	0.15	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	202	2277		82	1919			215		148	246	
v/s Ratio Prot	c0.10	0.27		0.02	c0.35						0.03	
v/s Ratio Perm								0.07		c0.13		
v/c Ratio	0.86	0.60		0.49	0.93			0.44		0.89	0.18	
Uniform Delay, d1	51.4	24.5		55.0	35.0			45.8		49.3	44.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	29.3	0.4		4.5	8.5			1.4		41.8	0.3	
Delay (s)	80.7	24.9		59.5	43.5			47.2		91.2	44.3	
Level of Service	F	C		E	D			D		F	D	
Approach Delay (s)		31.2			43.8			47.2			68.9	
Approach LOS		C			D			D			E	

Intersection Summary

HCM Average Control Delay	40.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	118.2	Sum of lost time (s)	42.0
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - PM Peak Hour

130: Pacific Coast Hwy & Main

Synchro 6 Report

							
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.91	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	5085	1770	5085	1583	1770	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	5085	1770	5085	1583	1770	1583
Volume (vph)	225	1375	40	1643	239	216	222
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	225	1375	40	1643	239	216	222
RTOR Reduction (vph)	0	0	0	0	68	0	156
Lane Group Flow (vph)	225	1375	40	1643	171	216	66
Turn Type	Prot		Prot		Perm		Perm
Protected Phases	7	4	3	8		6	
Permitted Phases					8		6
Actuated Green, G (s)	17.0	55.1	4.1	42.2	42.2	17.3	17.3
Effective Green, g (s)	17.0	55.1	4.1	42.2	42.2	17.3	17.3
Actuated g/C Ratio	0.14	0.46	0.03	0.36	0.36	0.15	0.15
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	254	2362	61	1809	563	258	231
v/s Ratio Prot	c0.13	0.27	0.02	c0.32		c0.12	
v/s Ratio Perm					0.11		0.04
v/c Ratio	0.89	0.58	0.66	0.91	0.30	0.84	0.28
Uniform Delay, d1	49.8	23.3	56.6	36.4	27.6	49.3	45.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.6	0.4	22.6	7.1	0.3	20.4	0.7
Delay (s)	78.4	23.7	79.1	43.4	27.9	69.7	45.8
Level of Service	E	C	E	D	C	E	D
Approach Delay (s)		31.4		42.2		57.6	
Approach LOS		C		D		E	
Intersection Summary							
HCM Average Control Delay			39.5		HCM Level of Service		D
HCM Volume to Capacity ratio			0.89				
Actuated Cycle Length (s)			118.6		Sum of lost time (s)		42.1
Intersection Capacity Utilization			66.2%		ICU Level of Service		C
Analysis Period (min)			15				
c Critical Lane Group							

2030 Alternative 3 With Project - PM Peak Hour

133: Pacific Coast Hwy & 1st St

Synchro 6 Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	0.88
Frt	1.00	1.00		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1770	5072		1770	4998		1681	1751	1583	1681	1707	2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1770	5072		1770	4998		1681	1751	1583	1681	1707	2787
Volume (vph)	407	1123	20	60	1618	210	60	40	70	248	40	277
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	407	1123	20	60	1618	210	60	40	70	248	40	277
RTOR Reduction (vph)	0	1	0	0	13	0	0	0	65	0	0	243
Lane Group Flow (vph)	407	1142	0	60	1815	0	49	51	5	140	148	34
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	14.0	37.2		4.7	27.9		8.6	8.6	8.6	13.5	13.5	13.5
Effective Green, g (s)	14.0	37.2		4.7	27.9		8.6	8.6	8.6	13.5	13.5	13.5
Actuated g/C Ratio	0.13	0.34		0.04	0.25		0.08	0.08	0.08	0.12	0.12	0.12
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	225	1714		76	1267		131	137	124	206	209	342
v/s Ratio Prot	c0.23	0.23		0.03	c0.36		c0.03	0.03		0.08	c0.09	
v/s Ratio Perm									0.00			0.01
v/c Ratio	1.81	0.67		0.79	1.43		0.37	0.37	0.04	0.68	0.71	0.10
Uniform Delay, d1	48.0	31.1		52.2	41.1		48.2	48.2	46.9	46.2	46.4	42.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	381.1	1.0		40.6	199.1		1.8	1.7	0.1	8.6	10.5	0.1
Delay (s)	429.1	32.1		92.8	240.2		50.0	49.9	47.1	54.8	56.9	43.0
Level of Service	F	C		F	F		D	D	D	D	E	D
Approach Delay (s)		136.4			235.5			48.8			49.6	
Approach LOS		F			F			D			D	

