

4: First View St & Ocean View Ave

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	292	26	130	325	22	54
Future Volume (vph)	292	26	130	325	22	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3339		1678	3349	1728	1546
Flt Permitted	1.00		0.48	1.00	0.95	1.00
Satd. Flow (perm)	3339		849	3349	1728	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor (vph)	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	345	31	154	384	26	64
RTOR Reduction (vph)	5	0	0	0	0	55
Lane Group Flow (vph)	371	0	154	384	26	9
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Bus Blockages (#/hr)	1	1	0	1	0	0
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4
Actuated Green, G (s)	50.6		62.6	62.6	12.4	12.4
Effective Green, g (s)	50.6		62.6	62.6	12.4	12.4
Actuated g/C Ratio	0.60		0.74	0.74	0.15	0.15
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0		2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	1987		693	2466	252	225
v/s Ratio Prot	0.11		c0.02	0.11	c0.02	
v/s Ratio Perm			c0.15			0.01
v/c Ratio	0.19		0.22	0.16	0.10	0.04
Uniform Delay, d1	7.8		3.4	3.3	31.5	31.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.1	0.1	0.1	0.1
Delay (s)	8.0		3.5	3.5	31.6	31.2
Level of Service	A		A	A	C	C
Approach Delay (s)	8.0			3.5	31.4	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay			7.7		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.21			
Actuated Cycle Length (s)			85.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			41.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

6: Granby St & Ocean View Ave

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗↗
Traffic Volume (vph)	333	41	174	443	14	60
Future Volume (vph)	333	41	174	443	14	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3388	1516	3319	3421	1694	2668
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3388	1516	3319	3421	1694	2668
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	398	49	208	530	17	72
RTOR Reduction (vph)	0	32	0	0	0	0
Lane Group Flow (vph)	398	17	208	530	17	72
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	4	7
Permitted Phases		2				
Actuated Green, G (s)	17.6	17.6	10.9	34.5	5.2	5.2
Effective Green, g (s)	17.6	17.6	10.9	34.5	5.2	5.2
Actuated g/C Ratio	0.34	0.34	0.21	0.67	0.10	0.10
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1153	516	699	2282	170	268
v/s Ratio Prot	c0.12		0.06	c0.15	0.01	c0.03
v/s Ratio Perm		0.01				
v/c Ratio	0.35	0.03	0.30	0.23	0.10	0.27
Uniform Delay, d1	12.7	11.4	17.2	3.4	21.1	21.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.0	0.3	0.1	0.4	0.7
Delay (s)	13.0	11.4	17.5	3.5	21.5	22.2
Level of Service	B	B	B	A	C	C
Approach Delay (s)	12.8			7.4	22.1	
Approach LOS	B			A	C	
Intersection Summary						
HCM 2000 Control Delay			10.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.34			
Actuated Cycle Length (s)			51.7		Sum of lost time (s)	20.0
Intersection Capacity Utilization			44.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

8: Chesapeake Blvd & Ocean View Ave

2021 Existing Conditions

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	342	71	55	499	96	25
Future Volume (vph)	342	71	55	499	96	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3421	1531	1711	3421	1586	1419
Flt Permitted	1.00	1.00	0.46	1.00	0.95	1.00
Satd. Flow (perm)	3421	1531	828	3421	1586	1419
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor (vph)	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	405	84	65	590	114	30
RTOR Reduction (vph)	0	42	0	0	0	23
Lane Group Flow (vph)	405	42	65	590	114	7
Heavy Vehicles (%)	2%	2%	2%	2%	10%	10%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2	6			4
Actuated Green, G (s)	42.6	42.6	54.0	54.0	19.0	19.0
Effective Green, g (s)	42.6	42.6	54.0	54.0	19.0	19.0
Actuated g/C Ratio	0.50	0.50	0.64	0.64	0.22	0.22
Clearance Time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1714	767	592	2173	354	317
v/s Ratio Prot	0.12		0.01	c0.17	c0.07	
v/s Ratio Perm		0.03	0.06			0.00
v/c Ratio	0.24	0.05	0.11	0.27	0.32	0.02
Uniform Delay, d1	12.0	10.9	6.0	6.8	27.6	25.7
Progression Factor	1.00	1.00	0.33	0.46	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.1	0.3	2.4	0.1
Delay (s)	12.3	11.0	2.1	3.5	30.0	25.9
Level of Service	B	B	A	A	C	C
Approach Delay (s)	12.1			3.3	29.1	
Approach LOS	B			A	C	
Intersection Summary						
HCM 2000 Control Delay			9.5		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.32			
Actuated Cycle Length (s)			85.0		Sum of lost time (s)	20.0
Intersection Capacity Utilization			37.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

2021 Existing Conditions

10: Chesapeake St & Ocean View Ave

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	356	5	18	506	0	17	0	36	0	0	1
Future Volume (vph)	0	356	5	18	506	0	17	0	36	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00			1.00	
Frt		1.00		1.00	1.00			0.91			0.86	
Flt Protected		1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)		3414		1711	3408			1610			1589	
Flt Permitted		1.00		0.50	1.00			0.89			1.00	
Satd. Flow (perm)		3414		898	3408			1459			1589	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor (vph)	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	0	430	6	22	612	0	21	0	44	0	0	1
RTOR Reduction (vph)	0	1	0	0	0	0	0	39	0	0	1	0
Lane Group Flow (vph)	0	435	0	22	612	0	0	26	0	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		2			6			4			4	
Permitted Phases	2			6			4			4		
Actuated Green, G (s)		63.4		63.4	63.4			9.6			9.6	
Effective Green, g (s)		63.4		63.4	63.4			9.6			9.6	
Actuated g/C Ratio		0.75		0.75	0.75			0.11			0.11	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)		4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)		2546		669	2541			164			179	
v/s Ratio Prot		0.13			c0.18						0.00	
v/s Ratio Perm				0.02				c0.02				
v/c Ratio		0.17		0.03	0.24			0.16			0.00	
Uniform Delay, d1		3.1		2.8	3.3			34.1			33.4	
Progression Factor		3.74		2.42	2.16			1.00			1.00	
Incremental Delay, d2		0.1		0.1	0.2			0.6			0.0	
Delay (s)		11.9		6.9	7.5			34.7			33.4	
Level of Service		B		A	A			C			C	
Approach Delay (s)		11.9			7.4			34.7			33.4	
Approach LOS		B			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			10.7			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.23									
Actuated Cycle Length (s)			85.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			36.6%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

11: Cape View Ave & Ocean View Ave

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	431	7	74	442	9	90
Future Volume (vph)	431	7	74	442	9	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1783	1504	1711	1786	1694	1516
Flt Permitted	1.00	1.00	0.43	1.00	0.95	1.00
Satd. Flow (perm)	1783	1504	771	1786	1694	1516
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor (vph)	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	499	8	86	512	10	104
RTOR Reduction (vph)	0	3	0	0	0	92
Lane Group Flow (vph)	499	5	86	512	10	12
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Bus Blockages (#/hr)	0	2	0	2	0	0
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	2	4	
Permitted Phases		2	2			4
Actuated Green, G (s)	56.0	56.0	59.8	56.0	10.2	10.2
Effective Green, g (s)	56.0	56.0	59.8	56.0	10.2	10.2
Actuated g/C Ratio	0.66	0.66	0.70	0.66	0.12	0.12
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0	2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	1174	990	584	1176	203	181
v/s Ratio Prot	0.28		c0.01	c0.29	0.01	
v/s Ratio Perm		0.00	0.10			c0.01
v/c Ratio	0.43	0.01	0.15	0.44	0.05	0.07
Uniform Delay, d1	6.9	5.0	6.4	6.9	33.1	33.2
Progression Factor	1.31	1.42	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.0	0.0	1.2	0.1	0.1
Delay (s)	10.1	7.0	6.5	8.1	33.2	33.3
Level of Service	B	A	A	A	C	C
Approach Delay (s)	10.1			7.9	33.3	
Approach LOS	B			A	C	
Intersection Summary						
HCM 2000 Control Delay			11.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.37			
Actuated Cycle Length (s)			85.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			50.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

13: Grove Ave & Ocean View Ave

2021 Existing Conditions

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	413	2	4	489	10	2
Future Volume (Veh/h)	413	2	4	489	10	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	473	2	5	560	11	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				1049		
pX, platoon unblocked						
vC, conflicting volume			475		764	238
vC1, stage 1 conf vol					474	
vC2, stage 2 conf vol					290	
vCu, unblocked vol			475		764	238
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			1083		533	770
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	315	160	5	280	280	13
Volume Left	0	0	5	0	0	11
Volume Right	0	2	0	0	0	2
cSH	1700	1700	1083	1700	1700	560
Volume to Capacity	0.19	0.09	0.00	0.16	0.16	0.02
Queue Length 95th (ft)	0	0	0	0	0	2
Control Delay (s)	0.0	0.0	8.3	0.0	0.0	11.6
Lane LOS			A			B
Approach Delay (s)	0.0		0.1			11.6
Approach LOS						B
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			24.9%	ICU Level of Service		A
Analysis Period (min)			15			

17: Sturgis St & Ocean View Ave

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	403	15	10	486	14	21
Future Volume (vph)	0	403	15	10	486	14	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0	5.0	
Lane Util. Factor		0.95		1.00	0.95	1.00	
Frt		0.99		1.00	1.00	0.92	
Flt Protected		1.00		0.95	1.00	0.98	
Satd. Flow (prot)		3370		1711	3212	1560	
Flt Permitted		1.00		0.46	1.00	0.98	
Satd. Flow (perm)		3370		835	3212	1560	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor (vph)	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	0	493	18	12	594	17	26
RTOR Reduction (vph)	0	2	0	0	0	23	0
Lane Group Flow (vph)	0	509	0	12	594	20	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	2	0	0
Parking (#/hr)					3		10
Turn Type	Perm	NA		Perm	NA	Prot	
Protected Phases		2			6	4	
Permitted Phases	2			6			
Actuated Green, G (s)		66.0		66.0	66.0	9.0	
Effective Green, g (s)		66.0		66.0	66.0	9.0	
Actuated g/C Ratio		0.78		0.78	0.78	0.11	
Clearance Time (s)		5.0		5.0	5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	2.5	
Lane Grp Cap (vph)		2616		648	2494	165	
v/s Ratio Prot		0.15			c0.18	c0.01	
v/s Ratio Perm				0.01			
v/c Ratio		0.19		0.02	0.24	0.12	
Uniform Delay, d1		2.5		2.2	2.6	34.4	
Progression Factor		3.03		1.25	1.75	1.00	
Incremental Delay, d2		0.2		0.1	0.2	0.2	
Delay (s)		7.7		2.7	4.8	34.6	
Level of Service		A		A	A	C	
Approach Delay (s)		7.7			4.7	34.6	
Approach LOS		A			A	C	
Intersection Summary							
HCM 2000 Control Delay		7.2		HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio		0.22					
Actuated Cycle Length (s)		85.0		Sum of lost time (s)		10.0	
Intersection Capacity Utilization		31.4%		ICU Level of Service		A	
Analysis Period (min)		15					

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2021 Existing Conditions

20: Pleasant Ave & Ocean View Ave/Shore Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	757	6	65	361	39	7	4	71	77	2	28
Future Volume (vph)	10	757	6	65	361	39	7	4	71	77	2	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1728	3437		1678	3355	1489	1678	1517		1728	1562	
Flt Permitted	0.51	1.00		0.22	1.00	1.00	0.73	1.00		0.70	1.00	
Satd. Flow (perm)	931	3437		388	3355	1489	1298	1517		1275	1562	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor (vph)	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	11	858	7	74	409	44	8	5	81	87	2	32
RTOR Reduction (vph)	0	1	0	0	0	21	0	70	0	0	25	0
Lane Group Flow (vph)	11	864	0	74	409	23	8	16	0	87	9	0
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	4%	4%	4%	1%	1%	1%
Bus Blockages (#/hr)	0	2	2	0	0	2	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	42.9	41.6		52.7	46.5	46.5	20.2	12.6		20.2	18.9	
Effective Green, g (s)	42.9	41.6		52.7	46.5	46.5	20.2	12.6		20.2	18.9	
Actuated g/C Ratio	0.48	0.46		0.59	0.52	0.52	0.22	0.14		0.22	0.21	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	455	1588		316	1733	769	296	212		324	328	
v/s Ratio Prot	0.00	c0.25		c0.02	0.12		0.00	0.01		c0.02	0.01	
v/s Ratio Perm	0.01			0.12		0.02	0.01			c0.04		
v/c Ratio	0.02	0.54		0.23	0.24	0.03	0.03	0.08		0.27	0.03	
Uniform Delay, d1	12.4	17.4		9.6	12.0	10.7	27.2	33.6		28.5	28.2	
Progression Factor	1.00	1.00		0.78	0.52	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.3		0.4	0.3	0.1	0.0	0.2		0.4	0.0	
Delay (s)	12.4	18.7		7.8	6.6	10.7	27.2	33.8		29.0	28.3	
Level of Service	B	B		A	A	B	C	C		C	C	
Approach Delay (s)		18.7			7.1			33.2			28.8	
Approach LOS		B			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			16.5			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			22.0			
Intersection Capacity Utilization			52.9%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2021 Existing Conditions

22: Pretty Lake Ave & Shore Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	876	18	20	441	80	7	1	33	130	0	17
Future Volume (vph)	11	876	18	20	441	80	7	1	33	130	0	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1728	3444		1678	3355	1501		1675	1487	1728	1546	
Flt Permitted	0.47	1.00		0.23	1.00	1.00		0.86	1.00	0.75	1.00	
Satd. Flow (perm)	848	3444		399	3355	1501		1496	1487	1367	1546	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor (vph)	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	13	1004	21	23	505	92	8	1	38	149	0	19
RTOR Reduction (vph)	0	1	0	0	0	36	0	0	0	0	15	0
Lane Group Flow (vph)	13	1024	0	23	505	56	0	9	38	149	4	0
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	5%	5%	5%	1%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2		2	4		4	8		
Actuated Green, G (s)	55.0	53.9		57.2	55.0	55.0		17.9	17.9	17.9	17.9	
Effective Green, g (s)	55.0	53.9		57.2	55.0	55.0		17.9	17.9	17.9	17.9	
Actuated g/C Ratio	0.61	0.60		0.64	0.61	0.61		0.20	0.20	0.20	0.20	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	528	2062		284	2050	917		297	295	271	307	
v/s Ratio Prot	0.00	c0.30		c0.00	0.15						0.00	
v/s Ratio Perm	0.01			0.05		0.04		0.01	0.03	c0.11		
v/c Ratio	0.02	0.50		0.08	0.25	0.06		0.03	0.13	0.55	0.01	
Uniform Delay, d1	6.9	10.3		6.7	8.0	7.1		29.1	29.6	32.4	29.0	
Progression Factor	0.99	0.68		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.8		0.0	0.3	0.1		0.0	0.2	2.3	0.0	
Delay (s)	6.8	7.8		6.8	8.3	7.2		29.1	29.8	34.7	29.0	
Level of Service	A	A		A	A	A		C	C	C	C	
Approach Delay (s)		7.8			8.1			29.7			34.1	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			10.8				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			57.3%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

25: Norfolk Ave & Ocean View Ave

2021 Existing Conditions

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↱		↱	↑↑	↱			
Traffic Volume (veh/h)	358	3	12	703	1	15		
Future Volume (Veh/h)	358	3	12	703	1	15		
Sign Control	Free			Free	Stop			
Grade	0%			0%	0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly flow rate (vph)	428	4	14	841	1	18		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None		TWLTL					
Median storage veh			2					
Upstream signal (ft)	1312		1015					
pX, platoon unblocked					0.97			
vC, conflicting volume			432		878	216		
vC1, stage 1 conf vol					430			
vC2, stage 2 conf vol					448			
vCu, unblocked vol			432		815	216		
tC, single (s)			4.1		6.9	7.0		
tC, 2 stage (s)					5.9			
tF (s)			2.2		3.6	3.4		
p0 queue free %			99		100	98		
cM capacity (veh/h)			1124		499	776		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1		
Volume Total	285	147	14	420	420	19		
Volume Left	0	0	14	0	0	1		
Volume Right	0	4	0	0	0	18		
cSH	1700	1700	1124	1700	1700	754		
Volume to Capacity	0.17	0.09	0.01	0.25	0.25	0.03		
Queue Length 95th (ft)	0	0	1	0	0	2		
Control Delay (s)	0.0	0.0	8.2	0.0	0.0	9.9		
Lane LOS			A		A			
Approach Delay (s)	0.0		0.1			9.9		
Approach LOS					A			
Intersection Summary								
Average Delay			0.2					
Intersection Capacity Utilization			31.4%		ICU Level of Service			
Analysis Period (min)			15					
			A					

4: First View St & Ocean View Ave

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↱	↑↑	↱	↱
Traffic Volume (vph)	77	21	141	785	266	166
Future Volume (vph)	77	21	141	785	266	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3303		1711	3414	1728	1546
Flt Permitted	1.00		0.61	1.00	0.95	1.00
Satd. Flow (perm)	3303		1101	3414	1728	1546
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor (vph)	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	86	24	158	881	299	186
RTOR Reduction (vph)	12	0	0	0	0	144
Lane Group Flow (vph)	98	0	158	881	299	42
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Bus Blockages (#/hr)	1	1	0	1	0	0
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4
Actuated Green, G (s)	43.2		55.8	55.8	19.2	19.2
Effective Green, g (s)	43.2		55.8	55.8	19.2	19.2
Actuated g/C Ratio	0.51		0.66	0.66	0.23	0.23
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0		2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	1678		777	2241	390	349
v/s Ratio Prot	0.03		0.02	c0.26	c0.17	
v/s Ratio Perm			0.12			0.03
v/c Ratio	0.06		0.20	0.39	0.77	0.12
Uniform Delay, d1	10.6		5.7	6.8	30.8	26.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		0.0	0.5	8.4	0.1
Delay (s)	10.7		5.7	7.3	39.2	26.3
Level of Service	B		A	A	D	C
Approach Delay (s)	10.7			7.0	34.2	
Approach LOS	B			A	C	
Intersection Summary						
HCM 2000 Control Delay			15.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.52			
Actuated Cycle Length (s)			85.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			48.4%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

