

# **Appendix E**

## **Synchro Outputs**

# HCM Unsignalized Intersection Capacity Analysis

## 3: Mountainview Road North & Stewart MacLaren Road

11/05/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕	↘		↕
Traffic Volume (veh/h)	1	23	299	19	2	469
Future Volume (Veh/h)	1	23	299	19	2	469
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	25	325	21	2	510
Pedestrians	7					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						171
pX, platoon unblocked						
vC, conflicting volume	602	180			332	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	602	180			332	
tC, single (s)	6.8	7.2			5.1	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.7	
p0 queue free %	100	97			100	
cM capacity (veh/h)	432	782			935	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	26	217	129	172	340	
Volume Left	1	0	0	2	0	
Volume Right	25	0	21	0	0	
cSH	758	1700	1700	935	1700	
Volume to Capacity	0.03	0.13	0.08	0.00	0.20	
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	
Control Delay (s)	9.9	0.0	0.0	0.1	0.0	
Lane LOS	A			A		
Approach Delay (s)	9.9	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

# Timings

## 5: Mountainview Road North & River Drive

11/05/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕		↕	↕		↕
Traffic Volume (vph)	4	4	91	8	15	197	109	33	349
Future Volume (vph)	4	4	91	8	15	197	109	33	349
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
Minimum Split (s)	32.1	32.1	32.1	32.1	36.1	36.1	36.1	36.1	36.1
Total Split (s)	32.1	32.1	32.1	32.1	43.9	43.9	43.9	43.9	43.9
Total Split (%)	42.2%	42.2%	42.2%	42.2%	57.8%	57.8%	57.8%	57.8%	57.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0		0.0		0.0	0.0
Total Lost Time (s)		6.1		6.1		6.1		6.1	6.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)		11.5		11.5		30.0	30.0		30.0
Actuated g/C Ratio		0.21		0.21		0.56	0.56		0.56
v/c Ratio		0.12		0.48		0.23	0.15		0.23
Control Delay		9.0		23.5		7.2	2.3		6.7
Queue Delay		0.0		0.0		0.0	0.0		0.0
Total Delay		9.0		23.5		7.2	2.3		6.7
LOS		A		C		A	A		A
Approach Delay		9.0		23.5		5.5			6.7
Approach LOS		A		C		A			A

### Intersection Summary

Cycle Length: 76

Actuated Cycle Length: 53.7

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 8.6

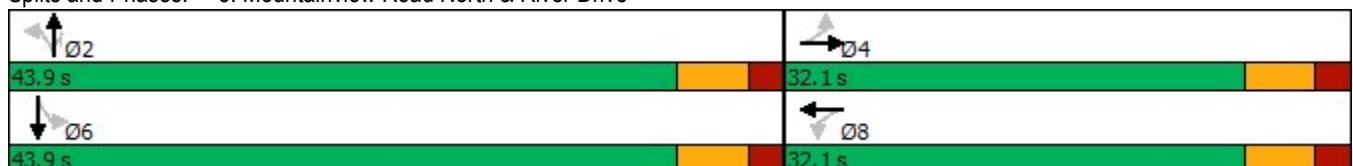
Intersection LOS: A

Intersection Capacity Utilization 74.4%

ICU Level of Service D

Analysis Period (min) 15

### Splits and Phases: 5: Mountainview Road North & River Drive



# Phasings

## 5: Mountainview Road North & River Drive

11/05/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Minimum Initial (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
Minimum Split (s)	32.1	32.1	32.1	32.1	36.1	36.1	36.1	36.1	36.1
Total Split (s)	32.1	32.1	32.1	32.1	43.9	43.9	43.9	43.9	43.9
Total Split (%)	42.2%	42.2%	42.2%	42.2%	57.8%	57.8%	57.8%	57.8%	57.8%
Maximum Green (s)	26.0	26.0	26.0	26.0	37.8	37.8	37.8	37.8	37.8
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)	10.0	10.0	10.0	10.0	15.0	15.0	15.0	16.0	16.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	15.3	15.3	15.3	15.3	30.0	30.0	30.0	30.0	30.0
90th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min
70th %ile Green (s)	12.1	12.1	12.1	12.1	30.0	30.0	30.0	30.0	30.0
70th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min
50th %ile Green (s)	10.2	10.2	10.2	10.2	30.0	30.0	30.0	30.0	30.0
50th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min
30th %ile Green (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
30th %ile Term Code	Min	Min	Min	Min	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
10th %ile Term Code	Min	Min	Min	Min	Min	Min	Min	Min	Min

### Intersection Summary

Cycle Length: 76

Actuated Cycle Length: 53.7

Control Type: Semi Act-Uncoord

90th %ile Actuated Cycle: 57.5

70th %ile Actuated Cycle: 54.3

50th %ile Actuated Cycle: 52.4

30th %ile Actuated Cycle: 52.2

10th %ile Actuated Cycle: 52.2

# Queues

## 5: Mountainview Road North & River Drive

11/05/2024




















Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	42	123	226	116	410
v/c Ratio	0.12	0.48	0.23	0.15	0.23
Control Delay	9.0	23.5	7.2	2.3	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	23.5	7.2	2.3	6.7
Queue Length 50th (m)	0.6	9.4	9.0	0.0	8.5
Queue Length 95th (m)	6.4	21.8	22.1	5.7	17.7
Internal Link Dist (m)	40.6	113.6	67.3		254.8
Turn Bay Length (m)					
Base Capacity (vph)	755	570	1218	933	2262
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.22	0.19	0.12	0.18
<b>Intersection Summary</b>					

# HCM Signalized Intersection Capacity Analysis

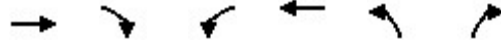
## 5: Mountainview Road North & River Drive

11/05/2024

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	4	4	32	91	8	16	15	197	109	33	349	4	
Future Volume (vph)	4	4	32	91	8	16	15	197	109	33	349	4	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.1			6.1			6.1	6.1		6.1		
Lane Util. Factor		1.00			1.00			1.00	1.00		0.95		
Frbp, ped/bikes		0.99			1.00			1.00	1.00		1.00		
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00		
Frt		0.89			0.98			1.00	0.85		1.00		
Flt Protected		1.00			0.96			1.00	1.00		1.00		
Satd. Flow (prot)		1570			1509			1789	1276		3485		
Flt Permitted		0.97			0.74			0.96	1.00		0.92		
Satd. Flow (perm)		1523			1165			1728	1276		3210		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	4	4	34	97	9	17	16	210	116	35	371	4	
RTOR Reduction (vph)	0	27	0	0	9	0	0	0	51	0	1	0	
Lane Group Flow (vph)	0	15	0	0	114	0	0	226	65	0	409	0	
Confl. Peds. (#/hr)	4		2	2		4	2					2	
Heavy Vehicles (%)	0%	0%	9%	25%	0%	0%	7%	7%	28%	6%	4%	0%	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)		11.5			11.5			30.0	30.0		30.0		
Effective Green, g (s)		11.5			11.5			30.0	30.0		30.0		
Actuated g/C Ratio		0.21			0.21			0.56	0.56		0.56		
Clearance Time (s)		6.1			6.1			6.1	6.1		6.1		
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)		326			249			965	712		1793		
v/s Ratio Prot													
v/s Ratio Perm		0.01			c0.10			c0.13	0.05		0.13		
v/c Ratio		0.05			0.46			0.23	0.09		0.23		
Uniform Delay, d1		16.7			18.4			6.0	5.5		6.0		
Progression Factor		1.00			1.00			1.00	1.00		1.00		
Incremental Delay, d2		0.1			1.3			0.1	0.1		0.1		
Delay (s)		16.8			19.7			6.1	5.6		6.1		
Level of Service		B			B			A	A		A		
Approach Delay (s)		16.8			19.7			5.9			6.1		
Approach LOS		B			B			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			8.3									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.30										
Actuated Cycle Length (s)			53.7									Sum of lost time (s)	12.2
Intersection Capacity Utilization			74.4%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

HCM Unsignalized Intersection Capacity Analysis  
 8: Site Access w/ River Dr & River Drive

11/05/2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↘	↙
Traffic Volume (veh/h)	40	0	0	29	0	0
Future Volume (Veh/h)	40	0	0	29	0	0
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)	43	0	0	32	0	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	65					
pX, platoon unblocked						
vC, conflicting volume			43		75	43
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			43		75	43
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1579		928	1027
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	43	32	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1579	1700			
Volume to Capacity	0.03	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
<b>Intersection Summary</b>						
Average Delay				0.0		
Intersection Capacity Utilization	6.7%			ICU Level of Service	A	
Analysis Period (min)	15					

