






















Attachment 2

2021 Updated Traffic Analysis Data

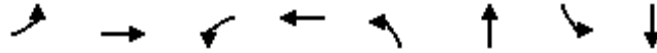
HCM Signalized Intersection Capacity Analysis
38: Shoreline Boulevard & Middlefield Road

North Bayshore Precise Plan EIR
Existing + Project **AM Peak Hour**

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	320	110	150	410	250	230	850	100	250	410	40
Future Volume (vph)	120	320	110	150	410	250	230	850	100	250	410	40
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3364		1770	3277		1770	3470		1770	3484	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3364		1770	3277		1770	3470		1770	3484	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	122	327	112	153	418	255	235	867	102	255	418	41
RTOR Reduction (vph)	0	24	0	0	64	0	0	6	0	0	5	0
Lane Group Flow (vph)	122	415	0	153	609	0	235	963	0	255	454	0
Confl. Peds. (#/hr)			8			6			7			11
Confl. Bikes (#/hr)			19			25			39			4
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.9	28.6		15.2	29.9		16.0	69.2		16.0	69.2	
Effective Green, g (s)	13.9	28.6		15.2	29.9		16.0	69.2		16.0	69.2	
Actuated g/C Ratio	0.10	0.20		0.10	0.21		0.11	0.48		0.11	0.48	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	169	663		185	675		195	1656		195	1662	
v/s Ratio Prot	0.07	0.12		c0.09	c0.19		0.13	c0.28		c0.14	0.13	
v/s Ratio Perm												
v/c Ratio	0.72	0.63		0.83	0.90		1.21	0.58		1.31	0.27	
Uniform Delay, d1	63.7	53.3		63.6	56.1		64.5	27.4		64.5	22.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.1	1.9		25.1	15.3		130.6	1.5		170.3	0.4	
Delay (s)	77.8	55.2		88.7	71.4		195.1	28.9		234.8	23.2	
Level of Service	E	E		F	E		F	C		F	C	
Approach Delay (s)		60.1			74.6			61.4			98.8	
Approach LOS		E			E			E			F	
Intersection Summary												
HCM 2000 Control Delay			72.5				HCM 2000 Level of Service				E	
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			145.0			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			90.5%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

Queues
38: Shoreline Boulevard & Middlefield Road

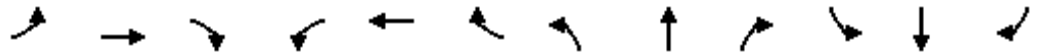


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	122	439	153	673	235	969	255	459
v/c Ratio	0.72	0.64	0.83	0.91	1.21	0.58	1.31	0.28
Control Delay	86.6	53.9	95.7	66.3	183.1	29.5	218.6	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.6	53.9	95.7	66.3	183.1	29.5	218.6	23.5
Queue Length 50th (ft)	113	186	143	292	-269	350	-308	136
Queue Length 95th (ft)	184	244	#257	#394	#445	426	#489	179
Internal Link Dist (ft)		836		508		796		722
Turn Bay Length (ft)	220		230		160		145	
Base Capacity (vph)	195	743	195	764	195	1660	195	1667
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.59	0.78	0.88	1.21	0.58	1.31	0.28