6: Granby St & Ocean View Ave

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗↗
Traffic Volume (vph)	346	50	207	714	315	271
Future Volume (vph)	346	50	207	714	315	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3388	1516	3351	3455	1728	2720
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3388	1516	3351	3455	1728	2720
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor (vph)	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	409	59	245	845	373	321
RTOR Reduction (vph)	0	44	0	0	0	0
Lane Group Flow (vph)	409	15	245	845	373	321
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	4	7
Permitted Phases		2				
Actuated Green, G (s)	17.4	17.4	11.6	35.0	20.4	14.6
Effective Green, g (s)	17.4	17.4	11.6	35.0	20.4	14.6
Actuated g/C Ratio	0.26	0.26	0.17	0.52	0.30	0.22
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	874	391	576	1794	523	589
v/s Ratio Prot	0.12		0.07	c0.24	c0.22	0.12
v/s Ratio Perm		0.01				
v/c Ratio	0.47	0.04	0.43	0.47	0.71	0.54
Uniform Delay, d1	21.1	18.7	24.9	10.3	20.9	23.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.1	0.7	0.3	4.9	1.3
Delay (s)	21.6	18.8	25.6	10.6	25.8	24.7
Level of Service	C	B	C	B	C	C
Approach Delay (s)	21.3			14.0	25.3	
Approach LOS	C			B	C	
Intersection Summary						
HCM 2000 Control Delay			19.0		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.62			
Actuated Cycle Length (s)			67.4		Sum of lost time (s)	20.0
Intersection Capacity Utilization			55.0%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

8: Chesapeake Blvd & Ocean View Ave

2021 Existing Conditions

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↵	↑↑	↵	↑
Traffic Volume (vph)	489	159	67	581	326	55
Future Volume (vph)	489	159	67	581	326	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3455	1546	1728	3455	1728	1546
Flt Permitted	1.00	1.00	0.34	1.00	0.95	1.00
Satd. Flow (perm)	3455	1546	618	3455	1728	1546
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor (vph)	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	591	192	81	702	394	66
RTOR Reduction (vph)	0	107	0	0	0	51
Lane Group Flow (vph)	591	85	81	702	394	15
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2	6			4
Actuated Green, G (s)	37.8	37.8	49.6	49.6	19.0	19.0
Effective Green, g (s)	37.8	37.8	49.6	49.6	19.0	19.0
Actuated g/C Ratio	0.44	0.44	0.58	0.58	0.22	0.22
Clearance Time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1536	687	449	2016	386	345
v/s Ratio Prot	c0.17		0.01	c0.20	c0.23	
v/s Ratio Perm		0.06	0.09			0.01
v/c Ratio	0.38	0.12	0.18	0.35	1.02	0.04
Uniform Delay, d1	15.8	13.9	8.2	9.3	33.0	25.9
Progression Factor	1.00	1.00	0.56	0.76	1.00	1.00
Incremental Delay, d2	0.7	0.4	0.3	0.5	51.2	0.2
Delay (s)	16.5	14.2	4.9	7.5	84.2	26.1
Level of Service	B	B	A	A	F	C
Approach Delay (s)	16.0			7.2	75.8	
Approach LOS	B			A	E	
Intersection Summary						
HCM 2000 Control Delay			26.2		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.57			
Actuated Cycle Length (s)			85.0		Sum of lost time (s)	20.0
Intersection Capacity Utilization			53.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

2021 Existing Conditions

10: Chesapeake St & Ocean View Ave

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	506	31	31	597	2	30	1	62	0	0	5
Future Volume (vph)	1	506	31	31	597	2	30	1	62	0	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.91			0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)	1745	3459		1745	3474			1644			1589	
Flt Permitted	0.39	1.00		0.42	1.00			0.89			1.00	
Satd. Flow (perm)	718	3459		769	3474			1487			1589	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor (vph)	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	1	580	36	36	684	2	34	1	71	0	0	6
RTOR Reduction (vph)	0	4	0	0	0	0	0	63	0	0	5	0
Lane Group Flow (vph)	1	612	0	36	686	0	0	43	0	0	1	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		2			6			4			4	
Permitted Phases	2			6			4			4		
Actuated Green, G (s)	63.3	63.3		63.3	63.3			9.7			9.7	
Effective Green, g (s)	63.3	63.3		63.3	63.3			9.7			9.7	
Actuated g/C Ratio	0.74	0.74		0.74	0.74			0.11			0.11	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)	534	2575		572	2587			169			181	
v/s Ratio Prot		0.18			c0.20						0.00	
v/s Ratio Perm	0.00			0.05				c0.03				
v/c Ratio	0.00	0.24		0.06	0.27			0.26			0.00	
Uniform Delay, d1	2.8	3.4		2.9	3.5			34.4			33.4	
Progression Factor	2.55	3.31		2.56	2.41			1.00			1.00	
Incremental Delay, d2	0.0	0.2		0.2	0.2			1.1			0.0	
Delay (s)	7.1	11.4		7.6	8.6			35.4			33.4	
Level of Service	A	B		A	A			D			C	
Approach Delay (s)		11.4			8.5			35.4			33.4	
Approach LOS		B			A			D			C	
Intersection Summary												
HCM 2000 Control Delay			11.8			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.26									
Actuated Cycle Length (s)			85.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			51.1%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

11: Cape View Ave & Ocean View Ave

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	482	26	147	611	12	147
Future Volume (vph)	482	26	147	611	12	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1818	1533	1728	1804	1728	1546
Flt Permitted	1.00	1.00	0.35	1.00	0.95	1.00
Satd. Flow (perm)	1818	1533	635	1804	1728	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor (vph)	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	570	31	174	723	14	174
RTOR Reduction (vph)	0	13	0	0	0	145
Lane Group Flow (vph)	570	18	174	723	14	29
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	2	0	2	0	0
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	2	4	
Permitted Phases		2	2			4
Actuated Green, G (s)	50.0	50.0	55.6	50.0	14.4	14.4
Effective Green, g (s)	50.0	50.0	55.6	50.0	14.4	14.4
Actuated g/C Ratio	0.59	0.59	0.65	0.59	0.17	0.17
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0	2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	1069	901	487	1061	292	261
v/s Ratio Prot	0.31		c0.02	c0.40	0.01	
v/s Ratio Perm		0.01	0.21			c0.02
v/c Ratio	0.53	0.02	0.36	0.68	0.05	0.11
Uniform Delay, d1	10.5	7.3	12.3	12.0	29.6	29.9
Progression Factor	1.27	2.06	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.0	0.2	3.5	0.0	0.1
Delay (s)	15.3	15.1	12.5	15.6	29.6	30.0
Level of Service	B	B	B	B	C	C
Approach Delay (s)	15.2			15.0	30.0	
Approach LOS	B			B	C	
Intersection Summary						
HCM 2000 Control Delay			16.7		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.54			
Actuated Cycle Length (s)			85.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			57.7%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

13: Grove Ave & Ocean View Ave

2021 Existing Conditions

							
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations							
Traffic Volume (veh/h)	575	13	9	653	4	10	
Future Volume (Veh/h)	575	13	9	653	4	10	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	
Hourly flow rate (vph)	645	15	10	733	4	11	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLTL			TWLTL			
Median storage veh)	2			2			
Upstream signal (ft)				1049			
pX, platoon unblocked							
vC, conflicting volume			660		1039	330	
vC1, stage 1 conf vol					652		
vC2, stage 2 conf vol					386		
vCu, unblocked vol			660		1039	330	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			99		99	98	
cM capacity (veh/h)			931		427	672	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	
Volume Total	430	230	10	366	366	15	
Volume Left	0	0	10	0	0	4	
Volume Right	0	15	0	0	0	11	
cSH	1700	1700	931	1700	1700	583	
Volume to Capacity	0.25	0.14	0.01	0.22	0.22	0.03	
Queue Length 95th (ft)	0	0	1	0	0	2	
Control Delay (s)	0.0	0.0	8.9	0.0	0.0	11.3	
Lane LOS			A				B
Approach Delay (s)	0.0		0.1			11.3	
Approach LOS						B	
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization			29.9%	ICU Level of Service		A	
Analysis Period (min)			15				

17: Sturgis St & Ocean View Ave

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	1	482	21	22	616	18	24
Future Volume (vph)	1	482	21	22	616	18	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	
Frt	1.00	0.99		1.00	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	1728	3433		1728	3243	1659	
Flt Permitted	0.37	1.00		0.43	1.00	0.98	
Satd. Flow (perm)	680	3433		777	3243	1659	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor (vph)	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	1	570	25	26	729	21	28
RTOR Reduction (vph)	0	2	0	0	0	25	0
Lane Group Flow (vph)	1	593	0	26	729	24	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	2	0	0
Parking (#/hr)					3		10
Turn Type	Perm	NA		Perm	NA	Prot	
Protected Phases		2			6	4	
Permitted Phases	2			6			
Actuated Green, G (s)	66.0	66.0		66.0	66.0	9.0	
Effective Green, g (s)	66.0	66.0		66.0	66.0	9.0	
Actuated g/C Ratio	0.78	0.78		0.78	0.78	0.11	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	2.5	
Lane Grp Cap (vph)	528	2665		603	2518	175	
v/s Ratio Prot		0.17			c0.22	c0.01	
v/s Ratio Perm	0.00			0.03			
v/c Ratio	0.00	0.22		0.04	0.29	0.14	
Uniform Delay, d1	2.1	2.6		2.2	2.7	34.5	
Progression Factor	3.55	3.24		0.69	1.08	1.00	
Incremental Delay, d2	0.0	0.2		0.1	0.2	0.3	
Delay (s)	7.6	8.5		1.6	3.2	34.7	
Level of Service	A	A		A	A	C	
Approach Delay (s)		8.5			3.1	34.7	
Approach LOS		A			A	C	
Intersection Summary							
HCM 2000 Control Delay		6.5		HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio		0.27					
Actuated Cycle Length (s)		85.0		Sum of lost time (s)		10.0	
Intersection Capacity Utilization		36.8%		ICU Level of Service		A	
Analysis Period (min)		15					
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

2021 Existing Conditions

20: Pleasant Ave & Ocean View Ave/Shore Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	662	11	147	939	86	24	7	73	90	5	25
Future Volume (vph)	23	662	11	147	939	86	24	7	73	90	5	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	3468		1728	3455	1533	1728	1570		1745	1610	
Flt Permitted	0.23	1.00		0.27	1.00	1.00	0.73	1.00		0.70	1.00	
Satd. Flow (perm)	424	3468		498	3455	1533	1337	1570		1282	1610	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor (vph)	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	26	751	12	167	1065	98	27	8	83	102	6	28
RTOR Reduction (vph)	0	1	0	0	0	43	0	75	0	0	24	0
Lane Group Flow (vph)	26	762	0	167	1065	55	27	16	0	102	10	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	2	2	0	0	2	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	52.5	49.8		64.2	56.5	56.5	18.8	10.2		18.8	14.4	
Effective Green, g (s)	52.5	49.8		64.2	56.5	56.5	18.8	10.2		18.8	14.4	
Actuated g/C Ratio	0.52	0.50		0.64	0.56	0.56	0.19	0.10		0.19	0.14	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	258	1727		435	1952	866	268	160		280	231	
v/s Ratio Prot	0.00	0.22		c0.04	c0.31		0.00	0.01		c0.03	0.01	
v/s Ratio Perm	0.05			0.21		0.04	c0.01			c0.04		
v/c Ratio	0.10	0.44		0.38	0.55	0.06	0.10	0.10		0.36	0.04	
Uniform Delay, d1	11.7	16.1		8.3	13.7	9.8	33.5	40.7		35.0	36.9	
Progression Factor	1.00	1.00		0.98	0.63	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.8		0.5	1.0	0.1	0.2	0.3		0.8	0.1	
Delay (s)	11.9	17.0		8.6	9.5	9.9	33.7	41.0		35.8	36.9	
Level of Service	B	B		A	A	A	C	D		D	D	
Approach Delay (s)		16.8			9.5			39.3			36.1	
Approach LOS		B			A			D			D	
Intersection Summary												
HCM 2000 Control Delay			14.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			22.0		
Intersection Capacity Utilization			59.0%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2021 Existing Conditions

22: Pretty Lake Ave & Shore Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	773	10	41	1138	219	8	0	14	153	5	26
Future Volume (vph)	42	773	10	41	1138	219	8	0	14	153	5	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1745	3483		1728	3455	1546		1745	1561	1728	1592	
Flt Permitted	0.17	1.00		0.30	1.00	1.00		0.73	1.00	0.75	1.00	
Satd. Flow (perm)	317	3483		541	3455	1546		1349	1561	1367	1592	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor (vph)	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	47	859	11	46	1264	243	9	0	16	170	6	29
RTOR Reduction (vph)	0	1	0	0	0	83	0	0	0	0	25	0
Lane Group Flow (vph)	47	869	0	46	1264	160	0	9	16	170	10	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2		2	4		4	8		
Actuated Green, G (s)	69.0	65.7		69.0	65.7	65.7		15.0	15.0	15.0	15.0	
Effective Green, g (s)	69.0	65.7		69.0	65.7	65.7		15.0	15.0	15.0	15.0	
Actuated g/C Ratio	0.69	0.66		0.69	0.66	0.66		0.15	0.15	0.15	0.15	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	265	2288		412	2269	1015		202	234	205	238	
v/s Ratio Prot	c0.01	0.25		0.00	c0.37						0.01	
v/s Ratio Perm	0.12			0.07		0.10		0.01	0.01	c0.12		
v/c Ratio	0.18	0.38		0.11	0.56	0.16		0.04	0.07	0.83	0.04	
Uniform Delay, d1	6.1	7.8		5.1	9.3	6.6		36.4	36.5	41.3	36.4	
Progression Factor	0.63	0.51		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.5		0.0	1.0	0.3		0.1	0.1	23.3	0.1	
Delay (s)	3.9	4.4		5.2	10.3	6.9		36.5	36.6	64.6	36.4	
Level of Service	A	A		A	B	A		D	D	E	D	
Approach Delay (s)		4.4			9.6			36.6			59.8	
Approach LOS		A			A			D			E	
Intersection Summary												
HCM 2000 Control Delay		11.9			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			16.0				
Intersection Capacity Utilization		63.6%			ICU Level of Service			B				
Analysis Period (min)		15										

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

25: Norfolk Ave & Ocean View Ave

2021 Existing Conditions

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	749	8	31	707	1	35
Future Volume (Veh/h)	749	8	31	707	1	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	858	9	36	810	1	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		TWLTL			
Median storage veh			2			
Upstream signal (ft)	1312		1015			
pX, platoon unblocked			0.99		0.99	0.99
vC, conflicting volume			867		1340	434
vC1, stage 1 conf vol					862	
vC2, stage 2 conf vol					477	
vCu, unblocked vol			837		1291	398
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			95		100	93
cM capacity (veh/h)			788		339	599
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	572	295	36	405	405	41
Volume Left	0	0	36	0	0	1
Volume Right	0	9	0	0	0	40
cSH	1700	1700	788	1700	1700	588
Volume to Capacity	0.34	0.17	0.05	0.24	0.24	0.07
Queue Length 95th (ft)	0	0	4	0	0	6
Control Delay (s)	0.0	0.0	9.8	0.0	0.0	11.6
Lane LOS			A	B		
Approach Delay (s)	0.0		0.4			11.6
Approach LOS						B
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			38.3%	ICU Level of Service		A
Analysis Period (min)			15			

4: First View St & Ocean View Ave

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	355	32	158	395	27	65
Future Volume (vph)	355	32	158	395	27	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3339		1678	3349	1728	1546
Flt Permitted	1.00		0.45	1.00	0.95	1.00
Satd. Flow (perm)	3339		796	3349	1728	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor (vph)	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	420	38	187	467	32	77
RTOR Reduction (vph)	5	0	0	0	0	67
Lane Group Flow (vph)	453	0	187	467	32	10
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Bus Blockages (#/hr)	1	1	0	1	0	0
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4
Actuated Green, G (s)	65.1		77.6	77.6	12.4	12.4
Effective Green, g (s)	65.1		77.6	77.6	12.4	12.4
Actuated g/C Ratio	0.65		0.78	0.78	0.12	0.12
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0		2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	2173		683	2598	214	191
v/s Ratio Prot	0.14		c0.02	0.14	c0.02	
v/s Ratio Perm			c0.19			0.01
v/c Ratio	0.21		0.27	0.18	0.15	0.05
Uniform Delay, d1	7.0		3.0	2.9	39.1	38.6
Progression Factor	1.00		1.80	1.76	1.00	1.00
Incremental Delay, d2	0.2		0.1	0.1	0.2	0.1
Delay (s)	7.3		5.5	5.3	39.3	38.7
Level of Service	A		A	A	D	D
Approach Delay (s)	7.3			5.3	38.9	
Approach LOS	A			A	D	
Intersection Summary						
HCM 2000 Control Delay			9.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.27			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			43.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

6: Granby St & Ocean View Ave

2031 No Build Conditions

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↘	↗↗
Traffic Volume (vph)	404	50	211	538	17	73
Future Volume (vph)	404	50	211	538	17	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3388	1516	3319	3421	1694	2668
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3388	1516	3319	3421	1694	2668
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	483	60	252	643	20	87
RTOR Reduction (vph)	0	24	0	0	0	0
Lane Group Flow (vph)	483	36	252	643	20	87
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	4	7
Permitted Phases		2				
Actuated Green, G (s)	59.7	59.7	13.7	79.4	8.6	8.6
Effective Green, g (s)	59.7	59.7	13.7	79.4	8.6	8.6
Actuated g/C Ratio	0.60	0.60	0.14	0.79	0.09	0.09
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	2022	905	454	2716	145	229
v/s Ratio Prot	0.14		c0.08	c0.19	0.01	c0.03
v/s Ratio Perm		0.02				
v/c Ratio	0.24	0.04	0.56	0.24	0.14	0.38
Uniform Delay, d1	9.5	8.3	40.3	2.6	42.3	43.2
Progression Factor	0.59	0.41	1.17	0.84	1.00	1.00
Incremental Delay, d2	0.3	0.1	1.8	0.2	0.6	1.4
Delay (s)	5.9	3.5	49.1	2.4	42.9	44.6
Level of Service	A	A	D	A	D	D
Approach Delay (s)	5.6			15.5	44.3	
Approach LOS	A			B	D	
Intersection Summary						
HCM 2000 Control Delay			14.1		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.32			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	20.0
Intersection Capacity Utilization			44.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

8: Chesapeake Blvd & Ocean View Ave

2031 No Build Conditions

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	415	86	67	606	117	31
Future Volume (vph)	415	86	67	606	117	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3421	1531	1711	3421	1586	1419
Flt Permitted	1.00	1.00	0.43	1.00	0.95	1.00
Satd. Flow (perm)	3421	1531	767	3421	1586	1419
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor (vph)	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	491	102	79	717	138	37
RTOR Reduction (vph)	0	43	0	0	0	30
Lane Group Flow (vph)	491	59	79	717	138	7
Heavy Vehicles (%)	2%	2%	2%	2%	10%	10%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2	6			4
Actuated Green, G (s)	57.4	57.4	69.0	69.0	19.0	19.0
Effective Green, g (s)	57.4	57.4	69.0	69.0	19.0	19.0
Actuated g/C Ratio	0.57	0.57	0.69	0.69	0.19	0.19
Clearance Time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1963	878	591	2360	301	269
v/s Ratio Prot	0.14		0.01	c0.21	c0.09	
v/s Ratio Perm		0.04	0.08			0.00
v/c Ratio	0.25	0.07	0.13	0.30	0.46	0.03
Uniform Delay, d1	10.6	9.4	5.2	6.1	35.9	33.0
Progression Factor	0.69	0.86	1.55	1.69	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.1	0.3	5.0	0.2
Delay (s)	7.6	8.2	8.2	10.6	40.9	33.1
Level of Service	A	A	A	B	D	C
Approach Delay (s)	7.7			10.4	39.3	
Approach LOS	A			B	D	
Intersection Summary						
HCM 2000 Control Delay			12.6		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.37			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	20.0
Intersection Capacity Utilization			39.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