# HCM Unsignalized Intersection Capacity Analysis

## 9: Mountainview Road North & Site Access w/ Mountainview Rd N

11/05/2024

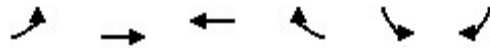


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Volume (veh/h)	0	0	0	321	471	0
Future Volume (Veh/h)	0	0	0	321	471	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	349	512	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)						91
pX, platoon unblocked	0.97	0.97	0.97			
vC, conflicting volume	686	256	512			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	621	179	442			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	412	817	1098			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	0	174	174	341	171	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.10	0.10	0.20	0.10	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	16.4%			ICU Level of Service	A	
Analysis Period (min)	15					

# HCM Unsignalized Intersection Capacity Analysis

## 11: River Drive & Daniela Court

11/05/2024





















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	3	44	27	2	9	0
Future Volume (Veh/h)	3	44	27	2	9	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	4	52	32	2	11	0
Pedestrians					3	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.1	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)			142			
pX, platoon unblocked						
vC, conflicting volume	37				96	36
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	37				96	36
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	100
cM capacity (veh/h)	1582				903	1039
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	56	34	11			
Volume Left	4	0	11			
Volume Right	0	2	0			
cSH	1582	1700	903			
Volume to Capacity	0.00	0.02	0.01			
Queue Length 95th (m)	0.1	0.0	0.3			
Control Delay (s)	0.5	0.0	9.0			
Lane LOS	A		A			
Approach Delay (s)	0.5	0.0	9.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			1.3			
Intersection Capacity Utilization		14.8%		ICU Level of Service		A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 14: Mountainview Road North & John Street

11/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	25	8	53	16	11	9	45	172	21	8	295	31
Future Volume (vph)	25	8	53	16	11	9	45	172	21	8	295	31
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.25
Hourly flow rate (vph)	28	9	59	18	12	10	50	191	23	9	328	124
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	96	40	50	214	9	452						
Volume Left (vph)	28	18	50	0	9	0						
Volume Right (vph)	59	10	0	23	0	124						
Hadj (s)	-0.25	-0.01	0.77	0.00	0.50	-0.13						
Departure Headway (s)	5.4	5.8	6.1	5.3	5.7	5.0						
Degree Utilization, x	0.14	0.06	0.08	0.32	0.01	0.63						
Capacity (veh/h)	584	536	567	652	612	700						
Control Delay (s)	9.3	9.2	8.5	9.6	7.6	15.1						
Approach Delay (s)	9.3	9.2	9.3		15.0							
Approach LOS	A	A	A		B							
Intersection Summary												
Delay			12.3									
Level of Service			B									
Intersection Capacity Utilization			38.0%	ICU Level of Service		A						
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 3: Mountainview Road North & Stewart MacLaren Road

11/05/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕	↘		↕
Traffic Volume (veh/h)	2	16	511	42	1	442
Future Volume (Veh/h)	2	16	511	42	1	442
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2	17	544	45	1	470
Pedestrians	8					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)						171
pX, platoon unblocked						
vC, conflicting volume	812	302			552	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	812	302			552	
tC, single (s)	6.8	7.4			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.2	
p0 queue free %	99	97			100	
cM capacity (veh/h)	318	625			1020	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	19	363	226	158	313	
Volume Left	2	0	0	1	0	
Volume Right	17	0	45	0	0	
cSH	568	1700	1700	1020	1700	
Volume to Capacity	0.03	0.21	0.13	0.00	0.18	
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	
Control Delay (s)	11.6	0.0	0.0	0.1	0.0	
Lane LOS	B			A		
Approach Delay (s)	11.6	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

# Timings

## 5: Mountainview Road North & River Drive

11/05/2024

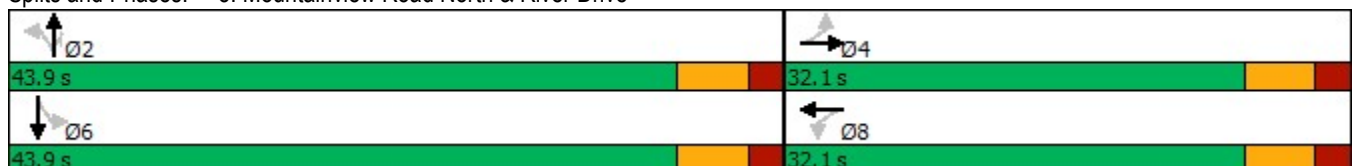


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕		↕	↕		↕
Traffic Volume (vph)	1	3	93	8	39	367	122	26	302
Future Volume (vph)	1	3	93	8	39	367	122	26	302
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
Minimum Split (s)	32.1	32.1	32.1	32.1	36.1	36.1	36.1	36.1	36.1
Total Split (s)	32.1	32.1	32.1	32.1	43.9	43.9	43.9	43.9	43.9
Total Split (%)	42.2%	42.2%	42.2%	42.2%	57.8%	57.8%	57.8%	57.8%	57.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0		0.0		0.0	0.0
Total Lost Time (s)		6.1		6.1		6.1		6.1	6.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)		11.2		11.2		30.1	30.1		30.1
Actuated g/C Ratio		0.21		0.21		0.56	0.56		0.56
v/c Ratio		0.13		0.47		0.44	0.16		0.20
Control Delay		7.9		21.6		8.9	2.1		6.3
Queue Delay		0.0		0.0		0.0	0.0		0.0
Total Delay		7.9		21.6		8.9	2.1		6.3
LOS		A		C		A	A		A
Approach Delay		7.9		21.6		7.3			6.3
Approach LOS		A		C		A			A

### Intersection Summary

Cycle Length: 76	
Actuated Cycle Length: 53.5	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay: 8.8	Intersection LOS: A
Intersection Capacity Utilization 76.5%	ICU Level of Service D
Analysis Period (min) 15	

### Splits and Phases: 5: Mountainview Road North & River Drive



# Phasings

## 5: Mountainview Road North & River Drive

11/05/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Minimum Initial (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
Minimum Split (s)	32.1	32.1	32.1	32.1	36.1	36.1	36.1	36.1	36.1
Total Split (s)	32.1	32.1	32.1	32.1	43.9	43.9	43.9	43.9	43.9
Total Split (%)	42.2%	42.2%	42.2%	42.2%	57.8%	57.8%	57.8%	57.8%	57.8%
Maximum Green (s)	26.0	26.0	26.0	26.0	37.8	37.8	37.8	37.8	37.8
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)	10.0	10.0	10.0	10.0	15.0	15.0	15.0	16.0	16.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	14.6	14.6	14.6	14.6	30.0	30.0	30.0	30.0	30.0
90th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min
70th %ile Green (s)	11.7	11.7	11.7	11.7	30.0	30.0	30.0	30.0	30.0
70th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min
50th %ile Green (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
50th %ile Term Code	Min	Min	Min	Min	Min	Min	Min	Min	Min
30th %ile Green (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
30th %ile Term Code	Min	Min	Min	Min	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
10th %ile Term Code	Min	Min	Min	Min	Min	Min	Min	Min	Min

### Intersection Summary

Cycle Length: 76

Actuated Cycle Length: 53.5

Control Type: Semi Act-Uncoord

90th %ile Actuated Cycle: 56.8

70th %ile Actuated Cycle: 53.9

50th %ile Actuated Cycle: 52.2

30th %ile Actuated Cycle: 52.2

10th %ile Actuated Cycle: 52.2

# Queues

## 5: Mountainview Road North & River Drive

11/05/2024




















Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	48	139	431	130	358
v/c Ratio	0.13	0.47	0.44	0.16	0.20
Control Delay	7.9	21.6	8.9	2.1	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.9	21.6	8.9	2.1	6.3
Queue Length 50th (m)	0.3	9.9	19.6	0.0	7.1
Queue Length 95th (m)	6.5	22.9	43.5	5.9	15.0
Internal Link Dist (m)	40.6	113.6	67.3		254.8
Turn Bay Length (m)					
Base Capacity (vph)	787	654	1244	1009	2298
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.21	0.35	0.13	0.16
<b>Intersection Summary</b>					

# HCM Signalized Intersection Capacity Analysis

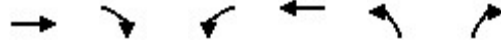
## 5: Mountainview Road North & River Drive