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

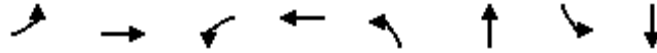
HCM Signalized Intersection Capacity Analysis
38: Shoreline Boulevard & Middlefield Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Volume (vph)	280	490	260	280	550	90	140	660	190	350	1400	80
Future Volume (vph)	280	490	260	280	550	90	140	660	190	350	1400	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.98		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.98		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3291		1770	3446		1770	3401		1770	3505	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3291		1770	3446		1770	3401		1770	3505	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	295	516	274	295	579	95	147	695	200	368	1474	84
RTOR Reduction (vph)	0	50	0	0	10	0	0	19	0	0	3	0
Lane Group Flow (vph)	295	740	0	295	664	0	147	876	0	368	1555	0
Confl. Peds. (#/hr)			10			4			14			6
Confl. Bikes (#/hr)			28			22			1			27
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	16.0	31.0		21.0	36.0		14.8	51.0		21.0	57.2	
Effective Green, g (s)	16.0	31.0		21.0	36.0		14.8	51.0		21.0	57.2	
Actuated g/C Ratio	0.11	0.22		0.15	0.26		0.11	0.36		0.15	0.41	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	202	728		265	886		187	1238		265	1432	
v/s Ratio Prot	c0.17	c0.22		c0.17	0.19		c0.08	0.26		c0.21	c0.44	
v/s Ratio Perm												
v/c Ratio	1.46	1.02		1.11	0.75		0.79	0.71		1.39	1.09	
Uniform Delay, d1	62.0	54.5		59.5	47.9		61.1	38.1		59.5	41.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	232.4	37.6		89.1	3.5		19.2	3.4		196.5	50.8	
Delay (s)	294.4	92.1		148.6	51.4		80.3	41.5		256.0	92.2	
Level of Service	F	F		F	D		F	D		F	F	
Approach Delay (s)		147.1			81.0			47.0			123.5	
Approach LOS		F			F			D			F	
Intersection Summary												
HCM 2000 Control Delay			104.5									F
HCM 2000 Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			140.0							16.0		
Intersection Capacity Utilization			107.1%									G
ICU Level of Service												
Analysis Period (min)			15									

c Critical Lane Group

Queues
38: Shoreline Boulevard & Middlefield Road























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	295	790	295	674	147	895	368	1558
v/c Ratio	1.46	1.02	1.11	0.75	0.79	0.71	1.39	1.09
Control Delay	274.3	85.2	142.2	53.1	88.5	40.6	239.4	89.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	274.3	85.2	142.2	53.1	88.5	40.6	239.4	89.9
Queue Length 50th (ft)	~366	~373	~307	294	131	355	~445	~851
Queue Length 95th (ft)	#553	#506	#494	367	#230	435	#647	#992
Internal Link Dist (ft)		836		508		796		722
Turn Bay Length (ft)	220		230		160		145	
Base Capacity (vph)	202	778	265	896	202	1257	265	1435
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.46	1.02	1.11	0.75	0.73	0.71	1.39	1.09

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
38: Shoreline Boulevard & Middlefield Road

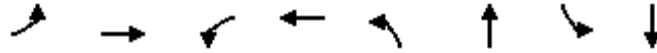
North Bayshore Precise Plan EIR
Existing + Project AM Peak Hour - Mitigated

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	320	110	150	410	250	230	850	100	250	410	40
Future Volume (vph)	120	320	110	150	410	250	230	850	100	250	410	40
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95		0.97	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	3365		3433	3279		1770	3469		1770	3484	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	3365		3433	3279		1770	3469		1770	3484	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	122	327	112	153	418	255	235	867	102	255	418	41
RTOR Reduction (vph)	0	25	0	0	66	0	0	6	0	0	4	0
Lane Group Flow (vph)	122	414	0	153	607	0	235	963	0	255	455	0
Confl. Peds. (#/hr)			8			6			7			11
Confl. Bikes (#/hr)			19			25			39			4
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.7	30.2		10.4	31.9		23.9	62.8		25.6	64.5	
Effective Green, g (s)	8.7	30.2		10.4	31.9		23.9	62.8		25.6	64.5	
Actuated g/C Ratio	0.06	0.21		0.07	0.22		0.16	0.43		0.18	0.44	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	205	700		246	721		291	1502		312	1549	
v/s Ratio Prot	0.04	0.12		c0.04	c0.19		0.13	c0.28		c0.14	0.13	
v/s Ratio Perm												
v/c Ratio	0.60	0.59		0.62	0.84		0.81	0.64		0.82	0.29	
Uniform Delay, d1	66.4	51.8		65.4	54.1		58.3	32.3		57.4	25.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.6	1.3		4.8	8.8		15.0	2.1		15.2	0.5	
Delay (s)	71.0	53.2		70.2	62.9		73.4	34.4		72.6	26.2	
Level of Service	E	D		E	E		E	C		E	C	
Approach Delay (s)		57.1			64.3			42.0			42.8	
Approach LOS		E			E			D			D	
Intersection Summary												
HCM 2000 Control Delay			50.3				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			145.0			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			87.2%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