2031 No Build Conditions

10: Chesapeake St & Ocean View Ave

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	433	7	22	615	0	21	0	44	0	0	1
Future Volume (vph)	0	433	7	22	615	0	21	0	44	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00			1.00	
Frt		1.00		1.00	1.00			0.91			0.86	
Flt Protected		1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)		3413		1711	3408			1610			1589	
Flt Permitted		1.00		0.46	1.00			0.89			1.00	
Satd. Flow (perm)		3413		823	3408			1459			1589	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	0	518	8	26	735	0	25	0	53	0	0	1
RTOR Reduction (vph)	0	1	0	0	0	0	0	47	0	0	1	0
Lane Group Flow (vph)	0	525	0	26	735	0	0	31	0	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		2			6			4			4	
Permitted Phases	2			6			4			4		
Actuated Green, G (s)		77.0		77.0	77.0			11.0			11.0	
Effective Green, g (s)		77.0		77.0	77.0			11.0			11.0	
Actuated g/C Ratio		0.77		0.77	0.77			0.11			0.11	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)		4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)		2628		633	2624			160			174	
v/s Ratio Prot		0.15			c0.22						0.00	
v/s Ratio Perm				0.03				c0.02				
v/c Ratio		0.20		0.04	0.28			0.19			0.00	
Uniform Delay, d1		3.1		2.7	3.4			40.5			39.6	
Progression Factor		0.11		0.46	0.52			1.00			1.00	
Incremental Delay, d2		0.2		0.1	0.3			0.8			0.0	
Delay (s)		0.5		1.4	2.0			41.3			39.6	
Level of Service		A		A	A			D			D	
Approach Delay (s)		0.5			2.0			41.3			39.6	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM 2000 Control Delay			3.7			HCM 2000 Level of Service				A		
HCM 2000 Volume to Capacity ratio			0.27									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			41.0%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

11: Cape View Ave & Ocean View Ave

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	524	9	89	537	11	109
Future Volume (vph)	524	9	89	537	11	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1783	1504	1711	1786	1694	1516
Flt Permitted	1.00	1.00	0.36	1.00	0.95	1.00
Satd. Flow (perm)	1783	1504	651	1786	1694	1516
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor (vph)	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	607	10	103	622	13	126
RTOR Reduction (vph)	0	3	0	0	0	111
Lane Group Flow (vph)	607	7	103	622	13	15
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Bus Blockages (#/hr)	0	2	0	2	0	0
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	2	4	
Permitted Phases		2	2			4
Actuated Green, G (s)	67.7	67.7	72.8	67.7	12.2	12.2
Effective Green, g (s)	67.7	67.7	72.8	67.7	12.2	12.2
Actuated g/C Ratio	0.68	0.68	0.73	0.68	0.12	0.12
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0	2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	1207	1018	527	1209	206	184
v/s Ratio Prot	0.34		c0.01	c0.35	0.01	
v/s Ratio Perm		0.00	0.13			c0.01
v/c Ratio	0.50	0.01	0.20	0.51	0.06	0.08
Uniform Delay, d1	7.9	5.2	4.7	8.0	38.8	38.9
Progression Factor	2.15	2.71	0.97	1.50	1.00	1.00
Incremental Delay, d2	1.5	0.0	0.1	1.6	0.1	0.1
Delay (s)	18.5	14.2	4.6	13.5	38.9	39.1
Level of Service	B	B	A	B	D	D
Approach Delay (s)	18.5			12.3	39.1	
Approach LOS	B			B	D	
Intersection Summary						
HCM 2000 Control Delay			17.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.43			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			56.6%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis 13: Grove Ave & Ocean View Ave

2031 No Build Conditions

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (veh/h)	501	2	4	594	12	2
Future Volume (Veh/h)	501	2	4	594	12	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	574	2	5	681	14	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL		TWLTL			
Median storage veh	2		2			
Upstream signal (ft)			1049			
pX, platoon unblocked						
vC, conflicting volume			576	926		288
vC1, stage 1 conf vol			575			
vC2, stage 2 conf vol			350			
vCu, unblocked vol			576	926		288
tC, single (s)			4.1	6.8		6.9
tC, 2 stage (s)			5.8			
tF (s)			2.2	3.5		3.3
p0 queue free %			99	97		100
cM capacity (veh/h)			993	469		715
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	383	193	5	340	340	16
Volume Left	0	0	5	0	0	14
Volume Right	0	2	0	0	0	2
cSH	1700	1700	993	1700	1700	490
Volume to Capacity	0.23	0.11	0.01	0.20	0.20	0.03
Queue Length 95th (ft)	0	0	0	0	0	3
Control Delay (s)	0.0	0.0	8.6	0.0	0.0	12.6
Lane LOS			A			B
Approach Delay (s)	0.0	0.1				12.6
Approach LOS					B	
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			28.1%	ICU Level of Service		A
Analysis Period (min)			15			

17: Sturgis St & Ocean View Ave

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	489	19	12	591	17	25
Future Volume (vph)	0	489	19	12	591	17	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0	5.0	
Lane Util. Factor		0.95		1.00	0.95	1.00	
Frt		0.99		1.00	1.00	0.92	
Flt Protected		1.00		0.95	1.00	0.98	
Satd. Flow (prot)		3369		1711	3212	1561	
Flt Permitted		1.00		0.42	1.00	0.98	
Satd. Flow (perm)		3369		747	3212	1561	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	0	585	23	14	707	20	30
RTOR Reduction (vph)	0	1	0	0	0	28	0
Lane Group Flow (vph)	0	607	0	14	707	22	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	2	0	0
Parking (#/hr)					3		10
Turn Type	Perm	NA		Perm	NA	Prot	
Protected Phases		2			6	4	
Permitted Phases	2			6			
Actuated Green, G (s)		71.6		71.6	71.6	8.0	
Effective Green, g (s)		71.6		71.6	71.6	8.0	
Actuated g/C Ratio		0.72		0.72	0.72	0.08	
Clearance Time (s)		5.0		5.0	5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	2.5	
Lane Grp Cap (vph)		2412		534	2299	124	
v/s Ratio Prot		0.18			c0.22	c0.01	
v/s Ratio Perm				0.02			
v/c Ratio		0.25		0.03	0.31	0.18	
Uniform Delay, d1		4.9		4.1	5.2	42.9	
Progression Factor		0.42		0.28	0.32	1.00	
Incremental Delay, d2		0.2		0.1	0.3	0.5	
Delay (s)		2.3		1.2	2.0	43.5	
Level of Service		A		A	A	D	
Approach Delay (s)		2.3			2.0	43.5	
Approach LOS		A			A	D	
Intersection Summary							
HCM 2000 Control Delay		3.6		HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio		0.28					
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		15.0	
Intersection Capacity Utilization		34.6%		ICU Level of Service		A	
Analysis Period (min)		15					

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2031 No Build Conditions

20: Pleasant Ave & Ocean View Ave/Shore Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	920	8	80	439	47	9	4	86	94	2	34
Future Volume (vph)	12	920	8	80	439	47	9	4	86	94	2	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1728	3437		1678	3355	1489	1678	1514		1728	1559	
Flt Permitted	0.47	1.00		0.16	1.00	1.00	0.73	1.00		0.69	1.00	
Satd. Flow (perm)	854	3437		283	3355	1489	1290	1514		1256	1559	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor (vph)	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	14	1043	9	91	498	53	10	5	98	107	2	39
RTOR Reduction (vph)	0	1	0	0	0	25	0	86	0	0	31	0
Lane Group Flow (vph)	14	1051	0	91	498	28	10	17	0	107	10	0
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	4%	4%	4%	1%	1%	1%
Bus Blockages (#/hr)	0	2	2	0	0	2	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	49.6	48.3		59.9	53.6	53.6	23.1	12.0		23.1	21.7	
Effective Green, g (s)	49.6	48.3		59.9	53.6	53.6	23.1	12.0		23.1	21.7	
Actuated g/C Ratio	0.50	0.48		0.60	0.54	0.54	0.23	0.12		0.23	0.22	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	434	1660		261	1798	798	303	181		342	338	
v/s Ratio Prot	0.00	c0.31		c0.02	0.15		0.00	0.01		c0.03	0.01	
v/s Ratio Perm	0.02			0.19		0.02	0.01			c0.04		
v/c Ratio	0.03	0.63		0.35	0.28	0.04	0.03	0.09		0.31	0.03	
Uniform Delay, d1	12.8	19.3		11.5	12.6	11.0	29.7	39.2		31.5	30.9	
Progression Factor	0.68	0.92		2.00	0.73	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.8		0.8	0.4	0.1	0.0	0.2		0.5	0.0	
Delay (s)	8.7	19.5		23.8	9.6	11.1	29.8	39.4		32.0	30.9	
Level of Service	A	B		C	A	B	C	D		C	C	
Approach Delay (s)		19.4			11.7			38.5			31.7	
Approach LOS		B			B			D			C	
Intersection Summary												
HCM 2000 Control Delay		18.9			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.52										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			22.0				
Intersection Capacity Utilization		59.7%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2031 No Build Conditions

22: Pretty Lake Ave & Shore Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	1065	22	24	536	97	9	1	40	158	0	21
Future Volume (vph)	13	1065	22	24	536	97	9	1	40	158	0	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1728	3445		1678	3355	1501		1673	1487	1728	1546	
Flt Permitted	0.41	1.00		0.16	1.00	1.00		0.85	1.00	0.75	1.00	
Satd. Flow (perm)	747	3445		281	3355	1501		1481	1487	1365	1546	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor (vph)	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%	110%
Adj. Flow (vph)	15	1220	25	28	614	111	10	1	46	181	0	24
RTOR Reduction (vph)	0	1	0	0	0	43	0	0	0	0	19	0
Lane Group Flow (vph)	15	1244	0	28	614	68	0	11	46	181	5	0
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	5%	5%	5%	1%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2		2	4		4	8		
Actuated Green, G (s)	62.4	60.3		64.8	61.5	61.5		20.4	20.4	20.4	20.4	
Effective Green, g (s)	62.4	60.3		64.8	61.5	61.5		20.4	20.4	20.4	20.4	
Actuated g/C Ratio	0.62	0.60		0.65	0.62	0.62		0.20	0.20	0.20	0.20	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	486	2077		228	2063	923		302	303	278	315	
v/s Ratio Prot	0.00	c0.36		c0.00	0.18						0.00	
v/s Ratio Perm	0.02			0.08		0.05		0.01	0.03	c0.13		
v/c Ratio	0.03	0.60		0.12	0.30	0.07		0.04	0.15	0.65	0.02	
Uniform Delay, d1	7.1	12.3		8.0	9.1	7.8		31.9	32.7	36.5	31.8	
Progression Factor	0.49	0.34		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	1.1		0.1	0.4	0.2		0.0	0.2	5.4	0.0	
Delay (s)	3.5	5.3		8.1	9.4	7.9		32.0	32.9	41.9	31.8	
Level of Service	A	A		A	A	A		C	C	D	C	
Approach Delay (s)		5.2			9.2			32.7			40.7	
Approach LOS		A			A			C			D	
Intersection Summary												
HCM 2000 Control Delay		10.4			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			16.0				
Intersection Capacity Utilization		64.4%			ICU Level of Service			C				
Analysis Period (min)		15										

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 25: Norfolk Ave & Ocean View Ave

2031 No Build Conditions

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	435	3	14	854	1	19
Future Volume (Veh/h)	435	3	14	854	1	19
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	520	4	17	1021	1	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLTL		
Median storage veh				2		
Upstream signal (ft)	1312			1015		
pX, platoon unblocked					0.96	
vC, conflicting volume			524		1066	262
vC1, stage 1 conf vol					522	
vC2, stage 2 conf vol					544	
vCu, unblocked vol			524		982	262
tC, single (s)			4.1		6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)			2.2		3.6	3.4
p0 queue free %			98		100	97
cM capacity (veh/h)			1039		438	725
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	347	177	17	510	510	24
Volume Left	0	0	17	0	0	1
Volume Right	0	4	0	0	0	23
cSH	1700	1700	1039	1700	1700	705
Volume to Capacity	0.20	0.10	0.02	0.30	0.30	0.03
Queue Length 95th (ft)	0	0	1	0	0	3
Control Delay (s)	0.0	0.0	8.5	0.0	0.0	10.3
Lane LOS			A			
Approach Delay (s)	0.0		0.1			10.3
Approach LOS						B
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			36.0%	ICU Level of Service		A
Analysis Period (min)			15			

4: First View St & Ocean View Ave

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	94	25	171	954	324	202
Future Volume (vph)	94	25	171	954	324	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3305		1711	3414	1728	1546
Flt Permitted	1.00		0.62	1.00	0.95	1.00
Satd. Flow (perm)	3305		1109	3414	1728	1546
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	96	26	174	973	331	206
RTOR Reduction (vph)	12	0	0	0	0	156
Lane Group Flow (vph)	110	0	174	973	331	50
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Bus Blockages (#/hr)	1	1	0	1	0	0
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases			6			4
Actuated Green, G (s)	52.2		65.9	65.9	24.1	24.1
Effective Green, g (s)	52.2		65.9	65.9	24.1	24.1
Actuated g/C Ratio	0.52		0.66	0.66	0.24	0.24
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0		2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	1725		783	2249	416	372
v/s Ratio Prot	0.03		0.02	c0.28	c0.19	
v/s Ratio Perm			0.13			0.03
v/c Ratio	0.06		0.22	0.43	0.80	0.13
Uniform Delay, d1	11.8		6.6	8.1	35.6	29.8
Progression Factor	1.00		0.83	0.98	1.00	1.00
Incremental Delay, d2	0.1		0.0	0.5	9.8	0.1
Delay (s)	11.9		5.6	8.5	45.4	29.9
Level of Service	B		A	A	D	C
Approach Delay (s)	11.9			8.0	39.5	
Approach LOS	B			A	D	
Intersection Summary						
HCM 2000 Control Delay			17.6		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.56			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			52.7%		ICU Level of Service	A
Analysis Period (min)			15			

c Critical Lane Group

6: Granby St & Ocean View Ave

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↔	↑↑	↑	↔
Traffic Volume (vph)	421	61	252	867	383	329
Future Volume (vph)	421	61	252	867	383	329
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3388	1516	3351	3455	1728	2720
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3388	1516	3351	3455	1728	2720
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	453	66	271	932	412	354
RTOR Reduction (vph)	0	42	0	0	0	0
Lane Group Flow (vph)	453	24	271	932	412	354
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Turn Type	NA	Perm	Prot	NA	Prot	Prot
Protected Phases	2		1	6	4	7
Permitted Phases		2				
Actuated Green, G (s)	36.0	36.0	13.0	55.0	33.0	25.2
Effective Green, g (s)	36.0	36.0	13.0	55.0	33.0	25.2
Actuated g/C Ratio	0.36	0.36	0.13	0.55	0.33	0.25
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1219	545	435	1900	570	685
v/s Ratio Prot	0.13		0.08	c0.27	c0.24	0.13
v/s Ratio Perm		0.02				
v/c Ratio	0.37	0.04	0.62	0.49	0.72	0.52
Uniform Delay, d1	23.6	20.8	41.2	13.9	29.5	32.2
Progression Factor	1.00	1.14	1.11	0.66	1.00	1.00
Incremental Delay, d2	0.9	0.1	2.9	0.8	4.8	0.9
Delay (s)	24.6	23.9	48.8	10.0	34.3	33.0
Level of Service	C	C	D	B	C	C
Approach Delay (s)	24.5			18.8	33.7	
Approach LOS	C			B	C	
Intersection Summary						
HCM 2000 Control Delay			24.6		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.64			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	20.0
Intersection Capacity Utilization			57.1%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis 8: Chesapeake Blvd & Ocean View Ave

2031 No Build Conditions

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↑
Traffic Volume (vph)	594	193	82	706	397	67
Future Volume (vph)	594	193	82	706	397	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3455	1546	1728	3455	1728	1546
Flt Permitted	1.00	1.00	0.29	1.00	0.95	1.00
Satd. Flow (perm)	3455	1546	536	3455	1728	1546
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	646	210	89	767	432	73
RTOR Reduction (vph)	0	123	0	0	0	51
Lane Group Flow (vph)	646	87	89	767	432	22
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2	6			4
Actuated Green, G (s)	41.2	41.2	53.6	53.6	30.0	30.0
Effective Green, g (s)	41.2	41.2	53.6	53.6	30.0	30.0
Actuated g/C Ratio	0.41	0.41	0.54	0.54	0.30	0.30
Clearance Time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1423	636	375	1851	518	463
v/s Ratio Prot	c0.19		0.02	c0.22	c0.25	
v/s Ratio Perm		0.06	0.11			0.01
v/c Ratio	0.45	0.14	0.24	0.41	0.83	0.05
Uniform Delay, d1	21.3	18.3	12.3	13.8	32.7	24.9
Progression Factor	0.94	1.61	0.59	0.95	1.00	1.00
Incremental Delay, d2	1.0	0.4	0.4	0.7	14.6	0.2
Delay (s)	21.1	30.0	7.6	13.8	47.3	25.0
Level of Service	C	C	A	B	D	C
Approach Delay (s)	23.3			13.1	44.1	
Approach LOS	C			B	D	
Intersection Summary						
HCM 2000 Control Delay			24.1		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.60			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	20.0
Intersection Capacity Utilization			57.1%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