11/05/2024

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	1	3	41	93	8	29	39	367	122	26	302	8	
Future Volume (vph)	1	3	41	93	8	29	39	367	122	26	302	8	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.1			6.1			6.1	6.1		6.1		
Lane Util. Factor		1.00			1.00			1.00	1.00		0.95		
Frbp, ped/bikes		1.00			1.00			1.00	1.00		1.00		
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00		
Frt		0.88			0.97			1.00	0.85		1.00		
Flt Protected		1.00			0.97			1.00	1.00		1.00		
Satd. Flow (prot)		1580			1683			1861	1372		3566		
Flt Permitted		0.99			0.76			0.94	1.00		0.91		
Satd. Flow (perm)		1570			1321			1758	1372		3248		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	1	3	44	99	9	31	41	390	130	28	321	9	
RTOR Reduction (vph)	0	35	0	0	17	0	0	0	57	0	2	0	
Lane Group Flow (vph)	0	13	0	0	122	0	0	431	73	0	356	0	
Confl. Peds. (#/hr)	2						2	3				3	
Heavy Vehicles (%)	0%	0%	7%	9%	0%	0%	0%	3%	19%	4%	1%	12%	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4			8			2		6			
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)		11.2			11.2			30.0	30.0		30.0		
Effective Green, g (s)		11.2			11.2			30.0	30.0		30.0		
Actuated g/C Ratio		0.21			0.21			0.56	0.56		0.56		
Clearance Time (s)		6.1			6.1			6.1	6.1		6.1		
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)		329			277			987	770		1824		
v/s Ratio Prot													
v/s Ratio Perm		0.01			c0.09			c0.25	0.05		0.11		
v/c Ratio		0.04			0.44			0.44	0.09		0.20		
Uniform Delay, d1		16.8			18.4			6.8	5.4		5.8		
Progression Factor		1.00			1.00			1.00	1.00		1.00		
Incremental Delay, d2		0.1			1.1			0.3	0.1		0.1		
Delay (s)		16.9			19.5			7.1	5.5		5.8		
Level of Service		B			B			A	A		A		
Approach Delay (s)		16.9			19.5			6.7			5.8		
Approach LOS		B			B			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			8.5									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.44										
Actuated Cycle Length (s)			53.4									Sum of lost time (s)	12.2
Intersection Capacity Utilization			76.5%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

HCM Unsignalized Intersection Capacity Analysis  
 8: Site Access w/ River Dr & River Drive

11/05/2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↘	↙
Traffic Volume (veh/h)	45	0	0	52	0	0
Future Volume (Veh/h)	45	0	0	52	0	0
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)	49	0	0	57	0	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	65					
pX, platoon unblocked						
vC, conflicting volume			49	106	49	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			49	106	49	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			100	100	100	
cM capacity (veh/h)			1571	897	1025	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	49	57	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1571	1700			
Volume to Capacity	0.03	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
<b>Intersection Summary</b>						
Average Delay				0.0		
Intersection Capacity Utilization				6.7%	ICU Level of Service	A
Analysis Period (min)				15		

HCM Unsignalized Intersection Capacity Analysis  
 9: Mountainview Road North & Site Access w/ Mountainview Rd N

11/05/2024

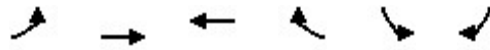


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Volume (veh/h)	0	0	0	553	443	0
Future Volume (Veh/h)	0	0	0	553	443	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	601	482	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)					91	
pX, platoon unblocked	0.99	0.99	0.99			
vC, conflicting volume	782	241	482			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	750	201	446			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	346	801	1109			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	0	300	300	321	161	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.18	0.18	0.19	0.09	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay	0.0					
Intersection Capacity Utilization	18.6%			ICU Level of Service	A	
Analysis Period (min)	15					

# HCM Unsignalized Intersection Capacity Analysis

## 11: River Drive & Daniela Court

11/05/2024






















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	39	42	10	9	2
Future Volume (Veh/h)	3	39	42	10	9	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	4	46	49	12	11	2
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)	142					
pX, platoon unblocked						
vC, conflicting volume	61			109	55	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	61			109	55	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	100			99	100	
cM capacity (veh/h)	1555			891	1018	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	50	61	13			
Volume Left	4	0	11			
Volume Right	0	12	2			
cSH	1555	1700	908			
Volume to Capacity	0.00	0.04	0.01			
Queue Length 95th (m)	0.1	0.0	0.3			
Control Delay (s)	0.6	0.0	9.0			
Lane LOS	A		A			
Approach Delay (s)	0.6	0.0	9.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			1.2			
Intersection Capacity Utilization			14.5%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 14: Mountainview Road North & John Street

11/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	22	15	46	19	22	17	71	322	32	12	249	19
Future Volume (vph)	22	15	46	19	22	17	71	322	32	12	249	19
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	23	16	48	20	23	18	74	335	33	12	259	20
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	87	61	74	368	12	279						
Volume Left (vph)	23	20	74	0	12	0						
Volume Right (vph)	48	18	0	33	0	20						
Hadj (s)	-0.24	-0.06	0.57	-0.03	0.64	0.00						
Departure Headway (s)	5.5	5.8	5.8	5.2	6.0	5.4						
Degree Utilization, x	0.13	0.10	0.12	0.53	0.02	0.42						
Capacity (veh/h)	578	548	600	675	571	646						
Control Delay (s)	9.4	9.4	8.4	12.8	8.0	11.0						
Approach Delay (s)	9.4	9.4	12.1		10.9							
Approach LOS	A	A	B		B							
Intersection Summary												
Delay			11.2									
Level of Service			B									
Intersection Capacity Utilization			38.5%	ICU Level of Service		A						
Analysis Period (min)			15									

# Lanes, Volumes, Timings

## 3: Mountainview Road North & Stewart MacLaren Road

11/05/2024



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	3	23	764	60	1	732
Future Volume (vph)	3	23	764	60	1	732
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865	0.989			
Flt Protected	0.950					
Satd. Flow (prot)	0	1420	3189	0	0	3378
Flt Permitted	0.950					
Satd. Flow (perm)	0	1420	3189	0	0	3378
Link Speed (k/h)	50		50			50
Link Distance (m)	176.8		193.3			79.8
Travel Time (s)	12.7		13.9			5.7
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	17%	13%	16%	50%	8%
Adj. Flow (vph)	3	25	830	65	1	796
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	25	895	0	0	797
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	0.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization Err%	ICU Level of Service H
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 3: Mountainview Road North & Stewart MacLaren Road

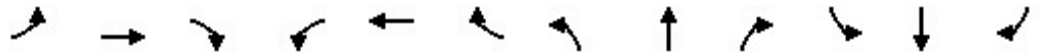
11/05/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↖
Traffic Volume (veh/h)	3	23	764	60	1	732
Future Volume (Veh/h)	3	23	764	60	1	732
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	25	830	65	1	796
Pedestrians	7					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)						171
pX, platoon unblocked						
vC, conflicting volume	1270	454			837	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1270	454			837	
tC, single (s)	6.8	7.2			5.1	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.7	
p0 queue free %	98	95			100	
cM capacity (veh/h)	161	510			545	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	28	553	342	266	531	
Volume Left	3	0	0	1	0	
Volume Right	25	0	65	0	0	
cSH	414	1700	1700	545	1700	
Volume to Capacity	0.07	0.33	0.20	0.00	0.31	
Queue Length 95th (m)	1.6	0.0	0.0	0.0	0.0	
Control Delay (s)	14.3	0.0	0.0	0.1	0.0	
Lane LOS	B			A		
Approach Delay (s)	14.3	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

Lanes, Volumes, Timings  
5: Mountainview Road North & River Drive

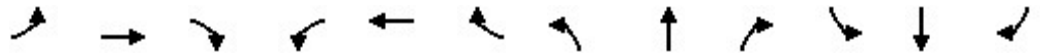
11/05/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖	↗	↗	↖	↖
Traffic Volume (vph)	14	35	144	130	21	23	54	282	156	48	501	8
Future Volume (vph)	14	35	144	130	21	23	54	282	156	48	501	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00		1.00					1.00
Frt		0.899			0.982				0.850			0.998
Flt Protected		0.996			0.964		0.950			0.950		
Satd. Flow (prot)	0	1596	0	0	1526	0	1706	1795	1276	1722	1844	0
Flt Permitted		0.967			0.677		0.377			0.577		
Satd. Flow (perm)	0	1549	0	0	1071	0	676	1795	1276	1046	1844	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		153			12				166			2
Link Speed (k/h)		50			50			50				50
Link Distance (m)		64.6			137.6			91.3				278.8
Travel Time (s)		4.7			9.9			6.6				20.1
Confl. Peds. (#/hr)	4		2	2		4	2					2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	9%	25%	0%	0%	7%	7%	28%	6%	4%	0%
Adj. Flow (vph)	15	37	153	138	22	24	57	300	166	51	533	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	205	0	0	184	0	57	300	166	51	542	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		4.9			4.9			4.9				4.9
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	2.0	10.0		2.0	10.0		6.1	10.0	2.0	2.0		10.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		6.1	0.6	2.0	2.0		0.6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(m)		9.4			9.4			9.4				9.4
Detector 2 Size(m)		0.6			0.6			0.6				0.6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0

