2030 Alternative 3 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	4955	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	5085	4955	
Volume (vph)	160	70	40	1008	536	110
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	160	70	40	1008	536	110
RTOR Reduction (vph)	0	56	0	0	19	0
Lane Group Flow (vph)	160	14	40	1008	627	0
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	10.2	10.2	3.4	33.6	26.2	
Effective Green, g (s)	10.2	10.2	3.4	33.6	26.2	
Actuated g/C Ratio	0.20	0.20	0.07	0.65	0.51	
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)	349	312	116	3298	2506	
v/s Ratio Prot	c0.09		0.02	c0.20	0.13	
v/s Ratio Perm		0.01				
v/c Ratio	0.46	0.04	0.34	0.31	0.25	
Uniform Delay, d1	18.4	16.9	23.1	4.0	7.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	0.1	1.8	0.1	0.1	
Delay (s)	19.3	16.9	24.9	4.0	7.3	
Level of Service	B	B	C	A	A	
Approach Delay (s)	18.6			4.8	7.3	
Approach LOS	B			A	A	

Intersection Summary

HCM Average Control Delay	7.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	51.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	35.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

YEAR (2030) WITH PROJECT WITH ALTERNATIVE 4 CONDITIONS

(HCM METHODOLOGY)

2030 Alternative 4 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
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.98		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	3526		1770	3539	1583	1770	1826		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	3526		1770	3539	1583	1770	1826		3433	1863	2787
Volume (vph)	560	1509	40	30	1278	274	20	200	30	315	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	274	20	200	30	315	50	770
RTOR Reduction (vph)	0	1	0	0	0	86	0	4	0	0	0	437
Lane Group Flow (vph)	560	1548	0	30	1278	188	20	226	0	315	50	333
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)	21.0	63.4		3.3	45.7	45.7	1.9	19.5		13.1	30.7	30.7
Effective Green, g (s)	21.0	63.4		3.3	45.7	45.7	1.9	19.5		13.1	30.7	30.7
Actuated g/C Ratio	0.18	0.55		0.03	0.40	0.40	0.02	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)	625	1939		51	1403	627	29	309		390	496	742
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	0.90	0.80		0.59	0.91	0.30	0.69	0.73		0.81	0.10	0.45
Uniform Delay, d1	46.1	20.8		55.3	32.9	23.8	56.4	45.4		49.9	31.9	35.3
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	15.4	2.4		16.1	9.1	0.3	51.3	8.6		11.6	0.1	0.4
Delay (s)	61.5	23.2		71.5	42.0	24.1	107.7	54.0		61.5	32.0	35.7
Level of Service	E	C		E	D	C	F	D		E	C	D
Approach Delay (s)		33.4			39.5			58.3			42.7	
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)	115.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

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	3519		3433	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	3539	3519		3433	1583
Volume (vph)	150	1514	1161	46	96	350
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	150	1514	1161	46	96	350
RTOR Reduction (vph)	0	0	3	0	0	29
Lane Group Flow (vph)	150	1514	1204	0	96	321
Turn Type	Prot					pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases						6
Actuated Green, G (s)	11.0	41.4	26.4		7.5	18.5
Effective Green, g (s)	11.0	41.4	26.4		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)	342	2575	1633		453	626
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	20.2	3.7	12.4		22.1	15.5
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)	21.1	4.0	14.2		22.3	16.3
Level of Service	C	A	B		C	B
Approach Delay (s)		5.6	14.2		17.6	
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)	56.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

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)	190	1449	1187	181	331	290
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	190	1449	1187	181	331	290
RTOR Reduction (vph)	0	0	0	92	0	214
Lane Group Flow (vph)	190	1449	1187	89	331	76
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	11.0	49.8	34.8	34.8	20.6	20.6
Effective Green, g (s)	11.0	49.8	34.8	34.8	20.6	20.6
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)	248	2248	1571	703	465	416
v/s Ratio Prot	c0.11	0.41	c0.34		c0.19	
v/s Ratio Perm				0.06		0.05
v/c Ratio	0.77	0.64	0.76	0.13	0.71	0.18
Uniform Delay, d1	32.5	8.8	18.2	12.8	26.2	22.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.2	0.6	2.1	0.1	5.1	0.2
Delay (s)	45.6	9.5	20.4	12.9	31.3	22.6
Level of Service	D	A	C	B	C	C
Approach Delay (s)		13.7	19.4		27.2	
Approach LOS		B	B		C	

Intersection Summary

HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	78.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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
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)	70	1641	1338	30	90	90
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	1641	1338	30	90	90
RTOR Reduction (vph)	0	0	0	14	0	75
Lane Group Flow (vph)	70	1641	1338	16	90	15
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	4.5	38.2	29.7	29.7	8.9	8.9
Effective Green, g (s)	4.5	38.2	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)	145	2454	1908	853	286	256
v/s Ratio Prot	0.04	c0.46	0.38		c0.05	
v/s Ratio Perm				0.01		0.01
v/c Ratio	0.48	0.67	0.70	0.02	0.31	0.06
Uniform Delay, d1	24.2	4.8	9.4	5.9	20.4	19.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	0.7	1.2	0.0	0.6	0.1
Delay (s)	26.7	5.5	10.6	5.9	21.0	19.6
Level of Service	C	A	B	A	C	B
Approach Delay (s)		6.4	10.5		20.3	
Approach LOS		A	B		C	

Intersection Summary

HCM Average Control Delay	8.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	55.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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	1671	1308	10	40	20
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	1671	1308	10	40	20
RTOR Reduction (vph)	0	0	0	4	0	17
Lane Group Flow (vph)	20	1671	1308	6	40	3
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	1.0	32.5	27.5	27.5	6.9	6.9
Effective Green, g (s)	1.0	32.5	27.5	27.5	6.9	6.9
Actuated g/C Ratio	0.02	0.69	0.58	0.58	0.15	0.15
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	2427	2053	918	258	230
v/s Ratio Prot	0.01	c0.47	0.37		c0.02	
v/s Ratio Perm				0.00		0.00
v/c Ratio	0.54	0.69	0.64	0.01	0.16	0.01
Uniform Delay, d1	23.0	4.4	6.6	4.2	17.7	17.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.1	0.8	0.7	0.0	0.3	0.0
Delay (s)	38.1	5.3	7.3	4.2	18.0	17.4
Level of Service	D	A	A	A	B	B
Approach Delay (s)		5.7	7.3		17.8	
Approach LOS		A	A		B	