2031 No Build Conditions

10: Chesapeake St & Ocean View Ave

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	615	38	38	726	2	36	1	75	0	0	7
Future Volume (vph)	1	615	38	38	726	2	36	1	75	0	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.91			0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)	1745	3459		1745	3474			1645			1589	
Flt Permitted	0.36	1.00		0.39	1.00			0.89			1.00	
Satd. Flow (perm)	658	3459		718	3474			1485			1589	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	641	40	40	756	2	38	1	78	0	0	7
RTOR Reduction (vph)	0	3	0	0	0	0	0	68	0	0	6	0
Lane Group Flow (vph)	1	678	0	40	758	0	0	49	0	0	1	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		2			6			4			4	
Permitted Phases	2			6			4			4		
Actuated Green, G (s)	74.7	74.7		74.7	74.7			13.3			13.3	
Effective Green, g (s)	74.7	74.7		74.7	74.7			13.3			13.3	
Actuated g/C Ratio	0.75	0.75		0.75	0.75			0.13			0.13	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)	491	2583		536	2595			197			211	
v/s Ratio Prot		0.20			c0.22						0.00	
v/s Ratio Perm	0.00			0.06				c0.03				
v/c Ratio	0.00	0.26		0.07	0.29			0.25			0.00	
Uniform Delay, d1	3.2	4.0		3.4	4.1			38.9			37.6	
Progression Factor	0.03	0.20		0.10	0.08			1.00			1.00	
Incremental Delay, d2	0.0	0.2		0.3	0.3			0.9			0.0	
Delay (s)	0.1	1.0		0.6	0.6			39.8			37.6	
Level of Service	A	A		A	A			D			D	
Approach Delay (s)		1.0			0.6			39.8			37.6	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM 2000 Control Delay			3.8									
HCM 2000 Volume to Capacity ratio			0.29									
Actuated Cycle Length (s)			100.0									
Intersection Capacity Utilization			54.9%									
Analysis Period (min)			15									
c Critical Lane Group												

11: Cape View Ave & Ocean View Ave

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	585	32	179	742	14	179
Future Volume (vph)	585	32	179	742	14	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1818	1533	1728	1804	1728	1546
Flt Permitted	1.00	1.00	0.31	1.00	0.95	1.00
Satd. Flow (perm)	1818	1533	565	1804	1728	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	629	34	192	798	15	192
RTOR Reduction (vph)	0	13	0	0	0	160
Lane Group Flow (vph)	629	21	192	798	15	32
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	2	0	2	0	0
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	2	4	
Permitted Phases		2	2			4
Actuated Green, G (s)	60.3	60.3	68.4	60.3	16.6	16.6
Effective Green, g (s)	60.3	60.3	68.4	60.3	16.6	16.6
Actuated g/C Ratio	0.60	0.60	0.68	0.60	0.17	0.17
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0	2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	1096	924	480	1087	286	256
v/s Ratio Prot	0.35		c0.03	c0.44	0.01	
v/s Ratio Perm		0.01	0.24			c0.02
v/c Ratio	0.57	0.02	0.40	0.73	0.05	0.12
Uniform Delay, d1	12.1	8.0	7.4	14.1	35.1	35.5
Progression Factor	1.51	1.82	0.93	1.41	1.00	1.00
Incremental Delay, d2	2.2	0.0	0.2	3.8	0.1	0.2
Delay (s)	20.4	14.6	7.0	23.7	35.1	35.7
Level of Service	C	B	A	C	D	D
Approach Delay (s)	20.1			20.5	35.6	
Approach LOS	C			C	D	
Intersection Summary						
HCM 2000 Control Delay			22.0		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.58			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			61.5%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis 13: Grove Ave & Ocean View Ave

2031 No Build Conditions

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	699	15	11	793	4	12
Future Volume (Veh/h)	699	15	11	793	4	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	713	15	11	809	4	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (ft)				1049		
pX, platoon unblocked						
vC, conflicting volume			728		1147	364
vC1, stage 1 conf vol					720	
vC2, stage 2 conf vol					426	
vCu, unblocked vol			728		1147	364
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	98
cM capacity (veh/h)			878		393	639
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	475	253	11	404	404	16
Volume Left	0	0	11	0	0	4
Volume Right	0	15	0	0	0	12
cSH	1700	1700	878	1700	1700	552
Volume to Capacity	0.28	0.15	0.01	0.24	0.24	0.03
Queue Length 95th (ft)	0	0	1	0	0	2
Control Delay (s)	0.0	0.0	9.2	0.0	0.0	11.7
Lane LOS			A			B
Approach Delay (s)	0.0		0.1			11.7
Approach LOS						B
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			31.9%		ICU Level of Service	
					A	
Analysis Period (min)			15			

17: Sturgis St & Ocean View Ave

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	1	585	25	27	749	22	29
Future Volume (vph)	1	585	25	27	749	22	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	
Frt	1.00	0.99		1.00	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	1728	3434		1728	3243	1661	
Flt Permitted	0.32	1.00		0.38	1.00	0.98	
Satd. Flow (perm)	581	3434		698	3243	1661	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1	629	27	29	805	24	31
RTOR Reduction (vph)	0	2	0	0	0	29	0
Lane Group Flow (vph)	1	654	0	29	805	26	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	2	0	0
Parking (#/hr)					3		10
Turn Type	Perm	NA		Perm	NA	Prot	
Protected Phases		2			6	4	
Permitted Phases	2			6			
Actuated Green, G (s)	66.2	66.2		66.2	66.2	8.0	
Effective Green, g (s)	66.2	66.2		66.2	66.2	8.0	
Actuated g/C Ratio	0.66	0.66		0.66	0.66	0.08	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	2.5	
Lane Grp Cap (vph)	384	2273		462	2146	132	
v/s Ratio Prot		0.19			c0.25	c0.02	
v/s Ratio Perm	0.00			0.04			
v/c Ratio	0.00	0.29		0.06	0.38	0.20	
Uniform Delay, d1	5.7	7.1		6.0	7.6	43.0	
Progression Factor	0.28	0.41		0.57	0.79	1.00	
Incremental Delay, d2	0.0	0.3		0.2	0.4	0.5	
Delay (s)	1.6	3.2		3.6	6.3	43.6	
Level of Service	A	A		A	A	D	
Approach Delay (s)		3.2			6.2	43.6	
Approach LOS		A			A	D	
Intersection Summary							
HCM 2000 Control Delay		6.3		HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio		0.31					
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		15.0	
Intersection Capacity Utilization		39.1%		ICU Level of Service		A	
Analysis Period (min)		15					
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

2031 No Build Conditions

20: Pleasant Ave & Ocean View Ave/Shore Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	804	13	179	1141	105	29	9	88	109	7	31
Future Volume (vph)	28	804	13	179	1141	105	29	9	88	109	7	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	3468		1728	3455	1533	1728	1570		1745	1611	
Flt Permitted	0.18	1.00		0.23	1.00	1.00	0.73	1.00		0.69	1.00	
Satd. Flow (perm)	323	3468		417	3455	1533	1330	1570		1272	1611	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	29	829	13	185	1176	108	30	9	91	112	7	32
RTOR Reduction (vph)	0	1	0	0	0	51	0	82	0	0	27	0
Lane Group Flow (vph)	29	841	0	185	1176	57	30	18	0	112	12	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	2	2	0	0	2	0	0	0	0	0	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	50.8	46.8		61.9	52.9	52.9	21.1	9.9		21.1	16.6	
Effective Green, g (s)	50.8	46.8		61.9	52.9	52.9	21.1	9.9		21.1	16.6	
Actuated g/C Ratio	0.51	0.47		0.62	0.53	0.53	0.21	0.10		0.21	0.17	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	220	1623		390	1827	810	298	155		321	267	
v/s Ratio Prot	0.01	0.24		c0.05	c0.34		0.00	0.01		c0.04	0.01	
v/s Ratio Perm	0.06			0.25		0.04	0.02			c0.03		
v/c Ratio	0.13	0.52		0.47	0.64	0.07	0.10	0.12		0.35	0.05	
Uniform Delay, d1	13.2	18.7		10.1	16.8	11.5	31.7	41.1		33.3	35.0	
Progression Factor	0.54	0.89		1.55	0.61	1.25	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	1.1		0.7	1.4	0.1	0.1	0.3		0.7	0.1	
Delay (s)	7.4	17.7		16.3	11.7	14.6	31.8	41.4		33.9	35.1	
Level of Service	A	B		B	B	B	C	D		C	D	
Approach Delay (s)		17.4			12.5			39.2			34.2	
Approach LOS		B			B			D			C	
Intersection Summary												
HCM 2000 Control Delay			16.7				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			22.0		
Intersection Capacity Utilization			62.6%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2031 No Build Conditions

22: Pretty Lake Ave & Shore Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	939	12	50	1383	266	10	0	17	186	7	32
Future Volume (vph)	51	939	12	50	1383	266	10	0	17	186	7	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1745	3483		1728	3455	1546		1745	1561	1728	1595	
Flt Permitted	0.12	1.00		0.25	1.00	1.00		0.73	1.00	0.75	1.00	
Satd. Flow (perm)	228	3483		457	3455	1546		1344	1561	1366	1595	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	52	948	12	51	1397	269	10	0	17	188	7	32
RTOR Reduction (vph)	0	1	0	0	0	87	0	0	0	0	26	0
Lane Group Flow (vph)	52	959	0	51	1397	182	0	10	17	188	13	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2		2	4		4	8		
Actuated Green, G (s)	64.9	60.3		64.9	60.3	60.3		19.1	19.1	19.1	19.1	
Effective Green, g (s)	64.9	60.3		64.9	60.3	60.3		19.1	19.1	19.1	19.1	
Actuated g/C Ratio	0.65	0.60		0.65	0.60	0.60		0.19	0.19	0.19	0.19	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	217	2100		355	2083	932		256	298	260	304	
v/s Ratio Prot	c0.01	0.28		0.01	c0.40						0.01	
v/s Ratio Perm	0.14			0.09		0.12		0.01	0.01	c0.14		
v/c Ratio	0.24	0.46		0.14	0.67	0.19		0.04	0.06	0.72	0.04	
Uniform Delay, d1	9.0	10.9		6.8	13.2	8.9		33.0	33.1	38.0	33.0	
Progression Factor	1.22	0.54		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.6		0.1	1.7	0.5		0.1	0.1	9.5	0.1	
Delay (s)	11.2	6.5		6.9	15.0	9.4		33.0	33.2	47.5	33.1	
Level of Service	B	A		A	B	A		C	C	D	C	
Approach Delay (s)		6.8			13.9			33.1			45.0	
Approach LOS		A			B			C			D	
Intersection Summary												
HCM 2000 Control Delay		14.0			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.66										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			16.0				
Intersection Capacity Utilization		68.5%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

25: Norfolk Ave & Ocean View Ave

2031 No Build Conditions

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱	
Traffic Volume (veh/h)	910	10	38	859	1	43
Future Volume (Veh/h)	910	10	38	859	1	43
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	948	10	40	895	1	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		TWLTL			
Median storage veh			2			
Upstream signal (ft)	1312		1015			
pX, platoon unblocked			0.96		0.98	0.96
vC, conflicting volume			958		1480	479
vC1, stage 1 conf vol					953	
vC2, stage 2 conf vol					528	
vCu, unblocked vol			866		1244	366
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			95		100	93
cM capacity (veh/h)			746		327	610
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	632	326	40	448	448	46
Volume Left	0	0	40	0	0	1
Volume Right	0	10	0	0	0	45
cSH	1700	1700	746	1700	1700	598
Volume to Capacity	0.37	0.19	0.05	0.26	0.26	0.08
Queue Length 95th (ft)	0	0	4	0	0	6
Control Delay (s)	0.0	0.0	10.1	0.0	0.0	11.5
Lane LOS			B		B	
Approach Delay (s)	0.0		0.4			11.5
Approach LOS			B			
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			41.6%		ICU Level of Service	
Analysis Period (min)			15		A	

4: First View St & Ocean View Ave

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	355	32	158	395	27	65
Future Volume (vph)	355	32	158	395	27	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1776	1510	1678	1759	1728	1546
Flt Permitted	1.00	1.00	0.50	1.00	0.95	1.00
Satd. Flow (perm)	1776	1510	883	1759	1728	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	382	34	170	425	29	70
RTOR Reduction (vph)	0	12	0	0	0	61
Lane Group Flow (vph)	382	22	170	425	29	9
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Bus Blockages (#/hr)	1	1	0	1	0	0
Turn Type	NA	Perm	D.P+P	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2	2			4
Actuated Green, G (s)	65.4	65.4	72.6	77.6	12.4	12.4
Effective Green, g (s)	65.4	65.4	72.6	77.6	12.4	12.4
Actuated g/C Ratio	0.65	0.65	0.73	0.78	0.12	0.12
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0	2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	1161	987	698	1364	214	191
v/s Ratio Prot	c0.22		0.02	c0.24	c0.02	
v/s Ratio Perm		0.01	0.16			0.01
v/c Ratio	0.33	0.02	0.24	0.31	0.14	0.05
Uniform Delay, d1	7.6	6.1	4.3	3.3	39.0	38.6
Progression Factor	1.00	1.00	1.06	1.18	1.00	1.00
Incremental Delay, d2	0.8	0.0	0.1	0.6	0.2	0.1
Delay (s)	8.4	6.1	4.6	4.5	39.2	38.7
Level of Service	A	A	A	A	D	D
Approach Delay (s)	8.2			4.5	38.8	
Approach LOS	A			A	D	
Intersection Summary						
HCM 2000 Control Delay			9.0		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.31			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			48.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

6: Granby St & Ocean View Ave

2031 Build 1 Conditions

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑↑	↑	↑	↑
Traffic Volume (vph)	404	50	211	538	17	73
Future Volume (vph)	404	50	211	538	17	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1783	1516	3319	1801	1694	1516
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1783	1516	3319	1801	1694	1516
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	439	54	229	585	18	79
RTOR Reduction (vph)	0	17	0	0	0	0
Lane Group Flow (vph)	439	37	229	585	18	79
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Turn Type	NA	Perm	Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	4	7 1
Permitted Phases		2				
Actuated Green, G (s)	60.4	60.4	13.1	79.5	8.5	27.6
Effective Green, g (s)	60.4	60.4	13.1	79.5	8.5	27.6
Actuated g/C Ratio	0.60	0.60	0.13	0.80	0.08	0.28
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	1076	915	434	1431	143	418
v/s Ratio Prot	0.25		c0.07	c0.32	0.01	c0.05
v/s Ratio Perm		0.02				
v/c Ratio	0.41	0.04	0.53	0.41	0.13	0.19
Uniform Delay, d1	10.4	8.0	40.6	3.1	42.3	27.7
Progression Factor	0.70	0.59	1.24	0.85	1.00	1.00
Incremental Delay, d2	1.1	0.1	1.4	0.8	0.5	0.3
Delay (s)	8.4	4.8	51.8	3.5	42.9	28.0
Level of Service	A	A	D	A	D	C
Approach Delay (s)	8.0			17.1	30.7	
Approach LOS	A			B	C	
Intersection Summary						
HCM 2000 Control Delay			14.8		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.44			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	20.0
Intersection Capacity Utilization			52.9%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

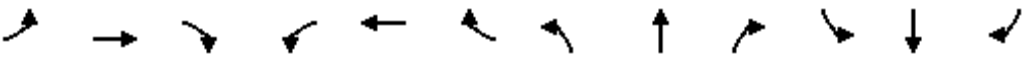
8: Chesapeake Blvd & Ocean View Ave

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	415	86	67	606	117	31
Future Volume (vph)	415	86	67	606	117	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1801	1531	1711	1801	1586	1419
Flt Permitted	1.00	1.00	0.43	1.00	0.95	1.00
Satd. Flow (perm)	1801	1531	782	1801	1586	1419
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	446	92	72	652	126	33
RTOR Reduction (vph)	0	39	0	0	0	27
Lane Group Flow (vph)	446	53	72	652	126	6
Heavy Vehicles (%)	2%	2%	2%	2%	10%	10%
Turn Type	NA	Perm	D.P+P	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2	2			4
Actuated Green, G (s)	57.5	57.5	64.0	69.0	19.0	19.0
Effective Green, g (s)	57.5	57.5	64.0	69.0	19.0	19.0
Actuated g/C Ratio	0.58	0.58	0.64	0.69	0.19	0.19
Clearance Time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1035	880	560	1242	301	269
v/s Ratio Prot	0.25		0.01	c0.36	c0.08	
v/s Ratio Perm		0.03	0.07			0.00
v/c Ratio	0.43	0.06	0.13	0.52	0.42	0.02
Uniform Delay, d1	12.0	9.4	7.1	7.5	35.6	33.0
Progression Factor	0.60	0.31	1.30	1.63	1.00	1.00
Incremental Delay, d2	1.3	0.1	0.1	1.5	4.2	0.2
Delay (s)	8.5	3.0	9.3	13.7	39.9	33.1
Level of Service	A	A	A	B	D	C
Approach Delay (s)	7.5			13.3	38.5	
Approach LOS	A			B	D	
Intersection Summary						
HCM 2000 Control Delay			13.9		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.55			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	20.0
Intersection Capacity Utilization			50.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

2031 Build 1 Conditions

10: Chesapeake St & Ocean View Ave

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	433	7	22	615	0	21	0	44	0	0	1
Future Volume (vph)	0	433	7	22	615	0	21	0	44	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	1.00			0.91			0.86	
Flt Protected		1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)		1796		1711	1786			1613			1589	
Flt Permitted		1.00		0.47	1.00			0.89			1.00	
Satd. Flow (perm)		1796		855	1786			1453			1589	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	0.92
Adj. Flow (vph)	0	471	8	24	668	0	23	0	44	0	0	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	39	0	0	1	0
Lane Group Flow (vph)	0	479	0	24	668	0	0	28	0	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		2			6			4			4	
Permitted Phases	2			6			4			4		
Actuated Green, G (s)		77.0		77.0	77.0			11.0			11.0	
Effective Green, g (s)		77.0		77.0	77.0			11.0			11.0	
Actuated g/C Ratio		0.77		0.77	0.77			0.11			0.11	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)		4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)		1382		658	1375			159			174	
v/s Ratio Prot		0.27			c0.37						0.00	
v/s Ratio Perm				0.03				c0.02				
v/c Ratio		0.35		0.04	0.49			0.18			0.00	
Uniform Delay, d1		3.6		2.7	4.2			40.4			39.6	
Progression Factor		0.41		0.28	0.16			1.00			1.00	
Incremental Delay, d2		0.6		0.1	1.1			0.7			0.0	
Delay (s)		2.1		0.9	1.8			41.1			39.6	
Level of Service		A		A	A			D			D	
Approach Delay (s)		2.1			1.8			41.1			39.6	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM 2000 Control Delay			4.1			HCM 2000 Level of Service				A		
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			52.9%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