Lanes, Volumes, Timings  
5: Mountainview Road North & River Drive

11/05/2024

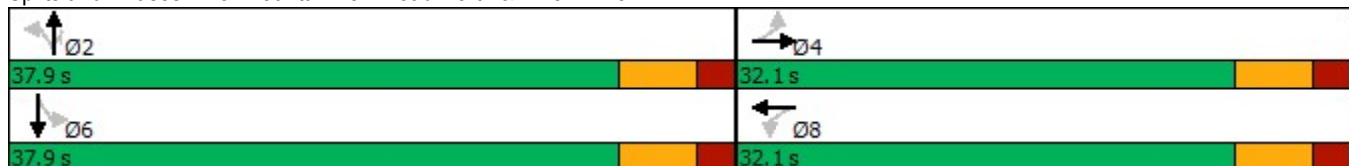


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	32.1	32.1		32.1	32.1		36.1	36.1	36.1	36.1	36.1	
Total Split (s)	32.1	32.1		32.1	32.1		37.9	37.9	37.9	37.9	37.9	
Total Split (%)	45.9%	45.9%		45.9%	45.9%		54.1%	54.1%	54.1%	54.1%	54.1%	
Maximum Green (s)	26.0	26.0		26.0	26.0		31.8	31.8	31.8	31.8	31.8	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.1	2.1		2.1	2.1		2.1	2.1	2.1	2.1	2.1	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.1			6.1		6.1	6.1	6.1	6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Min	Min		Min	Min		Min	Min	Min	Min	Min	
Walk Time (s)	10.0	10.0		10.0	10.0		15.0	15.0	15.0	16.0	16.0	
Flash Dont Walk (s)	16.0	16.0		16.0	16.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		15.0			15.0		30.6	30.6	30.6	30.6	30.6	
Actuated g/C Ratio		0.26			0.26		0.53	0.53	0.53	0.53	0.53	
v/c Ratio		0.40			0.64		0.16	0.32	0.22	0.09	0.56	
Control Delay		8.0			28.5		10.3	10.0	2.8	9.0	13.1	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		8.0			28.5		10.3	10.0	2.8	9.0	13.1	
LOS		A			C		B	B	A	A	B	
Approach Delay		8.0			28.5			7.8			12.7	
Approach LOS		A			C			A			B	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	57.9
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	12.3
Intersection LOS:	B
Intersection Capacity Utilization:	83.7%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 5: Mountainview Road North & River Drive



# Timings

## 5: Mountainview Road North & River Drive

11/05/2024

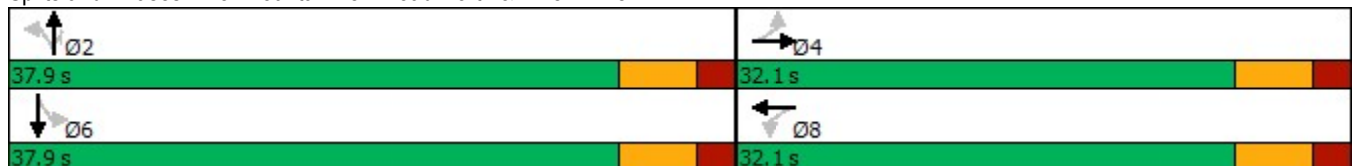


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔		↔	↔	↑	↔	↔	↔
Traffic Volume (vph)	14	35	130	21	54	282	156	48	501
Future Volume (vph)	14	35	130	21	54	282	156	48	501
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
Minimum Split (s)	32.1	32.1	32.1	32.1	36.1	36.1	36.1	36.1	36.1
Total Split (s)	32.1	32.1	32.1	32.1	37.9	37.9	37.9	37.9	37.9
Total Split (%)	45.9%	45.9%	45.9%	45.9%	54.1%	54.1%	54.1%	54.1%	54.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.1		6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)		15.0		15.0	30.6	30.6	30.6	30.6	30.6
Actuated g/C Ratio		0.26		0.26	0.53	0.53	0.53	0.53	0.53
v/c Ratio		0.40		0.64	0.16	0.32	0.22	0.09	0.56
Control Delay		8.0		28.5	10.3	10.0	2.8	9.0	13.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		8.0		28.5	10.3	10.0	2.8	9.0	13.1
LOS		A		C	B	B	A	A	B
Approach Delay		8.0		28.5		7.8			12.7
Approach LOS		A		C		A			B

### Intersection Summary

Cycle Length: 70	
Actuated Cycle Length: 57.9	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 12.3	Intersection LOS: B
Intersection Capacity Utilization 83.7%	ICU Level of Service E
Analysis Period (min) 15	

### Splits and Phases: 5: Mountainview Road North & River Drive



# Phasings

## 5: Mountainview Road North & River Drive

11/05/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Minimum Initial (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
Minimum Split (s)	32.1	32.1	32.1	32.1	36.1	36.1	36.1	36.1	36.1
Total Split (s)	32.1	32.1	32.1	32.1	37.9	37.9	37.9	37.9	37.9
Total Split (%)	45.9%	45.9%	45.9%	45.9%	54.1%	54.1%	54.1%	54.1%	54.1%
Maximum Green (s)	26.0	26.0	26.0	26.0	31.8	31.8	31.8	31.8	31.8
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)	10.0	10.0	10.0	10.0	15.0	15.0	15.0	16.0	16.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	23.8	23.8	23.8	23.8	31.8	31.8	31.8	31.8	31.8
90th %ile Term Code	Hold	Hold	Gap	Gap	Hold	Hold	Hold	Max	Max
70th %ile Green (s)	17.5	17.5	17.5	17.5	30.0	30.0	30.0	30.0	30.0
70th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min
50th %ile Green (s)	14.2	14.2	14.2	14.2	30.0	30.0	30.0	30.0	30.0
50th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min
30th %ile Green (s)	11.3	11.3	11.3	11.3	30.0	30.0	30.0	30.0	30.0
30th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
10th %ile Term Code	Min	Min	Min	Min	Min	Min	Min	Min	Min

### Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 57.9

Control Type: Semi Act-Uncoord

90th %ile Actuated Cycle: 67.8

70th %ile Actuated Cycle: 59.7

50th %ile Actuated Cycle: 56.4

30th %ile Actuated Cycle: 53.5

10th %ile Actuated Cycle: 52.2

Queues

5: Mountainview Road North & River Drive

11/05/2024























Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	205	184	57	300	166	51	542
v/c Ratio	0.40	0.64	0.16	0.32	0.22	0.09	0.56
Control Delay	8.0	28.5	10.3	10.0	2.8	9.0	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	28.5	10.3	10.0	2.8	9.0	13.1
Queue Length 50th (m)	4.1	15.7	2.7	15.5	0.0	2.3	32.9
Queue Length 95th (m)	17.0	33.8	10.4	38.8	8.5	8.8	77.9
Internal Link Dist (m)	40.6	113.6		67.3			254.8
Turn Bay Length (m)			50.0			50.0	
Base Capacity (vph)	785	491	374	994	780	579	1022
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.37	0.15	0.30	0.21	0.09	0.53

Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 5: Mountainview Road North & River Drive

11/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	35	144	130	21	23	54	282	156	48	501	8
Future Volume (vph)	14	35	144	130	21	23	54	282	156	48	501	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.1			6.1		6.1	6.1	6.1	6.1	6.1	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes		0.99			1.00		1.00	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	
Frt		0.90			0.98		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00			0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1597			1526		1704	1795	1276	1722	1843	
Flt Permitted		0.97			0.68		0.38	1.00	1.00	0.58	1.00	
Satd. Flow (perm)		1550			1071		676	1795	1276	1046	1843	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	15	37	153	138	22	24	57	300	166	51	533	9
RTOR Reduction (vph)	0	113	0	0	9	0	0	0	78	0	1	0
Lane Group Flow (vph)	0	92	0	0	175	0	57	300	88	51	541	0
Confl. Peds. (#/hr)	4		2	2		4	2					2
Heavy Vehicles (%)	0%	0%	9%	25%	0%	0%	7%	7%	28%	6%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		15.0			15.0		30.6	30.6	30.6	30.6	30.6	
Effective Green, g (s)		15.0			15.0		30.6	30.6	30.6	30.6	30.6	
Actuated g/C Ratio		0.26			0.26		0.53	0.53	0.53	0.53	0.53	
Clearance Time (s)		6.1			6.1		6.1	6.1	6.1	6.1	6.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		402			277		357	950	675	553	975	
v/s Ratio Prot								0.17				c0.29
v/s Ratio Perm		0.06			c0.16		0.08		0.07	0.05		
v/c Ratio		0.23			0.63		0.16	0.32	0.13	0.09	0.55	
Uniform Delay, d1		16.8			19.0		7.0	7.7	6.9	6.7	9.1	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.3			4.6		0.2	0.2	0.1	0.1	0.7	
Delay (s)		17.1			23.6		7.2	7.9	7.0	6.8	9.8	
Level of Service		B			C		A	A	A	A	A	
Approach Delay (s)		17.1			23.6			7.5			9.5	
Approach LOS		B			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			11.6				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			57.8				Sum of lost time (s)				12.2	
Intersection Capacity Utilization			83.7%				ICU Level of Service				E	
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
 8: Site Access w/ River Dr & River Drive