Intersection Summary

HCM Average Control Delay	6.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	47.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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	5072		1770	5059			1740		1770	1666	
Flt Permitted	0.95	1.00		0.95	1.00			0.81		0.70	1.00	
Satd. Flow (perm)	1770	5072		1770	5059			1441		1304	1666	
Volume (vph)	71	1629	30	30	1167	41	40	20	30	50	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	1629	30	30	1167	41	40	20	30	50	30	71
RTOR Reduction (vph)	0	2	0	0	3	0	0	16	0	0	63	0
Lane Group Flow (vph)	71	1657	0	30	1205	0	0	74	0	50	38	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	5.5	34.6		2.7	31.8			9.4		9.4	9.4	
Effective Green, g (s)	5.5	34.6		2.7	31.8			9.4		9.4	9.4	
Actuated g/C Ratio	0.07	0.43		0.03	0.39			0.12		0.12	0.12	
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)	120	2172		59	1991			168		152	194	
v/s Ratio Prot	c0.04	c0.33		0.02	0.24						0.02	
v/s Ratio Perm								c0.05		0.04		
v/c Ratio	0.59	0.76		0.51	0.61			0.44		0.33	0.20	
Uniform Delay, d1	36.6	19.6		38.4	19.5			33.3		32.8	32.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	7.6	1.6		6.7	0.5			1.8		1.3	0.5	
Delay (s)	44.2	21.3		45.1	20.0			35.1		34.1	32.8	
Level of Service	D	C		D	C			D		C	C	
Approach Delay (s)		22.2			20.6			35.1			33.2	
Approach LOS		C			C			D			C	

Intersection Summary

HCM Average Control Delay	22.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	80.8	Sum of lost time (s)	34.1
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

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)	89	1640	10	1280	103	122	107
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	89	1640	10	1280	103	122	107
RTOR Reduction (vph)	0	0	0	0	37	0	93
Lane Group Flow (vph)	89	1640	10	1280	66	122	14
Turn Type	Prot		Prot		Perm		Perm
Protected Phases	7	4	3	8		6	
Permitted Phases					8		6
Actuated Green, G (s)	7.9	38.4	1.0	31.5	31.5	10.8	10.8
Effective Green, g (s)	7.9	38.4	1.0	31.5	31.5	10.8	10.8
Actuated g/C Ratio	0.10	0.46	0.01	0.38	0.38	0.13	0.13
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)	168	2350	21	1928	600	230	206
v/s Ratio Prot	c0.05	c0.32	0.01	0.25		c0.07	
v/s Ratio Perm					0.04		0.01
v/c Ratio	0.53	0.70	0.48	0.66	0.11	0.53	0.07
Uniform Delay, d1	35.8	17.7	40.8	21.4	16.7	33.8	31.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0	0.9	16.0	0.9	0.1	2.3	0.1
Delay (s)	38.8	18.7	56.8	22.3	16.8	36.1	31.9
Level of Service	D	B	E	C	B	D	C
Approach Delay (s)		19.7		22.1		34.1	
Approach LOS		B		C		C	

Intersection Summary

HCM Average Control Delay	21.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	83.1	Sum of lost time (s)	32.9
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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	5050		1770	4924		1681	1753	1583	1681	1726	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	5050		1770	4924		1681	1753	1583	1681	1726	2787
Volume (vph)	170	1432	70	40	854	229	70	50	30	238	80	500
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)	170	1432	70	40	854	229	70	50	30	238	80	500
RTOR Reduction (vph)	0	4	0	0	37	0	0	0	27	0	0	427
Lane Group Flow (vph)	170	1498	0	40	1046	0	58	62	3	155	163	73
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)	13.6	34.2		3.3	23.9		8.7	8.7	8.7	14.0	14.0	14.0
Effective Green, g (s)	13.6	34.2		3.3	23.9		8.7	8.7	8.7	14.0	14.0	14.0
Actuated g/C Ratio	0.14	0.35		0.03	0.25		0.09	0.09	0.09	0.15	0.15	0.15
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)	250	1792		61	1221		152	158	143	244	251	405
v/s Ratio Prot	c0.10	c0.30		0.02	0.21		0.03	c0.04		0.09	c0.09	
v/s Ratio Perm									0.00			0.03
v/c Ratio	0.68	0.84		0.66	0.86		0.38	0.39	0.02	0.64	0.65	0.18
Uniform Delay, d1	39.3	28.5		46.0	34.6		41.3	41.4	40.0	38.8	38.9	36.2
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	7.4	3.6		22.6	6.1		1.6	1.6	0.1	5.3	5.7	0.2
Delay (s)	46.7	32.1		68.6	40.7		42.9	43.0	40.0	44.1	44.6	36.4
Level of Service	D	C		E	D		D	D	D	D	D	D
Approach Delay (s)		33.6			41.7			42.4			39.5	
Approach LOS		C			D			D			D	