11: Cape View Ave & Ocean View Ave

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩		↩	↩	↩	↩
Traffic Volume (vph)	524	9	89	537	11	109
Future Volume (vph)	524	9	89	537	11	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1779		1711	1786	1694	1516
Flt Permitted	1.00		0.39	1.00	0.95	1.00
Satd. Flow (perm)	1779		702	1786	1694	1516
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	552	9	94	565	12	115
RTOR Reduction (vph)	0	0	0	0	0	101
Lane Group Flow (vph)	561	0	94	565	12	14
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Bus Blockages (#/hr)	0	2	0	2	0	0
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	2	4	
Permitted Phases			2			4
Actuated Green, G (s)	67.9		72.8	67.9	12.2	12.2
Effective Green, g (s)	67.9		72.8	67.9	12.2	12.2
Actuated g/C Ratio	0.68		0.73	0.68	0.12	0.12
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0		2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	1207		560	1212	206	184
v/s Ratio Prot	0.32		c0.01	c0.32	0.01	
v/s Ratio Perm			0.11			c0.01
v/c Ratio	0.46		0.17	0.47	0.06	0.08
Uniform Delay, d1	7.5		4.4	7.5	38.8	38.9
Progression Factor	1.87		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2		0.1	1.3	0.1	0.1
Delay (s)	15.3		4.5	8.8	38.9	39.0
Level of Service	B		A	A	D	D
Approach Delay (s)	15.3			8.2	39.0	
Approach LOS	B			A	D	
Intersection Summary						
HCM 2000 Control Delay			14.1		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.39			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			53.9%		ICU Level of Service	A
Analysis Period (min)			15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 13: Grove Ave & Ocean View Ave

2031 Build 1 Conditions

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	501	2	4	594	12	2
Future Volume (Veh/h)	501	2	4	594	12	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	522	2	4	619	12	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL		TWLTL			
Median storage veh	2		2			
Upstream signal (ft)			1057			
pX, platoon unblocked					0.85	
vC, conflicting volume			524		1150	523
vC1, stage 1 conf vol					523	
vC2, stage 2 conf vol					627	
vCu, unblocked vol			524		1090	523
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			1043		433	558
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	524	4	619	14		
Volume Left	0	4	0	12		
Volume Right	2	0	0	2		
cSH	1700	1043	1700	447		
Volume to Capacity	0.31	0.00	0.36	0.03		
Queue Length 95th (ft)	0	0	0	2		
Control Delay (s)	0.0	8.5	0.0	13.3		
Lane LOS	A		B			
Approach Delay (s)	0.0	0.1	13.3			
Approach LOS			B			
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			41.3%		ICU Level of Service	A
Analysis Period (min)			15			

17: Sturgis St & Ocean View Ave

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	489	19	12	591	17	25
Future Volume (vph)	0	489	19	12	591	17	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0	5.0	
Lane Util. Factor		1.00		1.00	1.00	1.00	
Frt		0.99		1.00	1.00	0.92	
Flt Protected		1.00		0.95	1.00	0.98	
Satd. Flow (prot)		1773		1711	1581	1561	
Flt Permitted		1.00		0.42	1.00	0.98	
Satd. Flow (perm)		1773		748	1581	1561	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	532	21	13	642	18	27
RTOR Reduction (vph)	0	1	0	0	0	25	0
Lane Group Flow (vph)	0	552	0	13	642	20	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	2	0	0
Parking (#/hr)					3		10
Turn Type	Perm	NA		Perm	NA	Prot	
Protected Phases		2			6	4	
Permitted Phases	2			6			
Actuated Green, G (s)		73.6		73.6	73.6	6.0	
Effective Green, g (s)		73.6		73.6	73.6	6.0	
Actuated g/C Ratio		0.74		0.74	0.74	0.06	
Clearance Time (s)		5.0		5.0	5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	2.5	
Lane Grp Cap (vph)		1304		550	1163	93	
v/s Ratio Prot		0.31			c0.41	c0.01	
v/s Ratio Perm				0.02			
v/c Ratio		0.42		0.02	0.55	0.21	
Uniform Delay, d1		5.1		3.5	5.9	44.7	
Progression Factor		0.36		0.30	0.55	1.00	
Incremental Delay, d2		1.0		0.1	1.8	0.8	
Delay (s)		2.8		1.1	5.0	45.6	
Level of Service		A		A	A	D	
Approach Delay (s)		2.8			4.9	45.6	
Approach LOS		A			A	D	
Intersection Summary							
HCM 2000 Control Delay		5.5		HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio		0.49					
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		15.0	
Intersection Capacity Utilization		47.8%		ICU Level of Service		A	
Analysis Period (min)		15					
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

20: Pleasant Ave & Ocean View Ave/Shore Dr

2031 Build 1 Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	920	8	80	439	47	9	4	86	94	2	34
Future Volume (vph)	12	920	8	80	439	47	9	4	86	94	2	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1728	1802		1678	1766	1489	1678	1513		1728	1560	
Flt Permitted	0.43	1.00		0.06	1.00	1.00	0.73	1.00		0.70	1.00	
Satd. Flow (perm)	782	1802		112	1766	1489	1294	1513		1267	1560	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	12	948	8	82	453	48	9	4	89	97	2	35
RTOR Reduction (vph)	0	0	0	0	0	19	0	79	0	0	28	0
Lane Group Flow (vph)	12	956	0	82	453	29	9	14	0	97	9	0
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	4%	4%	4%	1%	1%	1%
Bus Blockages (#/hr)	0	2	2	0	0	2	0	0	0	0	0	0
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2			6		2	8			4		
Actuated Green, G (s)	74.1	63.3		74.1	71.7	71.7	23.9	14.0		23.9	22.5	
Effective Green, g (s)	74.1	63.3		74.1	71.7	71.7	23.9	14.0		23.9	22.5	
Actuated g/C Ratio	0.62	0.53		0.62	0.60	0.60	0.20	0.12		0.20	0.19	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	501	950		210	1055	889	262	176		290	292	
v/s Ratio Prot	0.00	c0.53		0.04	c0.26		0.00	0.01		c0.03	0.01	
v/s Ratio Perm	0.01			0.21		0.02	0.01			c0.04		
v/c Ratio	0.02	1.01		0.39	0.43	0.03	0.03	0.08		0.33	0.03	
Uniform Delay, d1	9.3	28.4		47.5	13.1	9.9	38.7	47.3		40.8	39.8	
Progression Factor	1.00	1.00		0.63	0.44	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	30.6		1.1	1.2	0.1	0.1	0.2		0.7	0.0	
Delay (s)	9.3	59.0		31.0	7.0	10.0	38.7	47.5		41.5	39.9	
Level of Service	A	E		C	A	A	D	D		D	D	
Approach Delay (s)		58.4			10.6			46.7			41.0	
Approach LOS		E			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			40.8									
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			120.0									
Intersection Capacity Utilization			79.4%									
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2031 Build 1 Conditions

22: Pretty Lake Ave & Shore Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	1065	22	24	536	97	9	1	40	158	0	21
Future Volume (vph)	13	1065	22	24	536	97	9	1	40	158	0	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1728	1813		1678	1766	1501		1674	1487	1728	1546	
Flt Permitted	0.39	1.00		0.05	1.00	1.00		0.85	1.00	0.75	1.00	
Satd. Flow (perm)	704	1813		91	1766	1501		1486	1487	1366	1546	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	14	1109	23	25	558	101	9	1	42	165	0	22
RTOR Reduction (vph)	0	0	0	0	0	34	0	0	0	0	18	0
Lane Group Flow (vph)	14	1132	0	25	558	67	0	10	42	165	4	0
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	5%	5%	5%	1%	1%	1%
Turn Type	D.P+P	NA		D.P+P	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	2			6		2	4		4	8		
Actuated Green, G (s)	82.1	78.9		82.1	80.0	80.0		21.9	21.9	21.9	21.9	
Effective Green, g (s)	82.1	78.9		82.1	80.0	80.0		21.9	21.9	21.9	21.9	
Actuated g/C Ratio	0.68	0.66		0.68	0.67	0.67		0.18	0.18	0.18	0.18	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	499	1192		104	1177	1000		271	271	249	282	
v/s Ratio Prot	0.00	c0.62		c0.01	0.32						0.00	
v/s Ratio Perm	0.02			0.16		0.04		0.01	0.03	c0.12		
v/c Ratio	0.03	0.95		0.24	0.47	0.07		0.04	0.15	0.66	0.01	
Uniform Delay, d1	6.6	18.7		23.9	9.7	7.0		40.4	41.3	45.6	40.2	
Progression Factor	0.21	0.24		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	10.7		0.4	1.4	0.1		0.1	0.3	6.5	0.0	
Delay (s)	1.4	15.2		24.3	11.1	7.1		40.4	41.5	52.1	40.2	
Level of Service	A	B		C	B	A		D	D	D	D	
Approach Delay (s)		15.0			11.0			41.3			50.7	
Approach LOS		B			B			D			D	
Intersection Summary												
HCM 2000 Control Delay			17.6				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			87.8%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

25: Norfolk Ave & Ocean View Ave

2031 Build 1 Conditions

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	435	3	14	854	1	19
Future Volume (Veh/h)	435	3	14	854	1	19
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	473	3	15	928	1	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		TWLTL			
Median storage veh	2					
Upstream signal (ft)	1041					
pX, platoon unblocked					0.81	
vC, conflicting volume			476		1432	474
vC1, stage 1 conf vol					474	
vC2, stage 2 conf vol					958	
vCu, unblocked vol			476		1417	474
tC, single (s)			4.1		6.5	6.3
tC, 2 stage (s)					5.5	
tF (s)			2.2		3.6	3.4
p0 queue free %			99		100	96
cM capacity (veh/h)			1086		304	582
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	476	15	928	22		
Volume Left	0	15	0	1		
Volume Right	3	0	0	21		
cSH	1700	1086	1700	559		
Volume to Capacity	0.28	0.01	0.55	0.04		
Queue Length 95th (ft)	0	1	0	3		
Control Delay (s)	0.0	8.4	0.0	11.7		
Lane LOS			A	B		
Approach Delay (s)	0.0	0.1		11.7		
Approach LOS					B	
Intersection Summary						
Average Delay	0.3					
Intersection Capacity Utilization			54.9%	ICU Level of Service		A
Analysis Period (min)	15					

4: First View St & Ocean View Ave

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	94	25	171	954	324	202
Future Volume (vph)	94	25	171	954	324	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1793	1524	1711	1793	1728	1546
Flt Permitted	1.00	1.00	0.69	1.00	0.95	1.00
Satd. Flow (perm)	1793	1524	1251	1793	1728	1546
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	96	26	174	973	331	206
RTOR Reduction (vph)	0	12	0	0	0	157
Lane Group Flow (vph)	96	14	174	973	331	49
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Bus Blockages (#/hr)	1	1	0	1	0	0
Turn Type	NA	Perm	D.P+P	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2	2			4
Actuated Green, G (s)	53.3	53.3	61.4	66.4	23.6	23.6
Effective Green, g (s)	53.3	53.3	61.4	66.4	23.6	23.6
Actuated g/C Ratio	0.53	0.53	0.61	0.66	0.24	0.24
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0	2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	955	812	805	1190	407	364
v/s Ratio Prot	0.05		0.02	c0.54	c0.19	
v/s Ratio Perm		0.01	0.12			0.03
v/c Ratio	0.10	0.02	0.22	0.82	0.81	0.13
Uniform Delay, d1	11.5	11.0	8.3	12.3	36.1	30.1
Progression Factor	1.00	1.00	0.82	0.95	1.00	1.00
Incremental Delay, d2	0.2	0.0	0.0	3.7	11.5	0.1
Delay (s)	11.7	11.0	6.8	15.4	47.6	30.3
Level of Service	B	B	A	B	D	C
Approach Delay (s)	11.6			14.1	41.0	
Approach LOS	B			B	D	
Intersection Summary						
HCM 2000 Control Delay			21.9		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.86			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			76.5%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

6: Granby St & Ocean View Ave

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑↑	↑	↑	↑
Traffic Volume (vph)	421	61	252	867	383	329
Future Volume (vph)	421	61	252	867	383	329
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1783	1516	3351	1818	1728	1546
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1783	1516	3351	1818	1728	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	453	66	271	932	412	354
RTOR Reduction (vph)	0	36	0	0	0	0
Lane Group Flow (vph)	453	30	271	932	412	354
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Turn Type	NA	Perm	Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	4	7 1
Permitted Phases		2				
Actuated Green, G (s)	31.6	31.6	18.1	55.7	32.3	42.6
Effective Green, g (s)	31.6	31.6	18.1	55.7	32.3	42.6
Actuated g/C Ratio	0.32	0.32	0.18	0.56	0.32	0.43
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	563	479	606	1012	558	658
v/s Ratio Prot	0.25		0.08	c0.51	c0.24	0.23
v/s Ratio Perm		0.02				
v/c Ratio	0.80	0.06	0.45	0.92	0.74	0.54
Uniform Delay, d1	31.4	23.9	36.5	20.1	30.1	21.4
Progression Factor	0.97	0.96	1.10	0.82	1.00	1.00
Incremental Delay, d2	11.6	0.3	0.6	12.5	5.4	1.1
Delay (s)	42.1	23.1	40.7	29.0	35.5	22.5
Level of Service	D	C	D	C	D	C
Approach Delay (s)	39.7			31.7	29.5	
Approach LOS	D			C	C	
Intersection Summary						
HCM 2000 Control Delay			32.7		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.94			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	20.0
Intersection Capacity Utilization			76.9%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

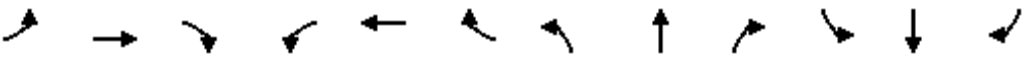
8: Chesapeake Blvd & Ocean View Ave

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	594	193	82	706	397	67
Future Volume (vph)	594	193	82	706	397	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1818	1546	1728	1818	1728	1546
Flt Permitted	1.00	1.00	0.15	1.00	0.95	1.00
Satd. Flow (perm)	1818	1546	264	1818	1728	1546
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	646	210	89	767	432	73
RTOR Reduction (vph)	0	81	0	0	0	51
Lane Group Flow (vph)	646	129	89	767	432	22
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	NA	Perm	D.P+P	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2	2			4
Actuated Green, G (s)	41.2	41.2	48.6	53.6	30.0	30.0
Effective Green, g (s)	41.2	41.2	48.6	53.6	30.0	30.0
Actuated g/C Ratio	0.41	0.41	0.49	0.54	0.30	0.30
Clearance Time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	749	636	236	974	518	463
v/s Ratio Prot	c0.36		0.03	c0.42	c0.25	
v/s Ratio Perm		0.08	0.15			0.01
v/c Ratio	0.86	0.20	0.38	0.79	0.83	0.05
Uniform Delay, d1	26.8	18.9	18.0	18.6	32.7	24.9
Progression Factor	0.80	0.72	0.84	1.14	1.00	1.00
Incremental Delay, d2	11.1	0.6	1.2	5.7	14.6	0.2
Delay (s)	32.4	14.2	16.3	26.9	47.3	25.0
Level of Service	C	B	B	C	D	C
Approach Delay (s)	28.0			25.8	44.1	
Approach LOS	C			C	D	
Intersection Summary						
HCM 2000 Control Delay			30.8	HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio			0.85			
Actuated Cycle Length (s)			100.0	Sum of lost time (s)		20.0
Intersection Capacity Utilization			72.0%	ICU Level of Service		C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

2031 Build 1 Conditions

10: Chesapeake St & Ocean View Ave

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	615	38	38	726	2	36	1	75	0	0	7
Future Volume (vph)	1	615	38	38	726	2	36	1	75	0	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.91			0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)	1745	1820		1745	1821			1645			1589	
Flt Permitted	0.32	1.00		0.35	1.00			0.89			1.00	
Satd. Flow (perm)	579	1820		652	1821			1485			1589	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	641	40	40	756	2	38	1	78	0	0	7
RTOR Reduction (vph)	0	2	0	0	0	0	0	68	0	0	6	0
Lane Group Flow (vph)	1	679	0	40	758	0	0	49	0	0	1	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		2			6			4			4	
Permitted Phases	2			6			4			4		
Actuated Green, G (s)	74.7	74.7		74.7	74.7			13.3			13.3	
Effective Green, g (s)	74.7	74.7		74.7	74.7			13.3			13.3	
Actuated g/C Ratio	0.75	0.75		0.75	0.75			0.13			0.13	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)	432	1359		487	1360			197			211	
v/s Ratio Prot		0.37			c0.42						0.00	
v/s Ratio Perm	0.00			0.06				c0.03				
v/c Ratio	0.00	0.50		0.08	0.56			0.25			0.00	
Uniform Delay, d1	3.2	5.1		3.4	5.5			38.9			37.6	
Progression Factor	0.03	0.67		0.30	0.34			1.00			1.00	
Incremental Delay, d2	0.0	0.9		0.2	1.2			0.9			0.0	
Delay (s)	0.1	4.3		1.3	3.0			39.8			37.6	
Level of Service	A	A		A	A			D			D	
Approach Delay (s)		4.3			2.9			39.8			37.6	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM 2000 Control Delay		6.3			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.51										
Actuated Cycle Length (s)		100.0			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												

11: Cape View Ave & Ocean View Ave

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↗	↘	↗
Traffic Volume (vph)	585	32	179	742	14	179
Future Volume (vph)	585	32	179	742	14	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1806		1728	1804	1728	1546
Flt Permitted	1.00		0.29	1.00	0.95	1.00
Satd. Flow (perm)	1806		525	1804	1728	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	629	34	192	798	15	192
RTOR Reduction (vph)	2	0	0	0	0	160
Lane Group Flow (vph)	661	0	192	798	15	32
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	2	0	2	0	0
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	2	4	
Permitted Phases			2			4
Actuated Green, G (s)	60.3		68.4	60.3	16.6	16.6
Effective Green, g (s)	60.3		68.4	60.3	16.6	16.6
Actuated g/C Ratio	0.60		0.68	0.60	0.17	0.17
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0		2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	1089		456	1087	286	256
v/s Ratio Prot	0.37		c0.03	c0.44	0.01	
v/s Ratio Perm			0.25			c0.02
v/c Ratio	0.61		0.42	0.73	0.05	0.12
Uniform Delay, d1	12.4		7.8	14.1	35.1	35.5
Progression Factor	1.76		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.3		0.2	4.4	0.1	0.2
Delay (s)	24.2		8.1	18.5	35.1	35.7
Level of Service	C		A	B	D	D
Approach Delay (s)	24.2			16.5	35.6	
Approach LOS	C			B	D	
Intersection Summary						
HCM 2000 Control Delay			21.4		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.58			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			63.5%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis 13: Grove Ave & Ocean View Ave

2031 Build 1 Conditions

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	699	15	11	793	4	12
Future Volume (Veh/h)	699	15	11	793	4	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	713	15	11	809	4	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL		TWLTL			
Median storage veh)	2		2			
Upstream signal (ft)			1057			
pX, platoon unblocked					0.63	
vC, conflicting volume			728		1552	720
vC1, stage 1 conf vol					720	
vC2, stage 2 conf vol					831	
vCu, unblocked vol			728		1581	720
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	97
cM capacity (veh/h)			880		312	431
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	728	11	809	16		
Volume Left	0	11	0	4		
Volume Right	15	0	0	12		
cSH	1700	880	1700	393		
Volume to Capacity	0.43	0.01	0.48	0.04		
Queue Length 95th (ft)	0	1	0	3		
Control Delay (s)	0.0	9.1	0.0	14.5		
Lane LOS		A		B		
Approach Delay (s)	0.0	0.1		14.5		
Approach LOS				B		
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			51.7%	ICU Level of Service	A	
Analysis Period (min)			15			