11/05/2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	192	0	0	88	0	0
Future Volume (vph)	192	0	0	88	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1656	0	0	1847	1883	0
Flt Permitted						
Satd. Flow (perm)	1656	0	0	1847	1883	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	77.8			64.6	220.8	
Travel Time (s)	5.6			4.7	15.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	16%	0%	0%	4%	2%	2%
Adj. Flow (vph)	209	0	0	96	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	209	0	0	96	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.4%
	ICU Level of Service A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 8: Site Access w/ River Dr & River Drive

11/05/2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	192	0	0	88	0	0
Future Volume (Veh/h)	192	0	0	88	0	0
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)	209	0	0	96	0	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (m)	65					
pX, platoon unblocked						
vC, conflicting volume			209		305	209
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			209		305	209
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1374		687	831
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	209	96	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1374	1700			
Volume to Capacity	0.12	0.00	0.09			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
<b>Intersection Summary</b>						
Average Delay				0.0		
Intersection Capacity Utilization	13.4%			ICU Level of Service	A	
Analysis Period (min)	15					

# Lanes, Volumes, Timings

## 9: Mountainview Road North & Site Access w/ Mountainview Rd N

11/05/2024



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	824	734	0
Future Volume (vph)	0	0	0	824	734	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
<b>Fr</b>						
<b>Flt Protected</b>						
Satd. Flow (prot)	0	1921	0	3230	3380	0
<b>Flt Permitted</b>						
Satd. Flow (perm)	0	1921	0	3230	3380	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	291.0			79.8	91.3	
Travel Time (s)	21.0			5.7	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	13%	8%	0%
Adj. Flow (vph)	0	0	0	896	798	0
<b>Shared Lane Traffic (%)</b>						
Lane Group Flow (vph)	0	0	0	896	798	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97	97	97			97
Sign Control	Stop			Free	Free	

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	26.1%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 9: Mountainview Road North & Site Access w/ Mountainview Rd N

11/05/2024



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↓	
Traffic Volume (veh/h)	0	0	0	824	734	0
Future Volume (Veh/h)	0	0	0	824	734	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	896	798	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)	91					
pX, platoon unblocked						
vC, conflicting volume	1246	399	798			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1246	399	798			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	169	606	833			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>	<b>SB 2</b>	
Volume Total	0	448	448	532	266	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.37	0.26	0.26	0.31	0.16	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay	0.0					
Intersection Capacity Utilization	26.1%			ICU Level of Service	A	
Analysis Period (min)	15					

Lanes, Volumes, Timings  
 11: River Drive & Daniela Court

11/05/2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	4	196	86	3	13	0
Future Volume (vph)	4	196	86	3	13	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.995					
Flt Protected	0.999		0.950			
Satd. Flow (prot)	0	1659	1841	0	1825	0
Flt Permitted	0.999		0.950			
Satd. Flow (perm)	0	1659	1841	0	1825	0
Link Speed (k/h)	50		50		50	
Link Distance (m)	153.6		77.8		141.8	
Travel Time (s)	11.1		5.6		10.2	
Confl. Peds. (#/hr)	3		3			
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	16%	4%	0%	0%	0%
Adj. Flow (vph)	5	231	101	4	15	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	236	105	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)	0.0		0.0		3.7	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	1.6		1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14		24	
Sign Control	Free		Free		Stop	

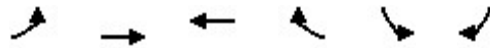
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	23.5%
ICU Level of Service	A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 11: River Drive & Daniela Court



















11/05/2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↗	↖		↘	
Traffic Volume (veh/h)	4	196	86	3	13	0
Future Volume (Veh/h)	4	196	86	3	13	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	5	231	101	4	15	0
Pedestrians					3	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.1	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)			142			
pX, platoon unblocked						
vC, conflicting volume	108				347	106
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	108				347	106
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	100
cM capacity (veh/h)	1491				650	951
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	236	105	15			
Volume Left	5	0	15			
Volume Right	0	4	0			
cSH	1491	1700	650			
Volume to Capacity	0.00	0.06	0.02			
Queue Length 95th (m)	0.1	0.0	0.5			
Control Delay (s)	0.2	0.0	10.7			
Lane LOS	A		B			
Approach Delay (s)	0.2	0.0	10.7			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			0.6			
Intersection Capacity Utilization			23.5%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
 14: Mountainview Road North & John Street

11/05/2024



















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	11	76	23	16	13	64	255	30	11	423	44
Future Volume (vph)	36	11	76	23	16	13	64	255	30	11	423	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	75.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.917			0.967			0.984			0.959	
Flt Protected		0.986			0.978		0.950			0.950		
Satd. Flow (prot)	0	1679	0	0	1769	0	1573	1815	0	1825	1775	0
Flt Permitted		0.986			0.978		0.950			0.950		
Satd. Flow (perm)	0	1679	0	0	1769	0	1573	1815	0	1825	1775	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		140.9			171.9			278.8			156.1	
Travel Time (s)		10.1			12.4			20.1			11.2	
Confl. Peds. (#/hr)	6		5	5		6	5		2	2		5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.25
Heavy Vehicles (%)	4%	12%	2%	6%	0%	0%	16%	3%	14%	0%	3%	6%
Adj. Flow (vph)	40	12	84	26	18	14	71	283	33	12	470	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	136	0	0	58	0	71	316	0	12	646	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	47.8%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis  
 14: Mountainview Road North & John Street

11/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	36	11	76	23	16	13	64	255	30	11	423	44
Future Volume (vph)	36	11	76	23	16	13	64	255	30	11	423	44
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.25
Hourly flow rate (vph)	40	12	84	26	18	14	71	283	33	12	470	176
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	136	58	71	316	12	646						
Volume Left (vph)	40	26	71	0	12	0						
Volume Right (vph)	84	14	0	33	0	176						
Hadj (s)	-0.25	-0.01	0.77	0.00	0.50	-0.13						
Departure Headway (s)	6.4	6.9	6.7	5.9	6.2	5.5						
Degree Utilization, x	0.24	0.11	0.13	0.52	0.02	1.00						
Capacity (veh/h)	537	484	527	599	564	646						
Control Delay (s)	11.4	10.8	9.6	14.0	8.1	56.3						
Approach Delay (s)	11.4	10.8	13.2		55.4							
Approach LOS	B	B	B		F							
Intersection Summary												
Delay			35.3									
Level of Service			E									
Intersection Capacity Utilization			47.8%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings  
 3: Mountainview Road North & Stewart MacLaren Road

11/05/2024



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	3	23	825	60	1	689
Future Volume (vph)	3	23	825	60	1	689
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865	0.990			
Flt Protected	0.950					
Satd. Flow (prot)	0	1329	3422	0	0	3544
Flt Permitted	0.950					
Satd. Flow (perm)	0	1329	3422	0	0	3544
Link Speed (k/h)	50		50			50
Link Distance (m)	176.8		193.3			79.8
Travel Time (s)	12.7		13.9			5.7
Confl. Peds. (#/hr)				8	8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	25%	6%	0%	0%	3%
Adj. Flow (vph)	3	24	878	64	1	733
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	24	942	0	0	734
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	0.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization Err%	ICU Level of Service H
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 3: Mountainview Road North & Stewart MacLaren Road

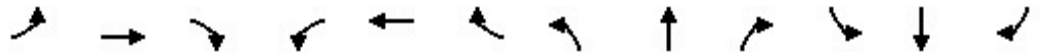
11/05/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↖
Traffic Volume (veh/h)	3	23	825	60	1	689
Future Volume (Veh/h)	3	23	825	60	1	689
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	3	24	878	64	1	733
Pedestrians	8					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						171
pX, platoon unblocked						
vC, conflicting volume	1286	479			886	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1286	479			886	
tC, single (s)	6.8	7.4			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.2	
p0 queue free %	98	95			100	
cM capacity (veh/h)	157	472			767	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	27	585	357	245	489	
Volume Left	3	0	0	1	0	
Volume Right	24	0	64	0	0	
cSH	386	1700	1700	767	1700	
Volume to Capacity	0.07	0.34	0.21	0.00	0.29	
Queue Length 95th (m)	1.7	0.0	0.0	0.0	0.0	
Control Delay (s)	15.0	0.0	0.0	0.1	0.0	
Lane LOS	C			A		
Approach Delay (s)	15.0	0.0		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