Intersection Summary

HCM Average Control Delay	37.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	96.4	Sum of lost time (s)	36.2
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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		0.92		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		3233		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		3233		1681	1770	1583
Volume (vph)	40	1619	10	60	1033	110	10	10	20	50	70	30
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	60	1033	110	10	10	20	50	70	30
RTOR Reduction (vph)	0	0	4	0	0	45	0	18	0	0	0	27
Lane Group Flow (vph)	40	1619	6	60	1033	65	0	22	0	50	70	3
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)	3.6	44.6	44.6	5.1	46.1	46.1		6.6		9.0	9.0	9.0
Effective Green, g (s)	3.6	44.6	44.6	5.1	46.1	46.1		6.6		9.0	9.0	9.0
Actuated g/C Ratio	0.04	0.55	0.55	0.06	0.57	0.57		0.08		0.11	0.11	0.11
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)	78	1941	868	111	2007	898		262		186	196	175
v/s Ratio Prot	0.02	c0.46		c0.03	0.29			c0.01		0.03	c0.04	
v/s Ratio Perm			0.00			0.04						0.00
v/c Ratio	0.51	0.83	0.01	0.54	0.51	0.07		0.08		0.27	0.36	0.02
Uniform Delay, d1	38.0	15.3	8.3	37.0	10.8	7.9		34.5		33.1	33.5	32.2
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	5.6	3.3	0.0	5.3	0.2	0.0		0.1		0.8	1.1	0.0
Delay (s)	43.6	18.5	8.3	42.2	11.0	8.0		34.7		33.9	34.6	32.3
Level of Service	D	B	A	D	B	A		C		C	C	C
Approach Delay (s)		19.1			12.3			34.7			33.9	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	81.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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)	138	1671	30	20	1104	300	20	50	10	490	80	199
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)	138	1671	30	20	1104	300	20	50	10	490	80	199
RTOR Reduction (vph)	0	2	0	0	0	177	0	0	9	0	0	0
Lane Group Flow (vph)	138	1699	0	20	1104	123	20	50	1	490	80	199
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)	6.7	39.1		2.2	34.6	34.6	2.2	10.4	10.4	16.6	24.8	84.3
Effective Green, g (s)	6.7	39.1		2.2	34.6	34.6	2.2	10.4	10.4	16.6	24.8	84.3
Actuated g/C Ratio	0.08	0.46		0.03	0.41	0.41	0.03	0.12	0.12	0.20	0.29	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)	273	2352		46	1453	650	46	437	195	676	548	1583
v/s Ratio Prot	c0.04	c0.34		0.01	0.31		0.01	0.01		c0.14	c0.04	
v/s Ratio Perm						0.08			0.00			0.13
v/c Ratio	0.51	0.72		0.43	0.76	0.19	0.43	0.11	0.01	0.72	0.15	0.13
Uniform Delay, d1	37.2	18.2		40.4	21.3	15.9	40.4	32.9	32.4	31.7	21.9	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	1.1		6.5	2.3	0.1	6.5	0.1	0.0	3.9	0.1	0.2
Delay (s)	38.7	19.3		46.9	23.6	16.0	46.9	33.0	32.4	35.6	22.1	0.2
Level of Service	D	B		D	C	B	D	C	C	D	C	A
Approach Delay (s)		20.8			22.4			36.4			25.0	
Approach LOS		C			C			D			C	

Intersection Summary

HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	84.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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	1841	0	0	1184	30	10	10	0	230	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	1841	0	0	1184	30	10	10	0	230	0	220
RTOR Reduction (vph)	0	0	0	0	0	17	0	0	0	0	0	123
Lane Group Flow (vph)	100	1841	0	0	1184	13	0	20	0	0	230	97
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)	5.3	33.5			24.2	24.2		14.6			14.6	14.6
Effective Green, g (s)	5.3	33.5			24.2	24.2		14.6			14.6	14.6
Actuated g/C Ratio	0.09	0.60			0.43	0.43		0.26			0.26	0.26
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)	167	3036			2194	683		787			360	412
v/s Ratio Prot	0.06	c0.36			0.23							
v/s Ratio Perm						0.01		0.01			c0.17	0.06
v/c Ratio	0.60	0.61			0.54	0.02		0.03			0.64	0.24
Uniform Delay, d1	24.4	7.1			11.8	9.1		15.5			18.4	16.4
Progression Factor	1.00	1.00			1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	5.7	0.3			0.3	0.0		0.0			3.7	0.3
Delay (s)	30.1	7.5			12.1	9.2		15.5			22.1	16.7
Level of Service	C	A			B	A		B			C	B
Approach Delay (s)		8.6			12.0			15.5			19.4	
Approach LOS		A			B			B			B	

Intersection Summary

HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	56.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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
Frt	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	1951	30	20	1074	60	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	1951	30	20	1074	60	10	20	10	160	20	170
RTOR Reduction (vph)	0	0	14	0	0	34	0	9	0	0	0	147
Lane Group Flow (vph)	100	1951	16	20	1074	26	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	37.4	37.4	2.2	31.6	31.6	7.1	7.1		9.6	9.6	9.6
Effective Green, g (s)	8.0	37.4	37.4	2.2	31.6	31.6	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)	196	2630	819	54	2222	692	165	165		223	226	210
v/s Ratio Prot	c0.06	c0.38		0.01	0.21		0.01	c0.01		0.05	c0.05	
v/s Ratio Perm			0.01			0.02						0.01
v/c Ratio	0.51	0.74	0.02	0.37	0.48	0.04	0.06	0.13		0.39	0.41	0.11
Uniform Delay, d1	30.3	13.7	8.5	34.4	14.5	11.6	29.6	29.8		28.7	28.7	27.6
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	2.2	1.2	0.0	4.2	0.2	0.0	0.2	0.3		1.2	1.2	0.2
Delay (s)	32.5	14.8	8.5	38.6	14.7	11.7	29.7	30.1		29.8	29.9	27.8
Level of Service	C	B	A	D	B	B	C	C		C	C	C
Approach Delay (s)		15.6			14.9			30.0			28.9	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	72.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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
Frt	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	2011	10	10	964	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	2011	10	10	964	210	10	10	10	670	10	170
RTOR Reduction (vph)	0	0	5	0	0	80	0	9	0	0	0	127
Lane Group Flow (vph)	160	2011	5	10	964	130	10	11	0	670	10	43
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)	10.5	42.3	42.3	0.6	32.4	54.3	6.6	6.6		21.9	21.9	21.9
Effective Green, g (s)	10.5	42.3	42.3	0.6	32.4	54.3	6.6	6.6		21.9	21.9	21.9
Actuated g/C Ratio	0.12	0.48	0.48	0.01	0.37	0.62	0.08	0.08		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)	213	2461	766	12	1885	983	134	130		860	467	397
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	0.51	0.13	0.07	0.08		0.78	0.02	0.11
Uniform Delay, d1	37.2	19.2	11.7	43.4	21.4	6.8	37.6	37.6		30.5	24.7	25.2
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	13.8	2.2	0.0	168.3	0.2	0.1	0.2	0.3		4.5	0.0	0.1
Delay (s)	51.0	21.5	11.7	211.7	21.6	6.9	37.8	37.9		35.0	24.7	25.3
Level of Service	D	C	B	F	C	A	D	D		D	C	C
Approach Delay (s)		23.6			20.6			37.8			32.9	
Approach LOS		C			C			D			C	