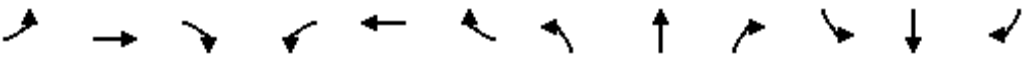
17: Sturgis St & Ocean View Ave

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	1	585	25	27	749	22	29
Future Volume (vph)	1	585	25	27	749	22	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	1728	1807		1728	1596	1661	
Flt Permitted	0.24	1.00		0.33	1.00	0.98	
Satd. Flow (perm)	436	1807		592	1596	1661	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1	629	27	29	805	24	31
RTOR Reduction (vph)	0	1	0	0	0	29	0
Lane Group Flow (vph)	1	655	0	29	805	26	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	2	0	0
Parking (#/hr)					3		10
Turn Type	Perm	NA		Perm	NA	Prot	
Protected Phases		2			6	4	
Permitted Phases	2			6			
Actuated Green, G (s)	66.2	66.2		66.2	66.2	8.0	
Effective Green, g (s)	66.2	66.2		66.2	66.2	8.0	
Actuated g/C Ratio	0.66	0.66		0.66	0.66	0.08	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	2.5	
Lane Grp Cap (vph)	288	1196		391	1056	132	
v/s Ratio Prot		0.36			c0.50	c0.02	
v/s Ratio Perm	0.00			0.05			
v/c Ratio	0.00	0.55		0.07	0.76	0.20	
Uniform Delay, d1	5.7	9.0		6.0	11.5	43.0	
Progression Factor	0.85	0.45		0.17	0.41	1.00	
Incremental Delay, d2	0.0	1.6		0.3	3.7	0.5	
Delay (s)	4.9	5.6		1.3	8.5	43.6	
Level of Service	A	A		A	A	D	
Approach Delay (s)		5.6			8.2	43.6	
Approach LOS		A			A	D	
Intersection Summary							
HCM 2000 Control Delay		8.4		HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio		0.61					
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		15.0	
Intersection Capacity Utilization		56.1%		ICU Level of Service		B	
Analysis Period (min)		15					
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

2031 Build 1 Conditions

20: Pleasant Ave & Ocean View Ave/Shore Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	804	13	179	1141	105	29	9	88	109	7	31
Future Volume (vph)	28	804	13	179	1141	105	29	9	88	109	7	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	1818		1728	1818	1533	1728	1570		1745	1611	
Flt Permitted	0.04	1.00		0.14	1.00	1.00	0.73	1.00		0.60	1.00	
Satd. Flow (perm)	80	1818		246	1818	1533	1330	1570		1110	1611	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	29	829	13	185	1176	108	30	9	91	112	7	32
RTOR Reduction (vph)	0	0	0	0	0	35	0	83	0	0	28	0
Lane Group Flow (vph)	29	842	0	185	1176	73	30	17	0	112	11	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	2	2	0	0	2	0	0	0	0	0	0
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2			6		2	8			4		
Actuated Green, G (s)	95.5	78.5		95.5	91.6	91.6	22.5	12.0		22.5	17.3	
Effective Green, g (s)	95.5	78.5		95.5	91.6	91.6	22.5	12.0		22.5	17.3	
Actuated g/C Ratio	0.68	0.56		0.68	0.65	0.65	0.16	0.09		0.16	0.12	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	100	1019		347	1189	1003	228	134		226	199	
v/s Ratio Prot	0.01	c0.46		0.06	c0.65		0.00	0.01		c0.04	0.01	
v/s Ratio Perm	0.19			0.30		0.05	0.02			c0.04		
v/c Ratio	0.29	0.83		0.53	0.99	0.07	0.13	0.13		0.50	0.06	
Uniform Delay, d1	33.8	25.2		40.9	23.7	8.8	50.2	59.1		52.7	54.1	
Progression Factor	1.00	1.00		0.34	0.30	0.08	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	7.6		0.1	5.7	0.0	0.3	0.4		1.7	0.1	
Delay (s)	35.4	32.8		14.2	12.8	0.7	50.4	59.6		54.4	54.3	
Level of Service	D	C		B	B	A	D	E		D	D	
Approach Delay (s)		32.9			12.1			57.5			54.4	
Approach LOS		C			B			E			D	
Intersection Summary												
HCM 2000 Control Delay		23.7										
HCM 2000 Volume to Capacity ratio		0.91										
Actuated Cycle Length (s)		140.0										
Intersection Capacity Utilization		91.1%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2031 Build 1 Conditions

22: Pretty Lake Ave & Shore Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	939	12	50	1383	266	10	0	17	186	7	32
Future Volume (vph)	51	939	12	50	1383	266	10	0	17	186	7	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1745	1833		1728	1818	1546		1745	1561	1728	1595	
Flt Permitted	0.04	1.00		0.20	1.00	1.00		0.73	1.00	0.75	1.00	
Satd. Flow (perm)	73	1833		357	1818	1546		1344	1561	1366	1595	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	52	948	12	51	1397	269	10	0	17	188	7	32
RTOR Reduction (vph)	0	0	0	0	0	49	0	0	0	0	28	0
Lane Group Flow (vph)	52	960	0	51	1397	220	0	10	17	188	11	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Turn Type	D.P+P	NA		D.P+P	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	2			6		2	4		4	8		
Actuated Green, G (s)	106.0	101.6		106.0	101.1	101.1		18.0	18.0	18.0	18.0	
Effective Green, g (s)	106.0	101.6		106.0	101.1	101.1		18.0	18.0	18.0	18.0	
Actuated g/C Ratio	0.76	0.73		0.76	0.72	0.72		0.13	0.13	0.13	0.13	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	113	1330		313	1312	1116		172	200	175	205	
v/s Ratio Prot	c0.02	0.52		0.01	c0.77						0.01	
v/s Ratio Perm	0.33			0.12		0.14		0.01	0.01	c0.14		
v/c Ratio	0.46	0.72		0.16	1.06	0.20		0.06	0.09	1.07	0.05	
Uniform Delay, d1	38.9	11.1		9.9	19.5	6.3		53.6	53.7	61.0	53.5	
Progression Factor	1.66	0.20		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	2.3		0.1	44.1	0.4		0.1	0.2	89.2	0.1	
Delay (s)	65.4	4.5		10.0	63.5	6.7		53.7	53.9	150.2	53.6	
Level of Service	E	A		A	E	A		D	D	F	D	
Approach Delay (s)		7.6			53.0			53.8			133.6	
Approach LOS		A			D			D			F	
Intersection Summary												
HCM 2000 Control Delay			43.8				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			98.9%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 25: Norfolk Ave & Ocean View Ave

2031 Build 1 Conditions

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	910	10	38	859	1	43
Future Volume (Veh/h)	910	10	38	859	1	43
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	948	10	40	895	1	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLT		
Median storage veh				2		
Upstream signal (ft)				1038		
pX, platoon unblocked					0.72	
vC, conflicting volume			958		1928	953
vC1, stage 1 conf vol					953	
vC2, stage 2 conf vol					975	
vCu, unblocked vol			958		2098	953
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			94		100	86
cM capacity (veh/h)			722		234	317
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	958	40	895	46		
Volume Left	0	40	0	1		
Volume Right	10	0	0	45		
cSH	1700	722	1700	315		
Volume to Capacity	0.56	0.06	0.53	0.15		
Queue Length 95th (ft)	0	4	0	13		
Control Delay (s)	0.0	10.3	0.0	18.4		
Lane LOS		B		C		
Approach Delay (s)	0.0	0.4		18.4		
Approach LOS				C		
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			58.5%		ICU Level of Service	B
Analysis Period (min)			15			

4: First View St & Ocean View Ave

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	355	32	158	395	27	65
Future Volume (vph)	355	32	158	395	27	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1776	1510	1678	1759	1728	1546
Flt Permitted	1.00	1.00	0.50	1.00	0.95	1.00
Satd. Flow (perm)	1776	1510	883	1759	1728	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	382	34	170	425	29	70
RTOR Reduction (vph)	0	12	0	0	0	61
Lane Group Flow (vph)	382	22	170	425	29	9
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Bus Blockages (#/hr)	1	1	0	1	0	0
Turn Type	NA	Perm	D.P+P	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2	2			4
Actuated Green, G (s)	65.4	65.4	72.6	77.6	12.4	12.4
Effective Green, g (s)	65.4	65.4	72.6	77.6	12.4	12.4
Actuated g/C Ratio	0.65	0.65	0.73	0.78	0.12	0.12
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0	2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	1161	987	698	1364	214	191
v/s Ratio Prot	c0.22		0.02	c0.24	c0.02	
v/s Ratio Perm		0.01	0.16			0.01
v/c Ratio	0.33	0.02	0.24	0.31	0.14	0.05
Uniform Delay, d1	7.6	6.1	4.3	3.3	39.0	38.6
Progression Factor	1.00	1.00	1.06	1.18	1.00	1.00
Incremental Delay, d2	0.8	0.0	0.1	0.6	0.2	0.1
Delay (s)	8.4	6.1	4.6	4.5	39.2	38.7
Level of Service	A	A	A	A	D	D
Approach Delay (s)	8.2			4.5	38.8	
Approach LOS	A			A	D	
Intersection Summary						
HCM 2000 Control Delay			9.0		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.31			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			48.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

6: Granby St & Ocean View Ave

2031 Build 2 Conditions

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑↑	↑	↑	↑
Traffic Volume (vph)	404	50	211	538	17	73
Future Volume (vph)	404	50	211	538	17	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1783	1516	3319	1801	1694	1516
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1783	1516	3319	1801	1694	1516
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	439	54	229	585	18	79
RTOR Reduction (vph)	0	17	0	0	0	0
Lane Group Flow (vph)	439	37	229	585	18	79
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Turn Type	NA	Perm	Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	4	7 1
Permitted Phases		2				
Actuated Green, G (s)	60.4	60.4	13.1	79.5	8.5	27.6
Effective Green, g (s)	60.4	60.4	13.1	79.5	8.5	27.6
Actuated g/C Ratio	0.60	0.60	0.13	0.80	0.08	0.28
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	1076	915	434	1431	143	418
v/s Ratio Prot	0.25		c0.07	c0.32	0.01	c0.05
v/s Ratio Perm		0.02				
v/c Ratio	0.41	0.04	0.53	0.41	0.13	0.19
Uniform Delay, d1	10.4	8.0	40.6	3.1	42.3	27.7
Progression Factor	0.70	0.59	1.24	0.85	1.00	1.00
Incremental Delay, d2	1.1	0.1	1.4	0.8	0.5	0.3
Delay (s)	8.4	4.8	51.8	3.5	42.9	28.0
Level of Service	A	A	D	A	D	C
Approach Delay (s)	8.0			17.1	30.7	
Approach LOS	A			B	C	
Intersection Summary						
HCM 2000 Control Delay			14.8		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.44			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	20.0
Intersection Capacity Utilization			52.9%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

8: Chesapeake Blvd & Ocean View Ave

2031 Build 2 Conditions

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	415	86	67	606	117	31
Future Volume (vph)	415	86	67	606	117	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1801	1531	1711	1801	1586	1419
Flt Permitted	1.00	1.00	0.43	1.00	0.95	1.00
Satd. Flow (perm)	1801	1531	782	1801	1586	1419
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	446	92	72	652	126	33
RTOR Reduction (vph)	0	39	0	0	0	27
Lane Group Flow (vph)	446	53	72	652	126	6
Heavy Vehicles (%)	2%	2%	2%	2%	10%	10%
Turn Type	NA	Perm	D.P+P	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2	2			4
Actuated Green, G (s)	57.5	57.5	64.0	69.0	19.0	19.0
Effective Green, g (s)	57.5	57.5	64.0	69.0	19.0	19.0
Actuated g/C Ratio	0.58	0.58	0.64	0.69	0.19	0.19
Clearance Time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1035	880	560	1242	301	269
v/s Ratio Prot	0.25		0.01	c0.36	c0.08	
v/s Ratio Perm		0.03	0.07			0.00
v/c Ratio	0.43	0.06	0.13	0.52	0.42	0.02
Uniform Delay, d1	12.0	9.4	7.1	7.5	35.6	33.0
Progression Factor	0.60	0.31	1.58	1.96	1.00	1.00
Incremental Delay, d2	1.3	0.1	0.1	1.5	4.2	0.2
Delay (s)	8.5	3.0	11.3	16.2	39.9	33.1
Level of Service	A	A	B	B	D	C
Approach Delay (s)	7.5			15.7	38.5	
Approach LOS	A			B	D	
Intersection Summary						
HCM 2000 Control Delay			15.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.55			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	20.0
Intersection Capacity Utilization			50.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

2031 Build 2 Conditions

10: Chesapeake St & Ocean View Ave

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	433	7	22	615	0	21	0	44	0	0	1
Future Volume (vph)	0	433	7	22	615	0	21	0	44	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	1.00			0.91			0.86	
Flt Protected		1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)		1796		1711	1786			1613			1589	
Flt Permitted		1.00		0.47	1.00			0.89			1.00	
Satd. Flow (perm)		1796		855	1786			1453			1589	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	0.92
Adj. Flow (vph)	0	471	8	24	668	0	23	0	44	0	0	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	39	0	0	1	0
Lane Group Flow (vph)	0	479	0	24	668	0	0	28	0	0	0	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		2			6			4			4	
Permitted Phases	2			6			4			4		
Actuated Green, G (s)		77.0		77.0	77.0			11.0			11.0	
Effective Green, g (s)		77.0		77.0	77.0			11.0			11.0	
Actuated g/C Ratio		0.77		0.77	0.77			0.11			0.11	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)		4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)		1382		658	1375			159			174	
v/s Ratio Prot		0.27			c0.37						0.00	
v/s Ratio Perm				0.03				c0.02				
v/c Ratio		0.35		0.04	0.49			0.18			0.00	
Uniform Delay, d1		3.6		2.7	4.2			40.4			39.6	
Progression Factor		0.41		0.28	0.16			1.00			1.00	
Incremental Delay, d2		0.6		0.1	1.1			0.7			0.0	
Delay (s)		2.1		0.9	1.8			41.1			39.6	
Level of Service		A		A	A			D			D	
Approach Delay (s)		2.1			1.8			41.1			39.6	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM 2000 Control Delay			4.1			HCM 2000 Level of Service				A		
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			52.9%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

11: Cape View Ave & Ocean View Ave

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Traffic Volume (vph)	524	9	89	537	11	109
Future Volume (vph)	524	9	89	537	11	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1779		1711	1786	1694	1516
Flt Permitted	1.00		0.39	1.00	0.95	1.00
Satd. Flow (perm)	1779		702	1786	1694	1516
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	552	9	94	565	12	115
RTOR Reduction (vph)	0	0	0	0	0	101
Lane Group Flow (vph)	561	0	94	565	12	14
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Bus Blockages (#/hr)	0	2	0	2	0	0
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	2	4	
Permitted Phases			2			4
Actuated Green, G (s)	67.9		72.8	67.9	12.2	12.2
Effective Green, g (s)	67.9		72.8	67.9	12.2	12.2
Actuated g/C Ratio	0.68		0.73	0.68	0.12	0.12
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0		2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	1207		560	1212	206	184
v/s Ratio Prot	0.32		c0.01	c0.32	0.01	
v/s Ratio Perm			0.11			c0.01
v/c Ratio	0.46		0.17	0.47	0.06	0.08
Uniform Delay, d1	7.5		4.4	7.5	38.8	38.9
Progression Factor	1.87		0.90	1.42	1.00	1.00
Incremental Delay, d2	1.2		0.1	1.3	0.1	0.1
Delay (s)	15.3		4.1	12.0	38.9	39.0
Level of Service	B		A	B	D	D
Approach Delay (s)	15.3			10.9	39.0	
Approach LOS	B			B	D	
Intersection Summary						
HCM 2000 Control Delay			15.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.39			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			53.9%		ICU Level of Service	A
Analysis Period (min)			15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 13: Grove Ave & Ocean View Ave

2031 Build 2 Conditions

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↗	↘	
Traffic Volume (veh/h)	501	2	4	594	12	2
Future Volume (Veh/h)	501	2	4	594	12	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	522	2	4	619	12	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL		TWLTL			
Median storage veh)	2		2			
Upstream signal (ft)			1057			
pX, platoon unblocked					0.85	
vC, conflicting volume			524		1150	
vC1, stage 1 conf vol					523	
vC2, stage 2 conf vol					627	
vCu, unblocked vol			524		1090	
tC, single (s)			4.1		6.4	
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	
p0 queue free %			100		97	
cM capacity (veh/h)			1043		433	
					558	
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	524	4	619	14		
Volume Left	0	4	0	12		
Volume Right	2	0	0	2		
cSH	1700	1043	1700	447		
Volume to Capacity	0.31	0.00	0.36	0.03		
Queue Length 95th (ft)	0	0	0	2		
Control Delay (s)	0.0	8.5	0.0	13.3		
Lane LOS	A		B			
Approach Delay (s)	0.0	0.1	13.3			
Approach LOS			B			
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			41.3%		ICU Level of Service	A
Analysis Period (min)			15			

17: Sturgis St & Ocean View Ave

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	0	489	19	12	591	17	25
Future Volume (vph)	0	489	19	12	591	17	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0	5.0	
Lane Util. Factor		1.00		1.00	1.00	1.00	
Frt		0.99		1.00	1.00	0.92	
Flt Protected		1.00		0.95	1.00	0.98	
Satd. Flow (prot)		1773		1711	1581	1561	
Flt Permitted		1.00		0.42	1.00	0.98	
Satd. Flow (perm)		1773		748	1581	1561	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	532	21	13	642	18	27
RTOR Reduction (vph)	0	1	0	0	0	25	0
Lane Group Flow (vph)	0	552	0	13	642	20	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	2	0	0
Parking (#/hr)					3		10
Turn Type	Perm	NA		Perm	NA	Prot	
Protected Phases		2			6	4	
Permitted Phases	2			6			
Actuated Green, G (s)		73.6		73.6	73.6	6.0	
Effective Green, g (s)		73.6		73.6	73.6	6.0	
Actuated g/C Ratio		0.74		0.74	0.74	0.06	
Clearance Time (s)		5.0		5.0	5.0	5.0	
Vehicle Extension (s)		4.0		4.0	4.0	2.5	
Lane Grp Cap (vph)		1304		550	1163	93	
v/s Ratio Prot		0.31			c0.41	c0.01	
v/s Ratio Perm				0.02			
v/c Ratio		0.42		0.02	0.55	0.21	
Uniform Delay, d1		5.1		3.5	5.9	44.7	
Progression Factor		0.36		0.30	0.65	1.00	
Incremental Delay, d2		1.0		0.1	1.8	0.8	
Delay (s)		2.8		1.1	5.6	45.6	
Level of Service		A		A	A	D	
Approach Delay (s)		2.8			5.5	45.6	
Approach LOS		A			A	D	
Intersection Summary							
HCM 2000 Control Delay		5.7		HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio		0.49					
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		15.0	
Intersection Capacity Utilization		47.8%		ICU Level of Service		A	
Analysis Period (min)		15					
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