Lanes, Volumes, Timings  
5: Mountainview Road North & River Drive

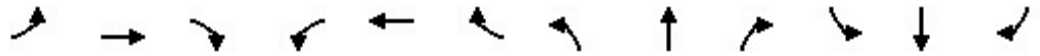
11/05/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖	↗	↗	↖	↖
Traffic Volume (vph)	6	21	116	133	39	42	149	526	174	38	432	19
Future Volume (vph)	6	21	116	133	39	42	149	526	174	38	432	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00		1.00					1.00
Frt		0.890			0.973				0.850			0.994
Flt Protected		0.998			0.970		0.950			0.950		
Satd. Flow (prot)	0	1614	0	0	1709	0	1825	1865	1372	1755	1880	0
Flt Permitted		0.983			0.773		0.431			0.365		
Satd. Flow (perm)	0	1590	0	0	1362	0	827	1865	1372	674	1880	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		123			20				185			4
Link Speed (k/h)		50			50			50				50
Link Distance (m)		64.6			137.6			91.3				278.8
Travel Time (s)		4.7			9.9			6.6				20.1
Confl. Peds. (#/hr)	2						2	3				3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	7%	9%	0%	0%	0%	3%	19%	4%	1%	12%
Adj. Flow (vph)	6	22	123	141	41	45	159	560	185	40	460	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	151	0	0	227	0	159	560	185	40	480	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		4.9			4.9			4.9				4.9
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	2.0	10.0		2.0	10.0		6.1	10.0	2.0	2.0		10.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		6.1	0.6	2.0	2.0		0.6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(m)		9.4			9.4			9.4				9.4
Detector 2 Size(m)		0.6			0.6			0.6				0.6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0

Lanes, Volumes, Timings  
5: Mountainview Road North & River Drive

11/05/2024

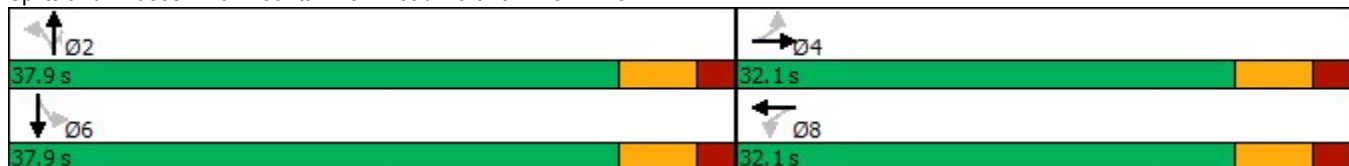


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6		6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0	30.0	30.0		30.0
Minimum Split (s)	32.1	32.1		32.1	32.1		36.1	36.1	36.1	36.1		36.1
Total Split (s)	32.1	32.1		32.1	32.1		37.9	37.9	37.9	37.9		37.9
Total Split (%)	45.9%	45.9%		45.9%	45.9%		54.1%	54.1%	54.1%	54.1%		54.1%
Maximum Green (s)	26.0	26.0		26.0	26.0		31.8	31.8	31.8	31.8		31.8
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
All-Red Time (s)	2.1	2.1		2.1	2.1		2.1	2.1	2.1	2.1		2.1
Lost Time Adjust (s)		0.0			0.0		0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		6.1			6.1		6.1	6.1	6.1	6.1		6.1
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0		3.0
Recall Mode	Min	Min		Min	Min		Min	Min	Min	Min		Min
Walk Time (s)	10.0	10.0		10.0	10.0		15.0	15.0	15.0	16.0		16.0
Flash Dont Walk (s)	16.0	16.0		16.0	16.0		14.0	14.0	14.0	14.0		14.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0		0
Act Effct Green (s)		14.6			14.6		30.5	30.5	30.5	30.5		30.5
Actuated g/C Ratio		0.25			0.25		0.53	0.53	0.53	0.53		0.53
v/c Ratio		0.30			0.63		0.36	0.57	0.23	0.11		0.48
Control Delay		7.0			25.4		12.2	12.8	2.5	9.3		11.4
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0		0.0
Total Delay		7.0			25.4		12.2	12.8	2.5	9.3		11.4
LOS		A			C		B	B	A	A		B
Approach Delay		7.0			25.4			10.6				11.2
Approach LOS		A			C			B				B

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	57.4
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.63
Intersection Signal Delay:	12.4
Intersection LOS:	B
Intersection Capacity Utilization:	94.2%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 5: Mountainview Road North & River Drive



# Timings

## 5: Mountainview Road North & River Drive

11/05/2024

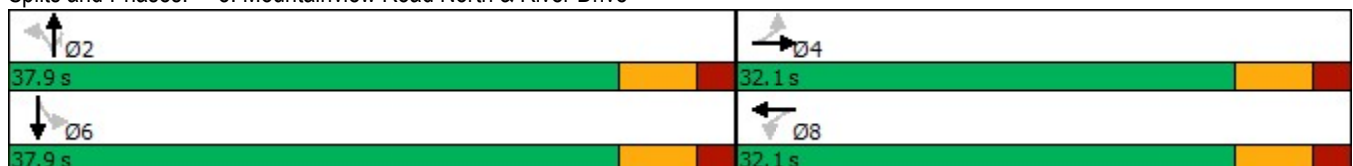


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↗	↖	↗	↖	↖
Traffic Volume (vph)	6	21	133	39	149	526	174	38	432
Future Volume (vph)	6	21	133	39	149	526	174	38	432
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
Minimum Split (s)	32.1	32.1	32.1	32.1	36.1	36.1	36.1	36.1	36.1
Total Split (s)	32.1	32.1	32.1	32.1	37.9	37.9	37.9	37.9	37.9
Total Split (%)	45.9%	45.9%	45.9%	45.9%	54.1%	54.1%	54.1%	54.1%	54.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.1		6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)		14.6		14.6	30.5	30.5	30.5	30.5	30.5
Actuated g/C Ratio		0.25		0.25	0.53	0.53	0.53	0.53	0.53
v/c Ratio		0.30		0.63	0.36	0.57	0.23	0.11	0.48
Control Delay		7.0		25.4	12.2	12.8	2.5	9.3	11.4
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		7.0		25.4	12.2	12.8	2.5	9.3	11.4
LOS		A		C	B	B	A	A	B
Approach Delay		7.0		25.4		10.6			11.2
Approach LOS		A		C		B			B

### Intersection Summary

Cycle Length: 70	
Actuated Cycle Length: 57.4	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 12.4	Intersection LOS: B
Intersection Capacity Utilization 94.2%	ICU Level of Service F
Analysis Period (min) 15	

### Splits and Phases: 5: Mountainview Road North & River Drive



Phasings

5: Mountainview Road North & River Drive

11/05/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Minimum Initial (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
Minimum Split (s)	32.1	32.1	32.1	32.1	36.1	36.1	36.1	36.1	36.1
Total Split (s)	32.1	32.1	32.1	32.1	37.9	37.9	37.9	37.9	37.9
Total Split (%)	45.9%	45.9%	45.9%	45.9%	54.1%	54.1%	54.1%	54.1%	54.1%
Maximum Green (s)	26.0	26.0	26.0	26.0	31.8	31.8	31.8	31.8	31.8
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)	10.0	10.0	10.0	10.0	15.0	15.0	15.0	16.0	16.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	22.3	22.3	22.3	22.3	31.8	31.8	31.8	31.8	31.8
90th %ile Term Code	Hold	Hold	Gap	Gap	Max	Max	Max	Hold	Hold
70th %ile Green (s)	16.8	16.8	16.8	16.8	30.0	30.0	30.0	30.0	30.0
70th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min
50th %ile Green (s)	13.9	13.9	13.9	13.9	30.0	30.0	30.0	30.0	30.0
50th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min
30th %ile Green (s)	11.3	11.3	11.3	11.3	30.0	30.0	30.0	30.0	30.0
30th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
10th %ile Term Code	Min	Min	Min	Min	Min	Min	Min	Min	Min

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 57.4

Control Type: Semi Act-Uncoord

90th %ile Actuated Cycle: 66.3

70th %ile Actuated Cycle: 59

50th %ile Actuated Cycle: 56.1

30th %ile Actuated Cycle: 53.5

10th %ile Actuated Cycle: 52.2

Queues

5: Mountainview Road North & River Drive

11/05/2024























Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	151	227	159	560	185	40	480
v/c Ratio	0.30	0.63	0.36	0.57	0.23	0.11	0.48
Control Delay	7.0	25.4	12.2	12.8	2.5	9.3	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.0	25.4	12.2	12.8	2.5	9.3	11.4
Queue Length 50th (m)	2.2	18.7	8.4	34.1	0.0	1.8	27.1
Queue Length 95th (m)	13.0	38.1	25.7	77.6	8.7	7.5	62.4
Internal Link Dist (m)	40.6	113.6		67.3			254.8
Turn Bay Length (m)			50.0			50.0	
Base Capacity (vph)	791	632	461	1040	847	376	1050
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.36	0.34	0.54	0.22	0.11	0.46