Queues

38: Shoreline Boulevard & Middlefield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	122	439	153	673	235	969	255	459
v/c Ratio	0.59	0.60	0.62	0.85	0.80	0.64	0.82	0.30
Control Delay	78.5	51.5	76.8	58.4	78.4	36.2	77.4	27.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.5	51.5	76.8	58.4	78.4	36.2	77.4	27.6
Queue Length 50th (ft)	58	185	73	285	216	377	234	144
Queue Length 95th (ft)	94	237	112	351	301	508	321	209
Internal Link Dist (ft)		836		508		796		722
Turn Bay Length (ft)	220		230		160		145	
Base Capacity (vph)	213	813	260	878	366	1506	390	1553
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.54	0.59	0.77	0.64	0.64	0.65	0.30

Intersection Summary

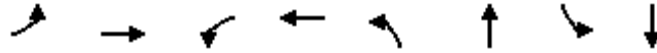
HCM Signalized Intersection Capacity Analysis
38: Shoreline Boulevard & Middlefield Road

North Bayshore Precise Plan EIR
Existing + Project **PM Peak Hour - Mitigated**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	280	490	260	280	550	90	140	660	190	350	1400	80
Future Volume (vph)	280	490	260	280	550	90	140	660	190	350	1400	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.95		0.97	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.98		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.98		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	3291		3433	3446		1770	3401		1770	3505	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	3291		3433	3446		1770	3401		1770	3505	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	295	516	274	295	579	95	147	695	200	368	1474	84
RTOR Reduction (vph)	0	50	0	0	10	0	0	18	0	0	3	0
Lane Group Flow (vph)	295	740	0	295	664	0	147	877	0	368	1555	0
Confl. Peds. (#/hr)			10			4			14			6
Confl. Bikes (#/hr)			28			22			1			27
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	15.3	31.5		17.1	33.3		14.8	54.4		21.0	60.6	
Effective Green, g (s)	15.3	31.5		17.1	33.3		14.8	54.4		21.0	60.6	
Actuated g/C Ratio	0.11	0.22		0.12	0.24		0.11	0.39		0.15	0.43	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	375	740		419	819		187	1321		265	1517	
v/s Ratio Prot	c0.09	c0.22		0.09	0.19		c0.08	0.26		c0.21	c0.44	
v/s Ratio Perm												
v/c Ratio	0.79	1.00		0.70	0.81		0.79	0.66		1.39	1.03	
Uniform Delay, d1	60.8	54.2		59.0	50.4		61.1	35.3		59.5	39.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.4	33.2		5.3	6.1		19.2	2.6		196.5	29.7	
Delay (s)	71.2	87.5		64.3	56.5		80.3	37.9		256.0	69.4	
Level of Service	E	F		E	E		F	D		F	E	
Approach Delay (s)		83.0			58.9			43.9			105.1	
Approach LOS		F			E			D			F	
Intersection Summary												
HCM 2000 Control Delay			78.7									E
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			140.0								16.0	
Intersection Capacity Utilization			99.6%									F
Analysis Period (min)			15									

c Critical Lane Group

Queues
38: Shoreline Boulevard & Middlefield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	295	790	295	674	147	895	368	1558
v/c Ratio	0.79	1.00	0.70	0.81	0.79	0.67	1.39	1.02
Control Delay	76.2	81.7	68.2	57.9	88.5	37.6	239.4	68.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7
Total Delay	76.2	81.7	68.2	57.9	88.5	37.6	239.4	72.4
Queue Length 50th (ft)	136	355	135	303	131	341	-445	-810
Queue Length 95th (ft)	#189	#506	179	367	#230	435	#647	#992
Internal Link Dist (ft)		836		508		796		722
Turn Bay Length (ft)	220		230		160		145	
Base Capacity (vph)	392	789	514	896	202	1339	265	1520
Starvation Cap Reductn	0	0	0	0	0	0	0	16
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	1.00	0.57	0.75	0.73	0.67	1.39	1.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.