Intersection Summary

HCM Average Control Delay	24.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	87.4	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

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	*SA*
Agency/Co.	
Date Performed	*4/06/2009*
Analysis Time Period	*AM Peak*

Site Information

Intersection	*Main Street/Olive Avenue*
Jurisdiction	
Analysis Year	*2030 Base Case+Project+Alt 4*

Project ID

East/West Street: *Olive Avenue* | North/South Street: *Main Street*

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*46*	*96*	*24*	*18*	*80*	*57*
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	*24*	*103*	*47*	*86*	*103*	
%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)	*166*		*155*		*174*		*223*	
% 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	*0.3*		*0.1*		*0.1*		*0.4*	
Prop. Right-Turns	*0.1*		*0.4*		*0.3*		*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	*-0.0*		*-0.2*		*-0.1*		*-0.0*	

Departure Headway and Service Time

hd, initial value (s)	*3.20*		*3.20*		*3.20*		*3.20*	
x, initial	*0.15*		*0.14*		*0.15*		*0.20*	
hd, final value (s)	*5.12*		*4.98*		*4.94*		*4.98*	
x, final value	*0.24*		*0.21*		*0.24*		*0.31*	
Move-up time, m (s)	*2.0*		*2.0*		*2.0*		*2.0*	
Service Time, t_s (s)	*3.1*		*3.0*		*2.9*		*3.0*	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	*416*		*405*		*424*		*473*	
Delay (s/veh)	*9.70*		*9.34*		*9.47*		*10.19*	
LOS	*A*		*A*		*A*		*B*	
Approach: Delay (s/veh)	*9.70*		*9.34*		*9.47*		*10.19*	
LOS	*A*		*A*		*A*		*B*	
Intersection Delay (s/veh)	*9.72*							
Intersection LOS	*A*							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	SA
Agency/Co.	
Date Performed	4/06/2009
Analysis Time Period	AM Peak

Site Information

Intersection	Lake Street/6th Street
Jurisdiction	
Analysis Year	2030 Base Case+Project+Alt 4

Project ID

East/West Street: 6th Street | North/South Street: Lake Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	89	40	52	0	90	20
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	22	86	0	50	145	70
%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)	181		110		108		265	
% 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	0.5		0.0		0.2		0.2	
Prop. Right-Turns	0.3		0.2		0.0		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		0.0		-0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.16		0.10		0.10		0.24	
hd, final value (s)	4.92		4.99		5.05		4.69	
x, final value	0.25		0.15		0.15		0.34	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	2.9		3.0		3.0		2.7	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	431		360		358		515	
Delay (s/veh)	9.53		8.88		8.95		10.13	
LOS	A		A		A		B	
Approach: Delay (s/veh)	9.53		8.88		8.95		10.13	
LOS	A		A		A		B	
Intersection Delay (s/veh)	9.57							
Intersection LOS	A							

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	SA
Agency/Co.	
Date Performed	4/06/2009
Analysis Time Period	AM Peak

Site Information

Intersection	Lake Street/Orange Avenue
Jurisdiction	
Analysis Year	2030 Base Case+Project+Alt 4

Project ID

East/West Street: Orange Avenue | North/South Street: Lake Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	49	330	41	39	242	42
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	30	65	18	32	121	55
%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)	420		323		113		208	
% 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	0.1		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	-0.0		-0.1		-0.0		-0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.37		0.29		0.10		0.18	
hd, final value (s)	5.47		5.60		6.44		6.10	
x, final value	0.64		0.50		0.20		0.35	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	3.5		3.6		4.4		4.1	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	633		573		363		458	
Delay (s/veh)	17.58		14.13		11.06		12.39	
LOS	C		B		B		B	
Approach: Delay (s/veh)	17.58		14.13		11.06		12.39	
LOS	C		B		B		B	
Intersection Delay (s/veh)	14.83							
Intersection LOS	B							

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2030 Alternative 4 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	0.98		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	4974		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	4974		1770	4895	
Volume (vph)	104	303	50	64	505	180	20	434	74	200	645	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	64	505	180	20	434	74	200	645	215
RTOR Reduction (vph)	0	0	35	0	0	134	0	19	0	0	49	0
Lane Group Flow (vph)	104	303	15	64	505	46	20	489	0	200	811	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)	7.3	19.3	19.3	4.6	16.6	16.6	2.2	14.9		10.1	22.8	
Effective Green, g (s)	7.3	19.3	19.3	4.6	16.6	16.6	2.2	14.9		10.1	22.8	
Actuated g/C Ratio	0.11	0.30	0.30	0.07	0.26	0.26	0.03	0.23		0.16	0.35	
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)	199	1052	471	125	905	405	60	1142		275	1720	
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	0.52	0.29	0.03	0.51	0.56	0.11	0.33	0.43		0.73	0.47	
Uniform Delay, d1	27.2	17.5	16.2	29.1	21.0	18.5	30.6	21.4		26.1	16.4	
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	2.5	0.2	0.0	3.5	0.8	0.1	3.3	0.3		9.2	0.2	
Delay (s)	29.6	17.7	16.2	32.6	21.7	18.6	33.9	21.6		35.3	16.6	
Level of Service	C	B	B	C	C	B	C	C		D	B	
Approach Delay (s)		20.2			21.9			22.1			20.1	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	21.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	64.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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	4954	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	5085	4954	
Volume (vph)	50	42	70	388	719	150
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	42	70	388	719	150
RTOR Reduction (vph)	0	38	0	0	16	0
Lane Group Flow (vph)	50	4	70	388	853	0
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	6.4	6.4	4.5	45.4	36.9	
Effective Green, g (s)	6.4	6.4	4.5	45.4	36.9	
Actuated g/C Ratio	0.11	0.11	0.08	0.76	0.62	
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)	189	169	133	3861	3057	
v/s Ratio Prot	c0.03		c0.04	0.08	c0.17	
v/s Ratio Perm		0.00				
v/c Ratio	0.26	0.03	0.53	0.10	0.28	
Uniform Delay, d1	24.5	23.9	26.6	1.9	5.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	0.1	3.7	0.0	0.1	
Delay (s)	25.3	24.0	30.3	1.9	5.3	
Level of Service	C	C	C	A	A	
Approach Delay (s)	24.7			6.2	5.3	
Approach LOS	C			A	A	