Intersection Summary

HCM Average Control Delay	165.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	110.1	Sum of lost time (s)	46.1
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

2030 Alternative 3 With Project - PM Peak Hour

134: Pacific Coast Hwy & Huntington

Synchro 6 Report

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		0.95		0.95	0.95	1.00
Frts	1.00	1.00	0.85	1.00	1.00	0.85		0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583		3253		1681	1770	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583		3253		1681	1770	1583
Volume (vph)	60	1350	10	40	1822	90	40	60	90	30	40	50
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	1350	10	40	1822	90	40	60	90	30	40	50
RTOR Reduction (vph)	0	0	4	0	0	20	0	81	0	0	0	46
Lane Group Flow (vph)	60	1350	6	40	1822	70	0	109	0	30	40	4
Turn Type	Prot		Perm	Prot		Perm	Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	3.7	54.6	54.6	3.6	54.5	54.5		8.7		7.9	7.9	7.9
Effective Green, g (s)	3.7	54.6	54.6	3.6	54.5	54.5		8.7		7.9	7.9	7.9
Actuated g/C Ratio	0.04	0.60	0.60	0.04	0.60	0.60		0.10		0.09	0.09	0.09
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	72	2128	952	70	2124	950		312		146	154	138
v/s Ratio Prot	c0.03	0.38		0.02	c0.51			c0.03		0.02	c0.02	
v/s Ratio Perm			0.00			0.04						0.00
v/c Ratio	0.83	0.63	0.01	0.57	0.86	0.07		0.35		0.21	0.26	0.03
Uniform Delay, d1	43.2	11.7	7.2	42.8	15.0	7.6		38.4		38.5	38.7	37.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	53.2	0.6	0.0	10.8	3.7	0.0		0.7		0.7	0.9	0.1
Delay (s)	96.5	12.3	7.2	53.6	18.6	7.6		39.1		39.2	39.6	38.0
Level of Service	F	B	A	D	B	A		D		D	D	D
Approach Delay (s)		15.8			18.8			39.1			38.9	
Approach LOS		B			B			D			D	

Intersection Summary

HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - PM Peak Hour

135: Pacific Coast Hwy & Beach

Synchro 6 Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91		1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5068		1770	3539	1583	1770	3539	1583	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5068		1770	3539	1583	1770	3539	1583	3433	1863	1583
Volume (vph)	235	1303	30	40	1598	860	20	50	30	340	50	144
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	235	1303	30	40	1598	860	20	50	30	340	50	144
RTOR Reduction (vph)	0	2	0	0	0	321	0	0	27	0	0	0
Lane Group Flow (vph)	235	1331	0	40	1598	539	20	50	3	340	50	144
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			Free
Actuated Green, G (s)	10.4	63.1		3.9	56.6	56.6	1.8	9.5	9.5	13.7	21.4	106.2
Effective Green, g (s)	10.4	63.1		3.9	56.6	56.6	1.8	9.5	9.5	13.7	21.4	106.2
Actuated g/C Ratio	0.10	0.59		0.04	0.53	0.53	0.02	0.09	0.09	0.13	0.20	1.00
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	336	3011		65	1886	844	30	317	142	443	375	1583
v/s Ratio Prot	c0.07	0.26		0.02	c0.45		0.01	0.01		c0.10	c0.03	
v/s Ratio Perm						0.34			0.00			0.09
v/c Ratio	0.70	0.44		0.62	0.85	0.64	0.67	0.16	0.02	0.77	0.13	0.09
Uniform Delay, d1	46.4	11.9		50.4	21.1	17.6	51.9	44.7	44.1	44.7	34.8	0.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.2	0.1		16.1	3.7	1.6	44.1	0.2	0.1	7.8	0.2	0.1
Delay (s)	52.6	12.0		66.5	24.9	19.2	96.0	44.9	44.2	52.5	35.0	0.1
Level of Service	D	B		E	C	B	F	D	D	D	C	A
Approach Delay (s)		18.1			23.6			54.9			36.7	
Approach LOS		B			C			D			D	

Intersection Summary

HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	106.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - PM Peak Hour