Intersection Summary

# HCM Signalized Intersection Capacity Analysis

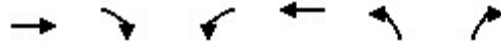
## 5: Mountainview Road North & River Drive

11/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	21	116	133	39	42	149	526	174	38	432	19
Future Volume (vph)	6	21	116	133	39	42	149	526	174	38	432	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.1			6.1		6.1	6.1	6.1	6.1	6.1	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	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	
Frt		0.89			0.97		1.00	1.00	0.85	1.00	0.99	
Flt Protected		1.00			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1614			1710		1823	1865	1372	1755	1880	
Flt Permitted		0.98			0.77		0.43	1.00	1.00	0.36	1.00	
Satd. Flow (perm)		1590			1363		826	1865	1372	674	1880	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	22	123	141	41	45	159	560	185	40	460	20
RTOR Reduction (vph)	0	92	0	0	15	0	0	0	87	0	2	0
Lane Group Flow (vph)	0	59	0	0	212	0	159	560	98	40	478	0
Confl. Peds. (#/hr)	2					2	3					3
Heavy Vehicles (%)	0%	0%	7%	9%	0%	0%	0%	3%	19%	4%	1%	12%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		6
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		14.6			14.6		30.5	30.5	30.5	30.5	30.5	
Effective Green, g (s)		14.6			14.6		30.5	30.5	30.5	30.5	30.5	
Actuated g/C Ratio		0.25			0.25		0.53	0.53	0.53	0.53	0.53	
Clearance Time (s)		6.1			6.1		6.1	6.1	6.1	6.1	6.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		405			347		439	992	730	358	1000	
v/s Ratio Prot								c0.30				0.25
v/s Ratio Perm		0.04			c0.16		0.19		0.07	0.06		
v/c Ratio		0.15			0.61		0.36	0.56	0.13	0.11	0.48	
Uniform Delay, d1		16.5			18.8		7.8	9.0	6.8	6.7	8.4	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.2			3.2		0.5	0.7	0.1	0.1	0.4	
Delay (s)		16.7			22.0		8.3	9.7	6.8	6.8	8.8	
Level of Service		B			C		A	A	A	A	A	
Approach Delay (s)		16.7			22.0			8.9			8.6	
Approach LOS		B			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			11.1				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			57.3			Sum of lost time (s)				12.2		
Intersection Capacity Utilization			94.2%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
 8: Site Access w/ River Dr & River Drive

11/05/2024

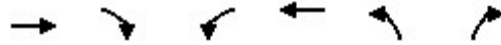


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	143	0	0	203	0	0
Future Volume (vph)	143	0	0	203	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
<b>Flt Protected</b>						
Satd. Flow (prot)	1779	0	0	1883	1921	0
<b>Flt Permitted</b>						
Satd. Flow (perm)	1779	0	0	1883	1921	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	77.8			64.6	220.8	
Travel Time (s)	5.6			4.7	15.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	0%	0%	2%	0%	0%
Adj. Flow (vph)	155	0	0	221	0	0
<b>Shared Lane Traffic (%)</b>						
Lane Group Flow (vph)	155	0	0	221	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

<b>Intersection Summary</b>	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	14.0% ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 8: Site Access w/ River Dr & River Drive

11/05/2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	143	0	0	203	0	0
Future Volume (Veh/h)	143	0	0	203	0	0
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)	155	0	0	221	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	65					
pX, platoon unblocked					0.97	
vC, conflicting volume			155	376	155	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			155	339	155	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			100	100	100	
cM capacity (veh/h)			1438	640	896	
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	155	221	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1438	1700			
Volume to Capacity	0.09	0.00	0.09			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
Intersection Summary						
Average Delay				0.0		
Intersection Capacity Utilization			14.0%	ICU Level of Service	A	
Analysis Period (min)				15		

Lanes, Volumes, Timings

9: Mountainview Road North & Site Access w/ Mountainview Rd N

11/05/2024



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↓	
Traffic Volume (vph)	0	0	0	885	691	0
Future Volume (vph)	0	0	0	885	691	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	0	1921	0	3444	3544	0
Flt Permitted						
Satd. Flow (perm)	0	1921	0	3444	3544	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	291.0			79.8	91.3	
Travel Time (s)	21.0			5.7	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	3%	0%
Adj. Flow (vph)	0	0	0	962	751	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	962	751	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	27.8%
	ICU Level of Service A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 9: Mountainview Road North & Site Access w/ Mountainview Rd N

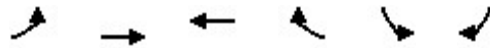
11/05/2024



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Volume (veh/h)	0	0	0	885	691	0
Future Volume (Veh/h)	0	0	0	885	691	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	962	751	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)						91
pX, platoon unblocked						
vC, conflicting volume	1232	376	751			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1232	376	751			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	172	628	868			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	0	481	481	501	250	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.37	0.28	0.28	0.29	0.15	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	27.8%			ICU Level of Service	A	
Analysis Period (min)	15					

Lanes, Volumes, Timings  
11: River Drive & Daniela Court

11/05/2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Volume (vph)	4	135	189	14	13	3
Future Volume (vph)	4	135	189	14	13	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.991		0.972	
Flt Protected		0.998			0.962	
Satd. Flow (prot)	0	1779	1869	0	1796	0
Flt Permitted		0.998			0.962	
Satd. Flow (perm)	0	1779	1869	0	1796	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		153.6	77.8		141.8	
Travel Time (s)		11.1	5.6		10.2	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	8%	2%	0%	0%	0%
Adj. Flow (vph)	5	159	222	16	15	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	164	238	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

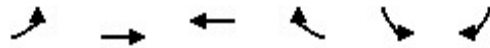
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	20.8%
ICU Level of Service	A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 11: River Drive & Daniela Court



















11/05/2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↩	↩		↩	
Traffic Volume (veh/h)	4	135	189	14	13	3
Future Volume (Veh/h)	4	135	189	14	13	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	5	159	222	16	15	4
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)	142					
pX, platoon unblocked						
vC, conflicting volume	238			399	230	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	238			399	230	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	100			98	100	
cM capacity (veh/h)	1341			608	814	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	164	238	19			
Volume Left	5	0	15			
Volume Right	0	16	4			
cSH	1341	1700	642			
Volume to Capacity	0.00	0.14	0.03			
Queue Length 95th (m)	0.1	0.0	0.7			
Control Delay (s)	0.3	0.0	10.8			
Lane LOS	A		B			
Approach Delay (s)	0.3	0.0	10.8			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			0.6			
Intersection Capacity Utilization			20.8%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
 14: Mountainview Road North & John Street

11/05/2024




















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	21	66	27	31	24	101	465	46	17	365	27
Future Volume (vph)	31	21	66	27	31	24	101	465	46	17	365	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	75.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.924			0.960			0.986			0.990	
Flt Protected		0.987			0.984		0.950			0.950		
Satd. Flow (prot)	0	1715	0	0	1757	0	1755	1860	0	1690	1850	0
Flt Permitted		0.987			0.984		0.950			0.950		
Satd. Flow (perm)	0	1715	0	0	1757	0	1755	1860	0	1690	1850	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		140.9			171.9			278.8			156.1	
Travel Time (s)		10.1			12.4			20.1			11.2	
Confl. Peds. (#/hr)	1		1	1		1	2		3	3		2
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	0%	2%	0%	4%	6%	4%	2%	0%	8%	3%	0%
Adj. Flow (vph)	32	22	69	28	32	25	105	484	48	18	380	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	123	0	0	85	0	105	532	0	18	408	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	49.3%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 14: Mountainview Road North & John Street

11/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	31	21	66	27	31	24	101	465	46	17	365	27
Future Volume (vph)	31	21	66	27	31	24	101	465	46	17	365	27
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	32	22	69	28	32	25	105	484	48	18	380	28
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	123	85	105	532	18	408						
Volume Left (vph)	32	28	105	0	18	0						
Volume Right (vph)	69	25	0	48	0	28						
Hadj (s)	-0.25	-0.05	0.57	-0.03	0.64	0.00						
Departure Headway (s)	6.5	6.8	6.4	5.8	6.7	6.0						
Degree Utilization, x	0.22	0.16	0.19	0.85	0.03	0.68						
Capacity (veh/h)	506	473	550	615	515	572						
Control Delay (s)	11.3	11.1	9.6	31.6	8.7	19.9						
Approach Delay (s)	11.3	11.1	28.0		19.5							
Approach LOS	B	B	D		C							
Intersection Summary												
Delay			22.4									
Level of Service			C									
Intersection Capacity Utilization			49.3%	ICU Level of Service	A							
Analysis Period (min)			15									