Intersection Summary

HCM Average Control Delay	6.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	59.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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	1285	30	20	1608	354	30	110	40	373	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	1285	30	20	1608	354	30	110	40	373	70	830
RTOR Reduction (vph)	0	1	0	0	0	86	0	11	0	0	0	262
Lane Group Flow (vph)	410	1314	0	20	1608	268	30	139	0	373	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	16.9		14.0	28.6	28.6
Effective Green, g (s)	15.1	70.5		1.9	57.3	57.3	2.3	16.9		14.0	28.6	28.6
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	2084		28	1700	760	34	253		403	447	668
v/s Ratio Prot	c0.12	0.37		0.01	c0.45		0.02	0.08		c0.11	0.04	
v/s Ratio Perm						0.17						c0.20
v/c Ratio	0.94	0.63		0.71	0.95	0.35	0.88	0.55		0.93	0.16	0.85
Uniform Delay, d1	51.7	15.9		58.4	29.5	19.4	58.4	47.7		52.1	35.8	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	28.9	0.6		60.5	11.4	0.3	106.5	2.4		26.9	0.2	10.2
Delay (s)	80.6	16.5		119.0	40.9	19.7	164.9	50.1		79.0	36.0	53.5
Level of Service	F	B		F	D	B	F	D		E	D	D
Approach Delay (s)		31.8			37.9			69.2			60.0	
Approach LOS		C			D			E			E	

Intersection Summary

HCM Average Control Delay	42.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	119.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 With Project - PM Peak Hour
125: Pacific Coast Hwy & Seapoint

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	1448	1571	90	59	410
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	340	1448	1571	90	59	410
RTOR Reduction (vph)	0	0	3	0	0	12
Lane Group Flow (vph)	340	1448	1658	0	59	398
Turn Type	Prot					pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases						6
Actuated Green, G (s)	21.8	75.6	49.8		7.4	29.2
Effective Green, g (s)	21.8	75.6	49.8		7.4	29.2
Actuated g/C Ratio	0.24	0.83	0.55		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)	424	2940	1921		279	578
v/s Ratio Prot	c0.19	0.41	c0.47		0.02	c0.16
v/s Ratio Perm						0.09
v/c Ratio	0.80	0.49	0.86		0.21	0.69
Uniform Delay, d1	32.6	2.2	17.7		39.1	26.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	10.5	0.1	4.3		0.4	3.4
Delay (s)	43.0	2.3	22.0		39.5	30.3
Level of Service	D	A	C		D	C
Approach Delay (s)		10.1	22.0		31.5	
Approach LOS		B	C		C	

Intersection Summary

HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	91.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

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)	540	1497	1511	248	227	490
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	540	1497	1511	248	227	490
RTOR Reduction (vph)	0	0	0	103	0	396
Lane Group Flow (vph)	540	1497	1511	145	227	94
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	37.1	93.3	52.2	52.2	16.6	16.6
Effective Green, g (s)	37.1	93.3	52.2	52.2	16.6	16.6
Actuated g/C Ratio	0.31	0.79	0.44	0.44	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)	557	2801	1567	701	249	223
v/s Ratio Prot	c0.31	0.42	c0.43		c0.13	
v/s Ratio Perm				0.09		0.06
v/c Ratio	0.97	0.53	0.96	0.21	0.91	0.42
Uniform Delay, d1	39.8	4.4	31.9	20.2	49.9	46.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	30.1	0.2	15.0	0.1	34.3	1.3
Delay (s)	69.9	4.6	46.9	20.3	84.2	47.5
Level of Service	E	A	D	C	F	D
Approach Delay (s)		22.0	43.2		59.2	
Approach LOS		C	D		E	

Intersection Summary

HCM Average Control Delay	36.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	117.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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)	340	1404	1739	70	110	100
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	340	1404	1739	70	110	100
RTOR Reduction (vph)	0	0	0	25	0	89
Lane Group Flow (vph)	340	1404	1739	45	110	11
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	22.9	82.0	55.1	55.1	11.4	11.4
Effective Green, g (s)	22.9	82.0	55.1	55.1	11.4	11.4
Actuated g/C Ratio	0.23	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)	400	2862	1923	860	199	178
v/s Ratio Prot	c0.19	0.40	c0.49		c0.06	
v/s Ratio Perm				0.03		0.01
v/c Ratio	0.85	0.49	0.90	0.05	0.55	0.06
Uniform Delay, d1	37.6	3.1	20.8	10.9	42.6	40.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.7	0.1	6.5	0.0	3.3	0.1
Delay (s)	53.3	3.2	27.2	10.9	45.9	40.4
Level of Service	D	A	C	B	D	D
Approach Delay (s)		13.0	26.6		43.3	
Approach LOS		B	C		D	

Intersection Summary

HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	101.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