136: Pacific Coast Hwy & Newland

Synchro 6 Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.91	1.00		0.91	1.00		0.95			1.00	1.00
Fr _t	1.00	1.00	0.85		1.00	0.85		0.92			1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00		0.98			0.95	1.00
Satd. Flow (prot)	1770	5085	1583		5085	1583		3194			1770	1583
Flt Permitted	0.95	1.00	1.00		1.00	1.00		0.85			0.74	1.00
Satd. Flow (perm)	1770	5085	1583		5085	1583		2790			1385	1583
Volume (vph)	210	1413	10	0	2309	320	10	0	10	110	0	210
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	210	1413	10	0	2309	320	10	0	10	110	0	210
RTOR Reduction (vph)	0	0	2	0	0	136	0	9	0	0	0	182
Lane Group Flow (vph)	210	1413	8	0	2309	184	0	11	0	0	110	28
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2			6		6
Actuated Green, G (s)	16.0	75.1	75.1		55.1	55.1		12.7			12.7	12.7
Effective Green, g (s)	16.0	75.1	75.1		55.1	55.1		12.7			12.7	12.7
Actuated g/C Ratio	0.17	0.78	0.78		0.58	0.58		0.13			0.13	0.13
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0		4.0			4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0			3.0	3.0
Lane Grp Cap (vph)	296	3986	1241		2925	910		370			184	210
v/s Ratio Prot	c0.12	0.28			c0.45							
v/s Ratio Perm			0.00			0.12		0.00			c0.08	0.02
v/c Ratio	0.71	0.35	0.01		0.79	0.20		0.03			0.60	0.13
Uniform Delay, d1	37.7	3.1	2.2		15.8	9.8		36.2			39.1	36.7
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	7.6	0.1	0.0		1.5	0.1		0.0			5.1	0.3
Delay (s)	45.3	3.2	2.2		17.3	9.9		36.2			44.3	37.0
Level of Service	D	A	A		B	A		D			D	D
Approach Delay (s)		8.6			16.4			36.2			39.5	
Approach LOS		A			B			D			D	

Intersection Summary

HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	95.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - PM Peak Hour

137: Pacific Coast Hwy & Magnolia

Synchro 6 Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95		0.95	0.95	1.00
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1681	1703		1681	1722	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1681	1703		1681	1722	1583
Volume (vph)	150	1314	30	30	2659	190	20	30	10	100	30	100
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	150	1314	30	30	2659	190	20	30	10	100	30	100
RTOR Reduction (vph)	0	0	10	0	0	68	0	9	0	0	0	91
Lane Group Flow (vph)	150	1314	20	30	2659	122	20	31	0	63	67	9
Turn Type	Prot		Perm	Prot		Perm	Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	10.0	69.3	69.3	3.5	62.8	62.8	7.4	7.4		9.4	9.4	9.4
Effective Green, g (s)	10.0	69.3	69.3	3.5	62.8	62.8	7.4	7.4		9.4	9.4	9.4
Actuated g/C Ratio	0.09	0.66	0.66	0.03	0.59	0.59	0.07	0.07		0.09	0.09	0.09
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	168	3337	1039	59	3024	941	118	119		150	153	141
v/s Ratio Prot	c0.08	0.26		0.02	c0.52		0.01	c0.02		0.04	c0.04	
v/s Ratio Perm			0.01			0.08						0.01
v/c Ratio	0.89	0.39	0.02	0.51	0.88	0.13	0.17	0.26		0.42	0.44	0.06
Uniform Delay, d1	47.3	8.4	6.3	50.2	18.2	9.4	46.2	46.5		45.5	45.6	44.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	40.1	0.1	0.0	6.7	3.2	0.1	0.7	1.2		1.9	2.0	0.2
Delay (s)	87.4	8.5	6.3	56.9	21.4	9.5	46.9	47.7		47.4	47.6	44.3
Level of Service	F	A	A	E	C	A	D	D		D	D	D
Approach Delay (s)		16.4			21.0			47.4			46.1	
Approach LOS		B			C			D			D	

Intersection Summary

HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	105.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 3 With Project - PM Peak Hour