20: Pleasant Ave & Ocean View Ave/Shore Dr

2031 Build 2 Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	920	8	80	439	47	9	4	86	94	2	34
Future Volume (vph)	12	920	8	80	439	47	9	4	86	94	2	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1728	3437		1678	3355	1489	1678	1513		1728	1560	
Flt Permitted	0.48	1.00		0.20	1.00	1.00	0.73	1.00		0.70	1.00	
Satd. Flow (perm)	881	3437		353	3355	1489	1294	1513		1267	1560	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	12	948	8	82	453	48	9	4	89	97	2	35
RTOR Reduction (vph)	0	1	0	0	0	21	0	78	0	0	28	0
Lane Group Flow (vph)	12	955	0	82	453	27	9	15	0	97	9	0
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	4%	4%	4%	1%	1%	1%
Bus Blockages (#/hr)	0	2	2	0	0	2	0	0	0	0	0	0
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2			6		2	8			4		
Actuated Green, G (s)	57.3	45.5		57.3	56.0	56.0	20.7	12.2		20.7	19.4	
Effective Green, g (s)	57.3	45.5		57.3	56.0	56.0	20.7	12.2		20.7	19.4	
Actuated g/C Ratio	0.57	0.46		0.57	0.56	0.56	0.21	0.12		0.21	0.19	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	515	1563		358	1878	833	272	184		301	302	
v/s Ratio Prot	0.00	c0.28		0.03	c0.14		0.00	0.01		c0.03	0.01	
v/s Ratio Perm	0.01			0.10		0.02	0.01			c0.04		
v/c Ratio	0.02	0.61		0.23	0.24	0.03	0.03	0.08		0.32	0.03	
Uniform Delay, d1	9.2	20.6		19.8	11.2	9.9	31.6	38.9		33.3	32.7	
Progression Factor	1.01	0.98		0.59	0.46	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	1.7		0.3	0.3	0.1	0.0	0.2		0.6	0.0	
Delay (s)	9.3	22.0		11.9	5.4	9.9	31.7	39.1		33.9	32.7	
Level of Service	A	C		B	A	A	C	D		C	C	
Approach Delay (s)		21.8			6.7			38.5			33.6	
Approach LOS		C			A			D			C	
Intersection Summary												
HCM 2000 Control Delay	18.7			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.48											
Actuated Cycle Length (s)	100.0			Sum of lost time (s)			22.0					
Intersection Capacity Utilization	56.2%			ICU Level of Service			B					
Analysis Period (min)	15											

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

2031 Build 2 Conditions

22: Pretty Lake Ave & Shore Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	1065	22	24	536	97	9	1	40	158	0	21
Future Volume (vph)	13	1065	22	24	536	97	9	1	40	158	0	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1728	3445		1678	3355	1501		1674	1487	1728	1546	
Flt Permitted	0.43	1.00		0.20	1.00	1.00		0.85	1.00	0.75	1.00	
Satd. Flow (perm)	790	3445		352	3355	1501		1489	1487	1366	1546	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	14	1109	23	25	558	101	9	1	42	165	0	22
RTOR Reduction (vph)	0	1	0	0	0	37	0	0	0	0	18	0
Lane Group Flow (vph)	14	1131	0	25	558	64	0	10	42	165	4	0
Heavy Vehicles (%)	1%	1%	1%	4%	4%	4%	5%	5%	5%	1%	1%	1%
Turn Type	D.P+P	NA		D.P+P	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	2			6		2	4		4	8		
Actuated Green, G (s)	64.2	61.9		64.2	63.1	63.1		19.8	19.8	19.8	19.8	
Effective Green, g (s)	64.2	61.9		64.2	63.1	63.1		19.8	19.8	19.8	19.8	
Actuated g/C Ratio	0.64	0.62		0.64	0.63	0.63		0.20	0.20	0.20	0.20	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	517	2132		256	2117	947		294	294	270	306	
v/s Ratio Prot	0.00	c0.33		c0.00	0.17						0.00	
v/s Ratio Perm	0.02			0.06		0.04		0.01	0.03	c0.12		
v/c Ratio	0.03	0.53		0.10	0.26	0.07		0.03	0.14	0.61	0.01	
Uniform Delay, d1	6.5	10.8		7.4	8.2	7.1		32.4	33.1	36.6	32.3	
Progression Factor	0.16	0.18		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	0.9		0.1	0.3	0.1		0.0	0.2	4.1	0.0	
Delay (s)	1.1	2.8		7.4	8.5	7.2		32.4	33.3	40.6	32.3	
Level of Service	A	A		A	A	A		C	C	D	C	
Approach Delay (s)		2.8			8.3			33.1			39.7	
Approach LOS		A			A			C			D	
Intersection Summary												
HCM 2000 Control Delay		8.7										
HCM 2000 Volume to Capacity ratio		0.54										
Actuated Cycle Length (s)		100.0										
Intersection Capacity Utilization		60.6%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

25: Norfolk Ave & Ocean View Ave

2031 Build 2 Conditions

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↗	↘	
Traffic Volume (veh/h)	435	3	14	854	1	19
Future Volume (Veh/h)	435	3	14	854	1	19
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	473	3	15	928	1	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			TWLT		
Median storage veh				2		
Upstream signal (ft)				1041		
pX, platoon unblocked					0.81	
vC, conflicting volume			476		1432	474
vC1, stage 1 conf vol					474	
vC2, stage 2 conf vol					958	
vCu, unblocked vol			476		1417	474
tC, single (s)			4.1		6.5	6.3
tC, 2 stage (s)					5.5	
tF (s)			2.2		3.6	3.4
p0 queue free %			99		100	96
cM capacity (veh/h)			1086		304	582
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	476	15	928	22		
Volume Left	0	15	0	1		
Volume Right	3	0	0	21		
cSH	1700	1086	1700	559		
Volume to Capacity	0.28	0.01	0.55	0.04		
Queue Length 95th (ft)	0	1	0	3		
Control Delay (s)	0.0	8.4	0.0	11.7		
Lane LOS		A		B		
Approach Delay (s)	0.0	0.1		11.7		
Approach LOS				B		
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			54.9%		ICU Level of Service	A
Analysis Period (min)			15			

4: First View St & Ocean View Ave

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	94	25	171	954	324	202
Future Volume (vph)	94	25	171	954	324	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1793	1524	1711	1793	1728	1546
Flt Permitted	1.00	1.00	0.69	1.00	0.95	1.00
Satd. Flow (perm)	1793	1524	1251	1793	1728	1546
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	96	26	174	973	331	206
RTOR Reduction (vph)	0	12	0	0	0	157
Lane Group Flow (vph)	96	14	174	973	331	49
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Bus Blockages (#/hr)	1	1	0	1	0	0
Turn Type	NA	Perm	D.P+P	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2	2			4
Actuated Green, G (s)	53.3	53.3	61.4	66.4	23.6	23.6
Effective Green, g (s)	53.3	53.3	61.4	66.4	23.6	23.6
Actuated g/C Ratio	0.53	0.53	0.61	0.66	0.24	0.24
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0	2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	955	812	805	1190	407	364
v/s Ratio Prot	0.05		0.02	c0.54	c0.19	
v/s Ratio Perm		0.01	0.12			0.03
v/c Ratio	0.10	0.02	0.22	0.82	0.81	0.13
Uniform Delay, d1	11.5	11.0	8.3	12.3	36.1	30.1
Progression Factor	1.00	1.00	0.82	0.95	1.00	1.00
Incremental Delay, d2	0.2	0.0	0.0	3.7	11.5	0.1
Delay (s)	11.7	11.0	6.8	15.4	47.6	30.3
Level of Service	B	B	A	B	D	C
Approach Delay (s)	11.6			14.1	41.0	
Approach LOS	B			B	D	
Intersection Summary						
HCM 2000 Control Delay			21.9		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.86			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			76.5%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

6: Granby St & Ocean View Ave

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↖↗	↑	↖	↗
Traffic Volume (vph)	421	61	252	867	383	329
Future Volume (vph)	421	61	252	867	383	329
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1783	1516	3351	1818	1728	1546
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1783	1516	3351	1818	1728	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	453	66	271	932	412	354
RTOR Reduction (vph)	0	36	0	0	0	0
Lane Group Flow (vph)	453	30	271	932	412	354
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Turn Type	NA	Perm	Prot	NA	Prot	pt+ov
Protected Phases	2		1	6	4	7 1
Permitted Phases		2				
Actuated Green, G (s)	31.6	31.6	18.1	55.7	32.3	42.6
Effective Green, g (s)	31.6	31.6	18.1	55.7	32.3	42.6
Actuated g/C Ratio	0.32	0.32	0.18	0.56	0.32	0.43
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	563	479	606	1012	558	658
v/s Ratio Prot	0.25		0.08	c0.51	c0.24	0.23
v/s Ratio Perm		0.02				
v/c Ratio	0.80	0.06	0.45	0.92	0.74	0.54
Uniform Delay, d1	31.4	23.9	36.5	20.1	30.1	21.4
Progression Factor	0.97	0.96	1.10	0.82	1.00	1.00
Incremental Delay, d2	11.6	0.3	0.6	12.5	5.4	1.1
Delay (s)	42.1	23.1	40.7	29.0	35.5	22.5
Level of Service	D	C	D	C	D	C
Approach Delay (s)	39.7			31.7	29.5	
Approach LOS	D			C	C	
Intersection Summary						
HCM 2000 Control Delay			32.7		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.94			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	20.0
Intersection Capacity Utilization			76.9%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

8: Chesapeake Blvd & Ocean View Ave

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	594	193	82	706	397	67
Future Volume (vph)	594	193	82	706	397	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1818	1546	1728	1818	1728	1546
Flt Permitted	1.00	1.00	0.15	1.00	0.95	1.00
Satd. Flow (perm)	1818	1546	264	1818	1728	1546
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	646	210	89	767	432	73
RTOR Reduction (vph)	0	81	0	0	0	51
Lane Group Flow (vph)	646	129	89	767	432	22
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	NA	Perm	D.P+P	NA	Prot	Perm
Protected Phases	2		1	6	4	
Permitted Phases		2	2			4
Actuated Green, G (s)	41.2	41.2	48.6	53.6	30.0	30.0
Effective Green, g (s)	41.2	41.2	48.6	53.6	30.0	30.0
Actuated g/C Ratio	0.41	0.41	0.49	0.54	0.30	0.30
Clearance Time (s)	6.0	6.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	749	636	236	974	518	463
v/s Ratio Prot	c0.36		0.03	c0.42	c0.25	
v/s Ratio Perm		0.08	0.15			0.01
v/c Ratio	0.86	0.20	0.38	0.79	0.83	0.05
Uniform Delay, d1	26.8	18.9	18.0	18.6	32.7	24.9
Progression Factor	0.80	0.72	0.85	1.19	1.00	1.00
Incremental Delay, d2	11.1	0.6	1.2	5.7	14.6	0.2
Delay (s)	32.4	14.2	16.5	27.9	47.3	25.0
Level of Service	C	B	B	C	D	C
Approach Delay (s)	28.0			26.7	44.1	
Approach LOS	C			C	D	
Intersection Summary						
HCM 2000 Control Delay			31.1		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.85			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	20.0
Intersection Capacity Utilization			72.0%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

2031 Build 2 Conditions

10: Chesapeake St & Ocean View Ave

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	615	38	38	726	2	36	1	75	0	0	7
Future Volume (vph)	1	615	38	38	726	2	36	1	75	0	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.91			0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)	1745	1820		1745	1821			1645			1589	
Flt Permitted	0.32	1.00		0.35	1.00			0.89			1.00	
Satd. Flow (perm)	579	1820		652	1821			1485			1589	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1	641	40	40	756	2	38	1	78	0	0	7
RTOR Reduction (vph)	0	2	0	0	0	0	0	68	0	0	6	0
Lane Group Flow (vph)	1	679	0	40	758	0	0	49	0	0	1	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		2			6			4			4	
Permitted Phases	2			6			4			4		
Actuated Green, G (s)	74.7	74.7		74.7	74.7			13.3			13.3	
Effective Green, g (s)	74.7	74.7		74.7	74.7			13.3			13.3	
Actuated g/C Ratio	0.75	0.75		0.75	0.75			0.13			0.13	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)	432	1359		487	1360			197			211	
v/s Ratio Prot		0.37			c0.42						0.00	
v/s Ratio Perm	0.00			0.06				c0.03				
v/c Ratio	0.00	0.50		0.08	0.56			0.25			0.00	
Uniform Delay, d1	3.2	5.1		3.4	5.5			38.9			37.6	
Progression Factor	0.03	0.67		0.30	0.34			1.00			1.00	
Incremental Delay, d2	0.0	0.9		0.2	1.2			0.9			0.0	
Delay (s)	0.1	4.3		1.3	3.0			39.8			37.6	
Level of Service	A	A		A	A			D			D	
Approach Delay (s)		4.3			2.9			39.8			37.6	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM 2000 Control Delay		6.3			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.51										
Actuated Cycle Length (s)		100.0			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												

11: Cape View Ave & Ocean View Ave

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰		↱	↰	↱	↱
Traffic Volume (vph)	585	32	179	742	14	179
Future Volume (vph)	585	32	179	742	14	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1806		1728	1804	1728	1546
Flt Permitted	1.00		0.29	1.00	0.95	1.00
Satd. Flow (perm)	1806		525	1804	1728	1546
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	629	34	192	798	15	192
RTOR Reduction (vph)	2	0	0	0	0	160
Lane Group Flow (vph)	661	0	192	798	15	32
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	2	0	2	0	0
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	2	4	
Permitted Phases			2			4
Actuated Green, G (s)	60.3		68.4	60.3	16.6	16.6
Effective Green, g (s)	60.3		68.4	60.3	16.6	16.6
Actuated g/C Ratio	0.60		0.68	0.60	0.17	0.17
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0		2.0	4.0	2.5	2.5
Lane Grp Cap (vph)	1089		456	1087	286	256
v/s Ratio Prot	0.37		c0.03	c0.44	0.01	
v/s Ratio Perm			0.25			c0.02
v/c Ratio	0.61		0.42	0.73	0.05	0.12
Uniform Delay, d1	12.4		7.8	14.1	35.1	35.5
Progression Factor	1.76		0.90	1.33	1.00	1.00
Incremental Delay, d2	2.3		0.2	3.8	0.1	0.2
Delay (s)	24.2		7.2	22.5	35.1	35.7
Level of Service	C		A	C	D	D
Approach Delay (s)	24.2			19.6	35.6	
Approach LOS	C			B	D	
Intersection Summary						
HCM 2000 Control Delay			23.0		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.58			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			63.5%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis 13: Grove Ave & Ocean View Ave

2031 Build 2 Conditions

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	699	15	11	793	4	12
Future Volume (Veh/h)	699	15	11	793	4	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	713	15	11	809	4	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL		TWLTL			
Median storage veh)	2		2			
Upstream signal (ft)			1057			
pX, platoon unblocked			0.63			
vC, conflicting volume			728		1552	720
vC1, stage 1 conf vol					720	
vC2, stage 2 conf vol					831	
vCu, unblocked vol			728		1581	720
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	97
cM capacity (veh/h)			880		312	431
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	728	11	809	16		
Volume Left	0	11	0	4		
Volume Right	15	0	0	12		
cSH	1700	880	1700	393		
Volume to Capacity	0.43	0.01	0.48	0.04		
Queue Length 95th (ft)	0	1	0	3		
Control Delay (s)	0.0	9.1	0.0	14.5		
Lane LOS		A		B		
Approach Delay (s)	0.0	0.1		14.5		
Approach LOS				B		
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			51.7%	ICU Level of Service	A	
Analysis Period (min)			15			

17: Sturgis St & Ocean View Ave

							
Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	1	585	25	27	749	22	29
Future Volume (vph)	1	585	25	27	749	22	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	1728	1807		1728	1596	1661	
Flt Permitted	0.24	1.00		0.33	1.00	0.98	
Satd. Flow (perm)	436	1807		592	1596	1661	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1	629	27	29	805	24	31
RTOR Reduction (vph)	0	1	0	0	0	29	0
Lane Group Flow (vph)	1	655	0	29	805	26	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	2	0	0
Parking (#/hr)					3		10
Turn Type	Perm	NA		Perm	NA	Prot	
Protected Phases		2			6	4	
Permitted Phases	2			6			
Actuated Green, G (s)	66.2	66.2		66.2	66.2	8.0	
Effective Green, g (s)	66.2	66.2		66.2	66.2	8.0	
Actuated g/C Ratio	0.66	0.66		0.66	0.66	0.08	
Clearance Time (s)	5.0	5.0		5.0	5.0	5.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	2.5	
Lane Grp Cap (vph)	288	1196		391	1056	132	
v/s Ratio Prot		0.36			c0.50	c0.02	
v/s Ratio Perm	0.00			0.05			
v/c Ratio	0.00	0.55		0.07	0.76	0.20	
Uniform Delay, d1	5.7	9.0		6.0	11.5	43.0	
Progression Factor	0.85	0.45		0.17	0.45	1.00	
Incremental Delay, d2	0.0	1.6		0.3	3.7	0.5	
Delay (s)	4.9	5.6		1.3	9.0	43.6	
Level of Service	A	A		A	A	D	
Approach Delay (s)		5.6			8.7	43.6	
Approach LOS		A			A	D	
Intersection Summary							
HCM 2000 Control Delay		8.6		HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio		0.61					
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		15.0	
Intersection Capacity Utilization		56.1%		ICU Level of Service		B	
Analysis Period (min)		15					
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