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	1574	1859	30	50	20
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	1574	1859	30	50	20
RTOR Reduction (vph)	0	0	0	11	0	17
Lane Group Flow (vph)	20	1574	1859	19	50	3
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	2.0	47.2	41.2	41.2	8.3	8.3
Effective Green, g (s)	2.0	47.2	41.2	41.2	8.3	8.3
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)	56	2631	2296	1027	231	207
v/s Ratio Prot	0.01	c0.44	c0.53		c0.03	
v/s Ratio Perm				0.01		0.00
v/c Ratio	0.36	0.60	0.81	0.02	0.22	0.01
Uniform Delay, d1	30.1	3.8	8.2	4.0	24.7	24.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.9	0.4	2.2	0.0	0.5	0.0
Delay (s)	34.0	4.1	10.5	4.0	25.2	24.1
Level of Service	C	A	B	A	C	C
Approach Delay (s)		4.5	10.4		24.8	
Approach LOS		A	B		C	

Intersection Summary

HCM Average Control Delay	8.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	63.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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	5035			1701		1770	1654	
Flt Permitted	0.95	1.00		0.95	1.00			0.80		0.52	1.00	
Satd. Flow (perm)	1770	5068		1770	5035			1379		966	1654	
Volume (vph)	228	1266	30	40	1650	117	40	20	70	107	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)	228	1266	30	40	1650	117	40	20	70	107	30	89
RTOR Reduction (vph)	0	2	0	0	7	0	0	36	0	0	77	0
Lane Group Flow (vph)	228	1294	0	40	1760	0	0	94	0	107	42	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	18.1	53.1		4.0	39.0			15.6		15.6	15.6	
Effective Green, g (s)	18.1	53.1		4.0	39.0			15.6		15.6	15.6	
Actuated g/C Ratio	0.16	0.46		0.03	0.34			0.14		0.14	0.14	
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)	279	2344		62	1710			187		131	225	
v/s Ratio Prot	c0.13	0.26		0.02	c0.35						0.03	
v/s Ratio Perm								0.07		c0.11		
v/c Ratio	0.82	0.55		0.65	1.03			0.50		0.82	0.19	
Uniform Delay, d1	46.8	22.3		54.7	37.9			46.0		48.2	44.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	16.7	0.3		20.7	29.7			2.1		31.0	0.4	
Delay (s)	63.4	22.5		75.4	67.6			48.1		79.2	44.4	
Level of Service	E	C		E	E			D		E	D	
Approach Delay (s)		28.7			67.8			48.1			60.9	
Approach LOS		C			E			D			E	

Intersection Summary

HCM Average Control Delay	50.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	114.8	Sum of lost time (s)	42.1
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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)	161	1283	40	1623	252	254	154
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	161	1283	40	1623	252	254	154
RTOR Reduction (vph)	0	0	0	0	72	0	92
Lane Group Flow (vph)	161	1283	40	1623	180	254	62
Turn Type	Prot		Prot		Perm		Perm
Protected Phases	7	4	3	8		6	
Permitted Phases					8		6
Actuated Green, G (s)	13.1	51.4	4.0	42.3	42.3	19.7	19.7
Effective Green, g (s)	13.1	51.4	4.0	42.3	42.3	19.7	19.7
Actuated g/C Ratio	0.11	0.44	0.03	0.36	0.36	0.17	0.17
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)	198	2230	60	1835	571	298	266
v/s Ratio Prot	c0.09	0.25	0.02	c0.32		c0.14	
v/s Ratio Perm					0.11		0.04
v/c Ratio	0.81	0.58	0.67	0.88	0.31	0.85	0.23
Uniform Delay, d1	50.9	24.7	55.9	35.2	27.0	47.3	42.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	21.9	0.4	24.5	5.5	0.3	20.3	0.4
Delay (s)	72.7	25.1	80.5	40.6	27.3	67.6	42.6
Level of Service	E	C	F	D	C	E	D
Approach Delay (s)		30.4		39.7		58.2	
Approach LOS		C		D		E	

Intersection Summary

HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	117.2	Sum of lost time (s)	42.1
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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	4988		1681	1751	1583	1681	1702	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	4988		1681	1751	1583	1681	1702	2787
Volume (vph)	376	1102	20	60	1608	235	60	40	70	248	30	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)	376	1102	20	60	1608	235	60	40	70	248	30	277
RTOR Reduction (vph)	0	1	0	0	15	0	0	0	65	0	0	244
Lane Group Flow (vph)	376	1121	0	60	1828	0	49	51	5	135	143	33
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)	13.0	37.2		4.7	28.9		8.6	8.6	8.6	13.2	13.2	13.2
Effective Green, g (s)	13.0	37.2		4.7	28.9		8.6	8.6	8.6	13.2	13.2	13.2
Actuated g/C Ratio	0.12	0.34		0.04	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)	210	1718		76	1313		132	137	124	202	205	335
v/s Ratio Prot	c0.21	0.22		0.03	c0.37		c0.03	0.03		0.08	c0.08	
v/s Ratio Perm									0.00			0.01
v/c Ratio	1.79	0.65		0.79	1.39		0.37	0.37	0.04	0.67	0.70	0.10
Uniform Delay, d1	48.4	30.8		52.1	40.4		48.0	48.0	46.8	46.2	46.4	43.0
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	374.2	0.9		40.6	181.1		1.8	1.7	0.1	8.1	9.9	0.1
Delay (s)	422.6	31.7		92.6	221.5		49.8	49.7	46.9	54.3	56.3	43.1
Level of Service	F	C		F	F		D	D	D	D	E	D
Approach Delay (s)		129.8			217.5			48.6			49.2	
Approach LOS		F			F			D			D	