138: Pacific Coast Hwy & Brookhurst

Synchro 6 Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	1743		3433	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	1770	1743		3433	1863	1583
Volume (vph)	220	1504	10	20	2209	550	20	40	30	280	30	160
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	220	1504	10	20	2209	550	20	40	30	280	30	160
RTOR Reduction (vph)	0	0	4	0	0	183	0	24	0	0	0	140
Lane Group Flow (vph)	220	1504	6	20	2209	367	20	46	0	280	30	20
Turn Type	Prot		Perm	Prot		pm+ov	Split			Split		Perm
Protected Phases	7	4		3	8	6	2	2		6	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	15.9	68.5	68.5	1.9	54.5	68.4	8.4	8.4		13.9	13.9	13.9
Effective Green, g (s)	15.9	68.5	68.5	1.9	54.5	68.4	8.4	8.4		13.9	13.9	13.9
Actuated g/C Ratio	0.15	0.63	0.63	0.02	0.50	0.63	0.08	0.08		0.13	0.13	0.13
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	259	3204	998	31	2550	996	137	135		439	238	202
v/s Ratio Prot	c0.12	0.30		0.01	c0.43	0.05	0.01	c0.03		c0.08	0.02	
v/s Ratio Perm			0.00			0.18						0.01
v/c Ratio	0.85	0.47	0.01	0.65	0.87	0.37	0.15	0.34		0.64	0.13	0.10
Uniform Delay, d1	45.2	10.6	7.5	53.1	23.9	9.7	46.8	47.5		45.0	42.0	41.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	22.0	0.1	0.0	37.9	3.4	0.2	0.5	1.5		3.0	0.2	0.2
Delay (s)	67.2	10.7	7.5	91.0	27.2	10.0	47.3	49.0		48.0	42.3	42.1
Level of Service	E	B	A	F	C	A	D	D		D	D	D
Approach Delay (s)		17.8			24.3			48.6			45.7	
Approach LOS		B			C			D			D	

Intersection Summary

HCM Average Control Delay	24.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	108.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	SA	Intersection	Main Street/Walnut Avenue
Agency/Co.		Jurisdiction	
Date Performed	3/31/2009	Analysis Year	2030 Base Case+Project+Alt 3
Analysis Time Period	PM Peak		

Project ID	
East/West Street: Walnut Avenue	North/South Street: Main Street

Volume Adjustments and Site Characteristics						
Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	0	30	68	53	151	0
%Thrus Left Lane						

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	0	0	212	0	0	0
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR			
PHF	1.00		1.00		1.00			
Flow Rate (veh/h)	98		204		212			
% Heavy Vehicles	0		0		0			
No. Lanes	1		1		1		0	
Geometry Group	1		1		1			
Duration, T	0.25							

Saturation Headway Adjustment Worksheet							
Prop. Left-Turns	0.0		0.3		0.0		
Prop. Right-Turns	0.7		0.0		1.0		
Prop. Heavy Vehicle	0.0		0.0		0.0		
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	
hadj, computed	-0.4		0.1		-0.6		

Departure Headway and Service Time							
hd, initial value (s)	3.20		3.20		3.20		
x, initial	0.09		0.18		0.19		
hd, final value (s)	4.18		4.52		3.99		
x, final value	0.11		0.26		0.23		
Move-up time, m (s)	2.0		2.0		2.0		
Service Time, t _s (s)	2.2		2.5		2.0		

Capacity and Level of Service								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	348		454		462			
Delay (s/veh)	7.72		9.07		8.21			
LOS	A		A		A			
Approach: Delay (s/veh)	7.72		9.07		8.21			
LOS	A		A		A			
Intersection Delay (s/veh)	8.46							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	SA	Intersection	Main Street/Olive Avenue
Agency/Co.		Jurisdiction	
Date Performed	3/31/2009	Analysis Year	2030 Base Case+Project+Alt 3
Analysis Time Period	PM Peak		

Project ID	
East/West Street: Olive Avenue	North/South Street: Main Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	0	159	0	0	62	138
%Thrus Left Lane						

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	0	0	0	68	0	39
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR				LTR	
PHF	1.00		1.00				1.00	
Flow Rate (veh/h)	159		200				107	
% Heavy Vehicles	0		0				0	
No. Lanes	1		1		0		1	
Geometry Group	1		1				1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.0		0.0			0.6	
Prop. Right-Turns	0.0		0.7			0.4	
Prop. Heavy Vehicle	0.0		0.0			0.0	
hLT-adj	0.2	0.2	0.2	0.2		0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6		-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7		1.7	1.7
hadj, computed	0.0		-0.4			-0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20			3.20	
x, initial	0.14		0.18			0.10	
hd, final value (s)	4.36		3.92			4.57	
x, final value	0.19		0.22			0.14	
Move-up time, m (s)	2.0		2.0			2.0	
Service Time, t _s (s)	2.4		1.9			2.6	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	409		450				357	
Delay (s/veh)	8.40		8.01				8.29	
LOS	A		A				A	
Approach: Delay (s/veh)	8.40		8.01				8.29	
LOS	A		A				A	
Intersection Delay (s/veh)	8.21							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	SA	Intersection	Lake Street/6th Street
Agency/Co.		Jurisdiction	
Date Performed	3/31/2009	Analysis Year	2030 Base Case+Project+Alt 3
Analysis Time Period	PM Peak		