20: Pleasant Ave & Ocean View Ave/Shore Dr

2031 Build 2 Conditions

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	804	13	179	1141	105	29	9	88	109	7	31
Future Volume (vph)	28	804	13	179	1141	105	29	9	88	109	7	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	3468		1728	3455	1533	1728	1570		1745	1611	
Flt Permitted	0.16	1.00		0.22	1.00	1.00	0.73	1.00		0.69	1.00	
Satd. Flow (perm)	286	3468		401	3455	1533	1330	1570		1272	1611	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	29	829	13	185	1176	108	30	9	91	112	7	32
RTOR Reduction (vph)	0	1	0	0	0	51	0	82	0	0	27	0
Lane Group Flow (vph)	29	841	0	185	1176	57	30	18	0	112	12	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	2	2	0	0	2	0	0	0	0	0	0
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA		D.P+P	NA	
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	2			6		2	8			4		
Actuated Green, G (s)	56.9	39.9		56.9	52.9	52.9	21.1	9.9		21.1	16.6	
Effective Green, g (s)	56.9	39.9		56.9	52.9	52.9	21.1	9.9		21.1	16.6	
Actuated g/C Ratio	0.57	0.40		0.57	0.53	0.53	0.21	0.10		0.21	0.17	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	6.0		5.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	221	1383		453	1827	810	298	155		321	267	
v/s Ratio Prot	0.01	c0.24		0.07	c0.34		0.00	0.01		c0.04	0.01	
v/s Ratio Perm	0.07			0.16		0.04	0.02			c0.03		
v/c Ratio	0.13	0.61		0.41	0.64	0.07	0.10	0.12		0.35	0.05	
Uniform Delay, d1	11.3	23.8		23.1	16.8	11.5	31.7	41.1		33.3	35.0	
Progression Factor	0.58	0.63		0.31	0.30	0.11	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	1.8		0.5	1.4	0.1	0.1	0.3		0.7	0.1	
Delay (s)	6.8	16.8		7.7	6.5	1.4	31.8	41.4		33.9	35.1	
Level of Service	A	B		A	A	A	C	D		C	D	
Approach Delay (s)		16.4			6.2			39.2			34.2	
Approach LOS		B			A			D			C	
Intersection Summary												
HCM 2000 Control Delay		12.9					HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)			22.0		
Intersection Capacity Utilization		62.6%					ICU Level of Service			B		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2031 Build 2 Conditions

22: Pretty Lake Ave & Shore Dr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	939	12	50	1383	266	10	0	17	186	7	32
Future Volume (vph)	51	939	12	50	1383	266	10	0	17	186	7	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1745	3483		1728	3455	1546		1745	1561	1728	1595	
Flt Permitted	0.12	1.00		0.25	1.00	1.00		0.73	1.00	0.75	1.00	
Satd. Flow (perm)	228	3483		457	3455	1546		1344	1561	1366	1595	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	52	948	12	51	1397	269	10	0	17	188	7	32
RTOR Reduction (vph)	0	1	0	0	0	87	0	0	0	0	26	0
Lane Group Flow (vph)	52	959	0	51	1397	182	0	10	17	188	13	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	1%	1%	1%
Turn Type	D.P+P	NA		D.P+P	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	2			6		2	4		4	8		
Actuated Green, G (s)	64.9	60.3		64.9	60.3	60.3		19.1	19.1	19.1	19.1	
Effective Green, g (s)	64.9	60.3		64.9	60.3	60.3		19.1	19.1	19.1	19.1	
Actuated g/C Ratio	0.65	0.60		0.65	0.60	0.60		0.19	0.19	0.19	0.19	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0		5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	217	2100		355	2083	932		256	298	260	304	
v/s Ratio Prot	c0.01	0.28		0.01	c0.40						0.01	
v/s Ratio Perm	0.14			0.09		0.12		0.01	0.01	c0.14		
v/c Ratio	0.24	0.46		0.14	0.67	0.19		0.04	0.06	0.72	0.04	
Uniform Delay, d1	9.0	10.9		6.8	13.2	8.9		33.0	33.1	38.0	33.0	
Progression Factor	0.64	0.17		1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.6		0.1	1.7	0.5		0.1	0.1	9.5	0.1	
Delay (s)	6.0	2.5		6.9	15.0	9.4		33.0	33.2	47.5	33.1	
Level of Service	A	A		A	B	A		C	C	D	C	
Approach Delay (s)		2.6			13.9			33.1			45.0	
Approach LOS		A			B			C			D	
Intersection Summary												
HCM 2000 Control Delay		12.6			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.66										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)			16.0				
Intersection Capacity Utilization		68.5%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 25: Norfolk Ave & Ocean View Ave

2031 Build 2 Conditions

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Volume (veh/h)	910	10	38	859	1	43		
Future Volume (Veh/h)	910	10	38	859	1	43		
Sign Control	Free			Free	Stop			
Grade	0%			0%	0%			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Hourly flow rate (vph)	948	10	40	895	1	45		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None		TWLTL					
Median storage veh			2					
Upstream signal (ft)			1038					
pX, platoon unblocked			0.72					
vC, conflicting volume			958		1928	953		
vC1, stage 1 conf vol					953			
vC2, stage 2 conf vol					975			
vCu, unblocked vol			958		2098	953		
tC, single (s)			4.1		6.4	6.2		
tC, 2 stage (s)					5.4			
tF (s)			2.2		3.5	3.3		
p0 queue free %			94		100	86		
cM capacity (veh/h)			722		234	317		
Direction, Lane #	EB 1	WB 1	WB 2	NB 1				
Volume Total	958	40	895	46				
Volume Left	0	40	0	1				
Volume Right	10	0	0	45				
cSH	1700	722	1700	315				
Volume to Capacity	0.56	0.06	0.53	0.15				
Queue Length 95th (ft)	0	4	0	13				
Control Delay (s)	0.0	10.3	0.0	18.4				
Lane LOS			B	C				
Approach Delay (s)	0.0	0.4		18.4				
Approach LOS				C				
Intersection Summary								
Average Delay			0.6					
Intersection Capacity Utilization			58.5%	ICU Level of Service	B			
Analysis Period (min)			15					

Arterial Level of Service: EB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
First View St	III	35	23.9	9.0	32.9	0.20	21.8	C
Granby St	III	35	39.7	14.3	54.0	0.33	22.1	C
Chesapeake Blvd	III	35	52.9	12.7	65.6	0.44	24.2	B
Chesapeake St	III	35	23.2	14.1	37.3	0.19	18.7	C
Sturgis St	III	35	55.7	11.2	66.9	0.54	29.1	B
Cape View Ave	III	35	65.9	12.5	78.4	0.64	29.4	B
Pleasant Ave	III	35	194.6	18.9	213.5	1.89	31.9	A
Total	III		455.9	92.7	548.6	4.24	27.8	B

Arterial Level of Service: WB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cape View Ave	III	35	194.6	9.9	204.5	1.89	33.3	A
Sturgis St	III	35	65.9	6.9	72.8	0.64	31.7	A
	III	35	55.7	8.7	64.4	0.54	30.2	A
Chesapeake Blvd	III	35	23.2	3.5	26.7	0.19	26.1	B
Granby St	III	35	52.9	4.0	56.9	0.44	27.9	B
First View St	III	35	39.7	4.1	43.8	0.33	27.2	B
Total	III		432.0	37.1	469.1	4.04	31.0	A

Arterial Level of Service: EB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	IV	35	20.1	8.4	28.5	0.12	15.4	C
Total	IV		20.1	8.4	28.5	0.12	15.4	C

Arterial Level of Service: WB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	III	35	24.2	8.4	32.6	0.20	22.3	C
Pleasant Ave	III	35	16.4	6.0	22.4	0.12	19.5	C
Total	III		40.6	14.4	55.0	0.32	21.1	C

Arterial Level of Service: EB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
First View St	III	35	23.9	10.3	34.2	0.20	21.0	C
Granby St	III	35	39.7	24.5	64.2	0.33	18.6	C
Chesapeake Blvd	III	35	52.9	16.2	69.1	0.44	23.0	C
Chesapeake St	III	35	23.2	13.0	36.2	0.19	19.2	C
Sturgis St	III	35	55.7	12.1	67.8	0.54	28.7	B
Cape View Ave	III	35	65.9	17.8	83.7	0.64	27.6	B
Pleasant Ave	III	35	194.6	18.6	213.2	1.89	32.0	A
Total	III		455.9	112.5	568.4	4.24	26.8	B

Arterial Level of Service: WB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cape View Ave	III	35	194.6	18.4	213.0	1.89	32.0	A
Sturgis St	III	35	65.9	4.5	70.4	0.64	32.8	A
	III	35	55.7	10.0	65.7	0.54	29.6	B
Chesapeake Blvd	III	35	23.2	7.0	30.2	0.19	23.1	C
Granby St	III	35	52.9	12.4	65.3	0.44	24.3	B
First View St	III	35	39.7	8.0	47.7	0.33	25.0	B
Total	III		432.0	60.3	492.3	4.04	29.5	B

Arterial Level of Service: EB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	IV	35	19.4	4.4	23.8	0.12	17.8	C
Total	IV		19.4	4.4	23.8	0.12	17.8	C

Arterial Level of Service: WB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	III	35	24.2	10.3	34.5	0.20	21.0	C
Pleasant Ave	III	35	15.9	9.7	25.6	0.12	16.5	D
Total	III		40.1	20.0	60.1	0.32	19.1	C

Arterial Level of Service: EB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
First View St	III	30	25.3	8.1	33.4	0.20	21.5	C
Granby St	III	30	42.0	6.4	48.4	0.33	24.6	B
Chesapeake Blvd	III	30	56.0	7.8	63.8	0.44	24.9	B
Chesapeake St	III	30	24.6	0.6	25.2	0.19	27.6	B
Sturgis St	III	30	65.0	2.8	67.8	0.54	28.7	B
Cape View Ave	III	30	76.9	21.5	98.4	0.64	23.4	C
Pleasant Ave	III	30	226.7	18.6	245.3	1.89	27.7	B
Total	III		516.5	65.8	582.3	4.23	26.2	B

Arterial Level of Service: WB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cape View Ave	III	30	226.7	15.6	242.3	1.89	28.1	B
Sturgis St	III	30	76.9	2.3	79.2	0.64	29.1	B
	III	30	65.0	2.5	67.5	0.54	28.8	B
Chesapeake Blvd	III	30	24.6	10.7	35.3	0.19	19.7	C
Granby St	III	30	56.0	2.6	58.6	0.44	27.1	B
First View St	III	30	42.0	6.1	48.1	0.33	24.8	B
Total	III		491.2	39.8	531.0	4.04	27.4	B

Arterial Level of Service: EB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	IV	30	22.2	5.7	27.9	0.12	15.9	C
Total	IV		22.2	5.7	27.9	0.12	15.9	C

Arterial Level of Service: WB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	III	30	25.6	10.4	36.0	0.20	20.2	C
Pleasant Ave	III	30	17.4	8.2	25.6	0.12	17.4	D
Total	III		43.0	18.6	61.6	0.32	19.0	C

Arterial Level of Service: EB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
First View St	III	30	25.3	11.6	36.9	0.20	19.4	C
Granby St	III	30	42.0	25.8	67.8	0.33	17.6	D
Chesapeake Blvd	III	30	56.0	20.5	76.5	0.44	20.7	C
Chesapeake St	III	30	24.6	1.1	25.7	0.19	27.1	B
Sturgis St	III	30	65.0	4.1	69.1	0.54	28.2	B
Cape View Ave	III	30	76.9	23.5	100.4	0.64	23.0	C
Pleasant Ave	III	30	226.8	18.6	245.4	1.89	27.7	B
Total	III		516.6	105.2	621.8	4.24	24.5	B

Arterial Level of Service: WB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cape View Ave	III	30	226.8	27.3	254.1	1.89	26.8	B
Sturgis St	III	30	76.9	8.3	85.2	0.64	27.1	B
	III	30	65.0	0.6	65.6	0.54	29.7	B
Chesapeake Blvd	III	30	24.6	13.0	37.6	0.19	18.5	C
Granby St	III	30	56.0	10.4	66.4	0.44	23.9	C
First View St	III	30	42.0	9.4	51.4	0.33	23.2	C
Total	III		491.3	69.0	560.3	4.04	25.9	B

Arterial Level of Service: EB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	IV	30	22.3	7.2	29.5	0.12	15.1	C
Total	IV		22.3	7.2	29.5	0.12	15.1	C

Arterial Level of Service: WB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	III	30	25.6	16.5	42.1	0.20	17.2	D
Pleasant Ave	III	30	17.5	11.7	29.2	0.12	15.3	D
Total	III		43.1	28.2	71.3	0.33	16.4	D

Arterial Level of Service: EB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
First View St	III	30	24.2	9.8	34.0	0.19	20.2	C
Granby St	III	30	41.1	9.2	50.3	0.32	23.2	C
Chesapeake Blvd	III	30	57.2	8.8	66.0	0.45	24.6	B
Chesapeake St	III	30	24.3	2.6	26.9	0.19	25.7	B
Sturgis St	III	30	65.3	3.4	68.7	0.54	28.5	B
Cape View Ave	III	30	76.8	17.7	94.5	0.64	24.4	B
Pleasant Ave	III	30	225.8	37.2	263.0	1.88	25.8	B
Total	III		514.7	88.7	603.4	4.22	25.2	B

Arterial Level of Service: WB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cape View Ave	III	30	225.8	10.1	235.9	1.88	28.7	B
Sturgis St	III	30	76.8	7.0	83.8	0.64	27.5	B
	III	30	65.3	2.0	67.3	0.54	29.1	B
Chesapeake Blvd	III	30	24.3	14.2	38.5	0.19	17.9	D
Granby St	III	30	57.2	3.7	60.9	0.45	26.6	B
First View St	III	30	41.1	5.3	46.4	0.32	25.1	B
Total	III		490.5	42.3	532.8	4.03	27.2	B

Arterial Level of Service: EB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	IV	30	22.5	17.2	39.7	0.12	11.3	D
Total	IV		22.5	17.2	39.7	0.12	11.3	D

Arterial Level of Service: WB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	III	30	25.9	11.8	37.7	0.20	19.5	C
Pleasant Ave	III	30	17.6	5.7	23.3	0.12	19.3	C
Total	III		43.5	17.5	61.0	0.33	19.4	C

Arterial Level of Service: EB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
First View St	III	30	24.2	13.9	38.1	0.19	18.0	C
Granby St	III	30	40.8	40.0	80.8	0.32	14.3	D
Chesapeake Blvd	III	30	57.1	29.7	86.8	0.45	18.6	C
Chesapeake St	III	30	24.3	5.1	29.4	0.19	23.5	C
Sturgis St	III	30	65.3	7.0	72.3	0.54	27.1	B
Cape View Ave	III	30	76.7	27.9	104.6	0.64	22.0	C
Pleasant Ave	III	30	226.4	28.8	255.2	1.89	26.6	B
Total	III		514.8	152.4	667.2	4.22	22.8	C

Arterial Level of Service: WB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cape View Ave	III	30	226.4	21.3	247.7	1.89	27.4	B
Sturgis St	III	30	76.7	13.1	89.8	0.64	25.6	B
	III	30	65.3	3.5	68.8	0.54	28.5	B
Chesapeake Blvd	III	30	24.3	25.6	49.9	0.19	13.8	E
Granby St	III	30	57.1	28.8	85.9	0.45	18.8	C
First View St	III	30	40.8	17.9	58.7	0.32	19.7	C
Total	III		490.6	110.2	600.8	4.03	24.2	B

Arterial Level of Service: EB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	IV	30	21.9	4.5	26.4	0.12	16.6	C
Total	IV		21.9	4.5	26.4	0.12	16.6	C

Arterial Level of Service: WB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	III	30	25.9	60.8	86.7	0.20	8.5	F
Pleasant Ave	III	30	17.2	11.0	28.2	0.12	15.5	D
Total	III		43.1	71.8	114.9	0.33	10.2	E

Arterial Level of Service: EB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
First View St	III	30	24.2	9.8	34.0	0.19	20.2	C
Granby St	III	30	41.1	9.2	50.3	0.32	23.2	C
Chesapeake Blvd	III	30	57.2	8.8	66.0	0.45	24.6	B
Chesapeake St	III	30	24.3	2.6	26.9	0.19	25.7	B
Sturgis St	III	30	65.3	3.4	68.7	0.54	28.5	B
Cape View Ave	III	30	76.8	17.7	94.5	0.64	24.4	B
Pleasant Ave	III	30	225.7	19.7	245.4	1.88	27.6	B
Total	III		514.6	71.2	585.8	4.22	25.9	B

Arterial Level of Service: WB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cape View Ave	III	30	225.7	13.8	239.5	1.88	28.3	B
Sturgis St	III	30	76.8	7.7	84.5	0.64	27.3	B
	III	30	65.3	2.0	67.3	0.54	29.1	B
Chesapeake Blvd	III	30	24.3	16.7	41.0	0.19	16.8	D
Granby St	III	30	57.2	3.7	60.9	0.45	26.6	B
First View St	III	30	41.1	5.3	46.4	0.32	25.1	B
Total	III		490.4	49.2	539.6	4.03	26.9	B

Arterial Level of Service: EB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	IV	30	22.5	2.9	25.4	0.12	17.7	C
Total	IV		22.5	2.9	25.4	0.12	17.7	C

Arterial Level of Service: WB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	III	30	25.9	8.7	34.6	0.20	21.2	C
Pleasant Ave	III	30	17.6	4.9	22.5	0.12	20.0	C
Total	III		43.5	13.6	57.1	0.33	20.7	C

Arterial Level of Service: EB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
First View St	III	30	24.2	13.9	38.1	0.19	18.0	C
Granby St	III	30	40.8	40.0	80.8	0.32	14.3	D
Chesapeake Blvd	III	30	57.1	29.7	86.8	0.45	18.6	C
Chesapeake St	III	30	24.3	5.1	29.4	0.19	23.5	C
Sturgis St	III	30	65.3	7.0	72.3	0.54	27.1	B
Cape View Ave	III	30	76.7	27.9	104.6	0.64	22.0	C
Pleasant Ave	III	30	226.1	15.5	241.6	1.88	28.1	B
Total	III		514.5	139.1	653.6	4.22	23.2	C

Arterial Level of Service: WB Ocean View Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Cape View Ave	III	30	226.1	25.9	252.0	1.88	26.9	B
Sturgis St	III	30	76.7	13.5	90.2	0.64	25.5	B
	III	30	65.3	3.5	68.8	0.54	28.5	B
Chesapeake Blvd	III	30	24.3	26.5	50.8	0.19	13.6	E
Granby St	III	30	57.1	28.8	85.9	0.45	18.8	C
First View St	III	30	40.8	17.9	58.7	0.32	19.7	C
Total	III		490.3	116.1	606.4	4.03	23.9	C

Arterial Level of Service: EB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	IV	30	21.9	2.6	24.5	0.12	17.9	C
Total	IV		21.9	2.6	24.5	0.12	17.9	C

Arterial Level of Service: WB Shore Dr

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Pretty Lake Ave	III	30	25.9	16.5	42.4	0.20	17.3	D
Pleasant Ave	III	30	17.2	6.3	23.5	0.12	18.7	C
Total	III		43.1	22.8	65.9	0.33	17.8	D