Intersection Summary

HCM Average Control Delay	156.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	109.8	Sum of lost time (s)	46.1
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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
Frt	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	1339	10	40	1833	80	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	1339	10	40	1833	80	40	60	90	30	40	50
RTOR Reduction (vph)	0	0	4	0	0	17	0	82	0	0	0	46
Lane Group Flow (vph)	60	1339	6	40	1833	63	0	108	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	55.2	55.2	3.6	55.1	55.1		8.6		7.9	7.9	7.9
Effective Green, g (s)	3.7	55.2	55.2	3.6	55.1	55.1		8.6		7.9	7.9	7.9
Actuated g/C Ratio	0.04	0.60	0.60	0.04	0.60	0.60		0.09		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	2140	957	70	2136	955		306		145	153	137
v/s Ratio Prot	c0.03	0.38		0.02	c0.52			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	43.5	11.5	7.2	43.1	14.9	7.5		38.7		38.8	39.0	38.2
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)	96.7	12.1	7.2	53.9	18.5	7.5		39.5		39.5	39.9	38.3
Level of Service	F	B	A	D	B	A		D		D	D	D
Approach Delay (s)		15.6			18.8			39.5			39.1	
Approach LOS		B			B			D			D	

Intersection Summary

HCM Average Control Delay	19.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	91.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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)	248	1291	30	40	1598	860	20	50	30	340	50	156
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)	248	1291	30	40	1598	860	20	50	30	340	50	156
RTOR Reduction (vph)	0	2	0	0	0	320	0	0	27	0	0	0
Lane Group Flow (vph)	248	1319	0	40	1598	540	20	50	3	340	50	156
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)	10.5	63.3		3.9	56.7	56.7	1.8	9.5	9.5	13.7	21.4	106.4
Effective Green, g (s)	10.5	63.3		3.9	56.7	56.7	1.8	9.5	9.5	13.7	21.4	106.4
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)	339	3015		65	1886	844	30	316	141	442	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			0.10
v/c Ratio	0.73	0.44		0.62	0.85	0.64	0.67	0.16	0.02	0.77	0.13	0.10
Uniform Delay, d1	46.6	11.8		50.5	21.2	17.6	52.0	44.8	44.2	44.8	34.9	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	7.9	0.1		16.1	3.7	1.6	44.1	0.2	0.1	7.9	0.2	0.1
Delay (s)	54.5	11.9		66.6	24.9	19.2	96.1	45.0	44.3	52.7	35.1	0.1
Level of Service	D	B		E	C	B	F	D	D	D	D	A
Approach Delay (s)		18.6			23.6			55.0			36.1	
Approach LOS		B			C			D			D	

Intersection Summary

HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	106.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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
Frt	1.00	1.00	0.85		1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00			0.95	1.00
Satd. Flow (prot)	1770	5085	1583		5085	1583		3539			1770	1583
Flt Permitted	0.95	1.00	1.00		1.00	1.00		1.00			0.75	1.00
Satd. Flow (perm)	1770	5085	1583		5085	1583		3539			1398	1583
Volume (vph)	200	1401	10	0	2298	320	0	10	0	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)	200	1401	10	0	2298	320	0	10	0	110	0	210
RTOR Reduction (vph)	0	0	2	0	0	136	0	0	0	0	0	182
Lane Group Flow (vph)	200	1401	8	0	2298	184	0	10	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)	15.5	74.1	74.1		54.6	54.6		12.6			12.6	12.6
Effective Green, g (s)	15.5	74.1	74.1		54.6	54.6		12.6			12.6	12.6
Actuated g/C Ratio	0.16	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)	290	3979	1239		2932	913		471			186	211
v/s Ratio Prot	c0.11	0.28			c0.45			0.00				
v/s Ratio Perm			0.00			0.12					c0.08	0.02
v/c Ratio	0.69	0.35	0.01		0.78	0.20		0.02			0.59	0.13
Uniform Delay, d1	37.3	3.1	2.3		15.5	9.6		35.7			38.6	36.2
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	6.7	0.1	0.0		1.4	0.1		0.0			5.0	0.3
Delay (s)	44.0	3.1	2.3		16.9	9.7		35.7			43.6	36.5
Level of Service	D	A	A		B	A		D			D	D
Approach Delay (s)		8.2			16.0			35.7			38.9	
Approach LOS		A			B			D			D	

Intersection Summary

HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	94.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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
Frt	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	1719	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	1719	1583
Volume (vph)	150	1291	30	30	2648	190	20	30	10	110	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	1291	30	30	2648	190	20	30	10	110	30	100
RTOR Reduction (vph)	0	0	10	0	0	69	0	9	0	0	0	91
Lane Group Flow (vph)	150	1291	20	30	2648	121	20	31	0	68	72	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		9.7	9.7	9.7
Effective Green, g (s)	10.0	69.3	69.3	3.5	62.8	62.8	7.4	7.4		9.7	9.7	9.7
Actuated g/C Ratio	0.09	0.65	0.65	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)	167	3328	1036	58	3015	939	117	119		154	157	145
v/s Ratio Prot	c0.08	0.25		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	0.90	0.39	0.02	0.52	0.88	0.13	0.17	0.26		0.44	0.46	0.06
Uniform Delay, d1	47.4	8.5	6.4	50.4	18.3	9.5	46.4	46.6		45.5	45.6	43.9
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	41.2	0.1	0.0	7.6	3.2	0.1	0.7	1.2		2.0	2.1	0.2
Delay (s)	88.7	8.6	6.4	58.0	21.5	9.6	47.1	47.8		47.6	47.7	44.1
Level of Service	F	A	A	E	C	A	D	D		D	D	D
Approach Delay (s)		16.7			21.1			47.6			46.2	
Approach LOS		B			C			D			D	

Intersection Summary

HCM Average Control Delay	21.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	105.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