Project ID	
East/West Street: 6th Street	North/South Street: Lake Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	12	50	11	10	80	30
%Thrus Left Lane						

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	11	218	40	40	182	91
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	1.00		1.00		1.00		1.00	
Flow Rate (veh/h)	73		120		269		313	
% Heavy Vehicles	0		0		0		0	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.2		0.1		0.0		0.1	
Prop. Right-Turns	0.2		0.3		0.1		0.3	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	-0.1		-0.1		-0.1		-0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.06		0.11		0.24		0.28	
hd, final value (s)	5.45		5.28		4.75		4.64	
x, final value	0.11		0.18		0.36		0.40	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t _s (s)	3.4		3.3		2.8		2.6	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	323		370		519		563	
Delay (s/veh)	9.12		9.41		10.35		10.73	
LOS	A		A		B		B	
Approach: Delay (s/veh)	9.12		9.41		10.35		10.73	
LOS	A		A		B		B	
Intersection Delay (s/veh)	10.24							
Intersection LOS	B							

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	SA	Intersection	Lake Street/Orange Avenue
Agency/Co.		Jurisdiction	
Date Performed	3/31/2009	Analysis Year	2030 Base Case+Project+Alt 3
Analysis Time Period	PM Peak		

Project ID	
East/West Street: Orange Avenue	North/South Street: Lake Street

Volume Adjustments and Site Characteristics						
Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	45	351	128	143	345	82
%Thrus Left Lane						

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Movement						
Volume (veh/h)	84	159	164	44	116	84
%Thrus Left Lane						

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	1.00		1.00		1.00		1.00	
Flow Rate (veh/h)	524		570		407		244	
% Heavy Vehicles	0		0		0		0	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet								
Prop. Left-Turns	0.1		0.3		0.2		0.2	
Prop. Right-Turns	0.2		0.1		0.4		0.3	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	-0.1		-0.0		-0.2		-0.2	

Departure Headway and Service Time								
hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.47		0.51		0.36		0.22	
hd, final value (s)	8.68		8.77		8.66		9.58	
x, final value	1.26		1.39		0.98		0.65	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t _s (s)	6.7		6.8		6.7		7.6	

Capacity and Level of Service								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	524		570		416		374	
Delay (s/veh)	162.69		214.09		68.84		28.65	
LOS	F		F		F		D	
Approach: Delay (s/veh)	162.69		214.09		68.84		28.65	
LOS	F		F		F		D	
Intersection Delay (s/veh)	138.85							
Intersection LOS	F							

2030 Alternative 3 With Project - PM Peak Hour

108: Atlanta & Beach

Synchro 6 Report

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	4997		1770	4945	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	1770	4997		1770	4945	
Volume (vph)	224	599	30	78	547	220	100	907	118	300	547	123
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	224	599	30	78	547	220	100	907	118	300	547	123
RTOR Reduction (vph)	0	0	21	0	0	175	0	14	0	0	30	0
Lane Group Flow (vph)	224	599	9	78	547	45	100	1011	0	300	640	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	16.5	30.1	30.1	7.3	20.9	20.9	8.4	26.9		20.8	39.3	
Effective Green, g (s)	16.5	30.1	30.1	7.3	20.9	20.9	8.4	26.9		20.8	39.3	
Actuated g/C Ratio	0.16	0.30	0.30	0.07	0.21	0.21	0.08	0.27		0.21	0.39	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	289	1054	471	128	732	327	147	1330		364	1922	
v/s Ratio Prot	c0.13	0.17		0.04	c0.15		0.06	c0.20		c0.17	0.13	
v/s Ratio Perm			0.01			0.03						
v/c Ratio	0.78	0.57	0.02	0.61	0.75	0.14	0.68	0.76		0.82	0.33	
Uniform Delay, d1	40.5	30.0	25.1	45.5	37.6	32.8	45.0	34.1		38.4	21.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.2	0.7	0.0	8.0	4.2	0.2	12.2	2.6		14.0	0.1	
Delay (s)	52.7	30.7	25.1	53.5	41.8	32.9	57.2	36.7		52.4	21.8	
Level of Service	D	C	C	D	D	C	E	D		D	C	
Approach Delay (s)		36.3			40.6			38.6			31.3	
Approach LOS		D			D			D			C	

Intersection Summary

HCM Average Control Delay	36.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	101.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group