2030 Alternative 4 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	1481	10	20	2198	550	20	40	30	290	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	1481	10	20	2198	550	20	40	30	290	30	160
RTOR Reduction (vph)	0	0	4	0	0	183	0	24	0	0	0	139
Lane Group Flow (vph)	220	1481	6	20	2198	367	20	46	0	290	30	21
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	68.3	68.3	1.9	54.3	68.3	8.4	8.4		14.0	14.0	14.0
Effective Green, g (s)	15.9	68.3	68.3	1.9	54.3	68.3	8.4	8.4		14.0	14.0	14.0
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	3198	996	31	2543	996	137	135		443	240	204
v/s Ratio Prot	c0.12	0.29		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	0.46	0.01	0.65	0.86	0.37	0.15	0.34		0.65	0.12	0.10
Uniform Delay, d1	45.2	10.6	7.5	53.0	23.9	9.7	46.8	47.5		45.0	41.9	41.7
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	22.0	0.1	0.0	37.9	3.3	0.2	0.5	1.5		3.5	0.2	0.2
Delay (s)	67.2	10.7	7.5	90.9	27.2	10.0	47.2	49.0		48.5	42.1	42.0
Level of Service	E	B	A	F	C	A	D	D		D	D	D
Approach Delay (s)		17.9			24.3			48.6			45.9	
Approach LOS		B			C			D			D	

Intersection Summary

HCM Average Control Delay	24.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	108.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	SA
Agency/Co.	
Date Performed	4/06/2009
Analysis Time Period	PM Peak

Site Information

Intersection	Main Street/Olive Avenue
Jurisdiction	
Analysis Year	2030 Base Case+Project+Alt 4

Project ID

East/West Street: Olive Avenue | North/South Street: Main Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	71	176	52	42	162	70
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	63	156	52	61	136	
%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)	299		274		271		197	
% 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		0.2		0.2		0.3	
Prop. Right-Turns	0.2		0.3		0.2		0.0	
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	0.27		0.24		0.24		0.18	
hd, final value (s)	5.88		5.86		6.00		6.29	
x, final value	0.49		0.45		0.45		0.34	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	3.9		3.9		4.0		4.3	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	549		524		521		447	
Delay (s/veh)	14.35		13.51		13.84		12.55	
LOS	B		B		B		B	
Approach: Delay (s/veh)	14.35		13.51		13.84		12.55	
LOS	B		B		B		B	
Intersection Delay (s/veh)	13.65							
Intersection LOS	B							

ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	SA
Agency/Co.	
Date Performed	4/06/2009
Analysis Time Period	PM Peak

Site Information

Intersection	Lake Street/6th Street
Jurisdiction	
Analysis Year	2030 Base Case+Project+Alt 4

Project ID

East/West Street: 6th Street | North/South Street: Lake Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	86	70	34	10	80	30
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	33	325	20	40	294	
%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)	190		120		378		334	
% 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	0.5		0.1		0.1		0.1	
Prop. Right-Turns	0.2		0.3		0.1		0.0	
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	-0.0		-0.1		-0.0		0.0	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.17		0.11		0.34		0.30	
hd, final value (s)	6.13		6.19		5.45		5.55	
x, final value	0.32		0.21		0.57		0.52	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	4.1		4.2		3.4		3.6	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	440		370		628		584	
Delay (s/veh)	12.03		10.80		15.48		14.30	
LOS	B		B		C		B	
Approach: Delay (s/veh)	12.03		10.80		15.48		14.30	
LOS	B		B		C		B	
Intersection Delay (s/veh)	13.90							
Intersection LOS	B							

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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	SA
Agency/Co.	
Date Performed	4/06/2009
Analysis Time Period	PM Peak

Site Information

Intersection	Lake Street/Orange Avenue
Jurisdiction	
Analysis Year	2030 Base Case+Project+Alt 4

Project ID

East/West Street: Orange Avenue | North/South Street: Lake Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	75	299	73	154	345	153
%Thrus Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	84	121	164	44	225	88
%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)	447		652		369		357	
% 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

	Eastbound		Westbound		Northbound		Southbound	
Prop. Left-Turns	0.2		0.2		0.2		0.1	
Prop. Right-Turns	0.2		0.2		0.4		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	-0.1		-0.1		-0.2		-0.1	

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20		3.20	
x, initial	0.40		0.58		0.33		0.32	
hd, final value (s)	9.53		9.50		9.45		9.60	
x, final value	1.18		1.72		0.97		0.95	
Move-up time, m (s)	2.0		2.0		2.0		2.0	
Service Time, t_s (s)	7.5		7.5		7.5		7.6	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	447		652		381		374	
Delay (s/veh)	136.17		358.12		69.98		66.81	
LOS	F		F		F		F	
Approach: Delay (s/veh)	136.17		358.12		69.98		66.81	
LOS	F		F		F		F	
Intersection Delay (s/veh)	188.51							
Intersection LOS	F							

2030 Alternative 4 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	
Frt	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	4999		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	4999		1770	4945	
Volume (vph)	225	590	30	77	538	220	90	921	117	310	549	124
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)	225	590	30	77	538	220	90	921	117	310	549	124
RTOR Reduction (vph)	0	0	21	0	0	175	0	13	0	0	30	0
Lane Group Flow (vph)	225	590	9	77	538	45	90	1025	0	310	643	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)	16.7	30.0	30.0	7.3	20.6	20.6	7.9	27.1		21.3	40.5	
Effective Green, g (s)	16.7	30.0	30.0	7.3	20.6	20.6	7.9	27.1		21.3	40.5	
Actuated g/C Ratio	0.16	0.29	0.29	0.07	0.20	0.20	0.08	0.27		0.21	0.40	
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)	291	1044	467	127	717	321	137	1332		371	1969	
v/s Ratio Prot	c0.13	0.17		0.04	c0.15		0.05	c0.20		c0.18	0.13	
v/s Ratio Perm			0.01			0.03						
v/c Ratio	0.77	0.57	0.02	0.61	0.75	0.14	0.66	0.77		0.84	0.33	
Uniform Delay, d1	40.7	30.3	25.4	45.8	38.1	33.3	45.6	34.4		38.5	21.2	
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	12.0	0.7	0.0	7.9	4.4	0.2	10.8	2.7		14.9	0.1	
Delay (s)	52.7	31.0	25.4	53.7	42.6	33.5	56.4	37.2		53.5	21.3	
Level of Service	D	C	C	D	D	C	E	D		D	C	
Approach Delay (s)		36.6			41.2			38.7			31.4	
Approach LOS		D			D			D			C	

Intersection Summary

HCM Average Control Delay	36.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	101.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group