# Lanes, Volumes, Timings

## 3: Mountainview Road North & Stewart MacLaren Road

11/05/2024



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	3	23	842	60	1	941
Future Volume (vph)	3	23	842	60	1	941
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865	0.990			
Flt Protected	0.950					
Satd. Flow (prot)	0	1420	3192	0	0	3378
Flt Permitted	0.950					
Satd. Flow (perm)	0	1420	3192	0	0	3378
Link Speed (k/h)	50		50			50
Link Distance (m)	176.8		193.3			79.8
Travel Time (s)	12.7		13.9			5.7
Confl. Peds. (#/hr)				7	7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	17%	13%	16%	50%	8%
Adj. Flow (vph)	3	25	915	65	1	1023
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	25	980	0	0	1024
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	0.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization Err%	ICU Level of Service H
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 3: Mountainview Road North & Stewart MacLaren Road

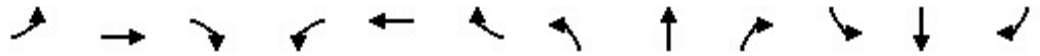
11/05/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↖
Traffic Volume (veh/h)	3	23	842	60	1	941
Future Volume (Veh/h)	3	23	842	60	1	941
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	25	915	65	1	1023
Pedestrians	7					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						171
pX, platoon unblocked						
vC, conflicting volume	1468	497			922	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1468	497			922	
tC, single (s)	6.8	7.2			5.1	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.7	
p0 queue free %	97	95			100	
cM capacity (veh/h)	120	477			497	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	28	610	370	342	682	
Volume Left	3	0	0	1	0	
Volume Right	25	0	65	0	0	
cSH	362	1700	1700	497	1700	
Volume to Capacity	0.08	0.36	0.22	0.00	0.40	
Queue Length 95th (m)	1.9	0.0	0.0	0.0	0.0	
Control Delay (s)	15.8	0.0	0.0	0.1	0.0	
Lane LOS	C			A		
Approach Delay (s)	15.8	0.0		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

Lanes, Volumes, Timings  
5: Mountainview Road North & River Drive

11/05/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖	↗	↗	↖	↖
Traffic Volume (vph)	14	102	144	130	31	23	132	282	156	48	501	8
Future Volume (vph)	14	102	144	130	31	23	132	282	156	48	501	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00		1.00				1.00	
Frt		0.925			0.983				0.850		0.998	
Flt Protected		0.997			0.966		0.950			0.950		
Satd. Flow (prot)	0	1675	0	0	1545	0	1706	1795	1276	1722	1844	0
Flt Permitted		0.976			0.589		0.367			0.577		
Satd. Flow (perm)	0	1639	0	0	941	0	658	1795	1276	1046	1844	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		101			11				166			2
Link Speed (k/h)		50			50			50				50
Link Distance (m)		64.6			137.6			91.3				278.8
Travel Time (s)		4.7			9.9			6.6				20.1
Confl. Peds. (#/hr)	4		2	2		4	2					2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	9%	25%	0%	0%	7%	7%	28%	6%	4%	0%
Adj. Flow (vph)	15	109	153	138	33	24	140	300	166	51	533	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	277	0	0	195	0	140	300	166	51	542	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		4.9			4.9			4.9				4.9
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	2.0	10.0		2.0	10.0		6.1	10.0	2.0	2.0		10.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		6.1	0.6	2.0	2.0		0.6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(m)		9.4			9.4			9.4				9.4
Detector 2 Size(m)		0.6			0.6			0.6				0.6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0

Lanes, Volumes, Timings  
5: Mountainview Road North & River Drive

11/05/2024

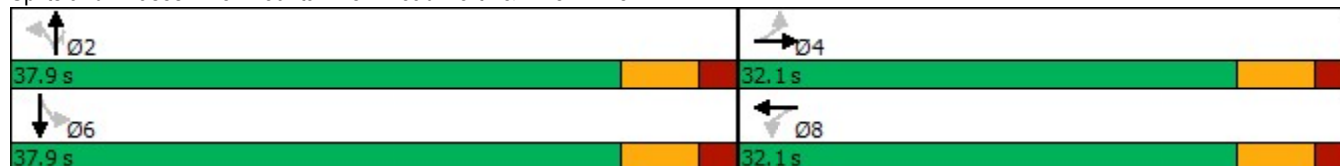


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	32.1	32.1		32.1	32.1		36.1	36.1	36.1	36.1	36.1	
Total Split (s)	32.1	32.1		32.1	32.1		37.9	37.9	37.9	37.9	37.9	
Total Split (%)	45.9%	45.9%		45.9%	45.9%		54.1%	54.1%	54.1%	54.1%	54.1%	
Maximum Green (s)	26.0	26.0		26.0	26.0		31.8	31.8	31.8	31.8	31.8	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.1	2.1		2.1	2.1		2.1	2.1	2.1	2.1	2.1	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.1			6.1		6.1	6.1	6.1	6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Min	Min		Min	Min		Min	Min	Min	Min	Min	
Walk Time (s)	10.0	10.0		10.0	10.0		15.0	15.0	15.0	16.0	16.0	
Flash Dont Walk (s)	16.0	16.0		16.0	16.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		16.5			16.5		30.6	30.6	30.6	30.6	30.6	
Actuated g/C Ratio		0.28			0.28		0.51	0.51	0.51	0.51	0.51	
v/c Ratio		0.52			0.72		0.41	0.32	0.23	0.09	0.57	
Control Delay		14.6			34.1		15.8	11.0	3.0	10.0	14.3	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		14.6			34.1		15.8	11.0	3.0	10.0	14.3	
LOS		B			C		B	B	A	A	B	
Approach Delay		14.6			34.1			9.9			13.9	
Approach LOS		B			C			A			B	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	59.5
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	14.9
Intersection LOS:	B
Intersection Capacity Utilization:	99.4%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 5: Mountainview Road North & River Drive



# Timings

## 5: Mountainview Road North & River Drive

11/05/2024

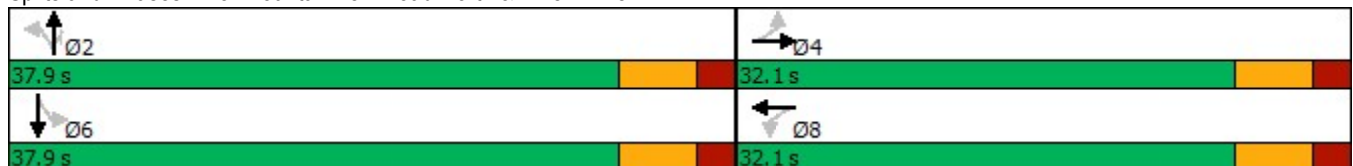


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↖	↗	↗	↖	↖
Traffic Volume (vph)	14	102	130	31	132	282	156	48	501
Future Volume (vph)	14	102	130	31	132	282	156	48	501
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
Minimum Split (s)	32.1	32.1	32.1	32.1	36.1	36.1	36.1	36.1	36.1
Total Split (s)	32.1	32.1	32.1	32.1	37.9	37.9	37.9	37.9	37.9
Total Split (%)	45.9%	45.9%	45.9%	45.9%	54.1%	54.1%	54.1%	54.1%	54.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.1		6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)		16.5		16.5	30.6	30.6	30.6	30.6	30.6
Actuated g/C Ratio		0.28		0.28	0.51	0.51	0.51	0.51	0.51
v/c Ratio		0.52		0.72	0.41	0.32	0.23	0.09	0.57
Control Delay		14.6		34.1	15.8	11.0	3.0	10.0	14.3
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		14.6		34.1	15.8	11.0	3.0	10.0	14.3
LOS		B		C	B	B	A	A	B
Approach Delay		14.6		34.1		9.9			13.9
Approach LOS		B		C		A			B

### Intersection Summary

Cycle Length: 70	
Actuated Cycle Length: 59.5	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 14.9	Intersection LOS: B
Intersection Capacity Utilization 99.4%	ICU Level of Service F
Analysis Period (min) 15	

### Splits and Phases: 5: Mountainview Road North & River Drive



Phasings

5: Mountainview Road North & River Drive

11/05/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Minimum Initial (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
Minimum Split (s)	32.1	32.1	32.1	32.1	36.1	36.1	36.1	36.1	36.1
Total Split (s)	32.1	32.1	32.1	32.1	37.9	37.9	37.9	37.9	37.9
Total Split (%)	45.9%	45.9%	45.9%	45.9%	54.1%	54.1%	54.1%	54.1%	54.1%
Maximum Green (s)	26.0	26.0	26.0	26.0	31.8	31.8	31.8	31.8	31.8
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)	10.0	10.0	10.0	10.0	15.0	15.0	15.0	16.0	16.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	26.0	26.0	26.0	26.0	31.8	31.8	31.8	31.8	31.8
90th %ile Term Code	Hold	Hold	Max	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	20.1	20.1	20.1	20.1	30.0	30.0	30.0	30.0	30.0
70th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min
50th %ile Green (s)	16.0	16.0	16.0	16.0	30.0	30.0	30.0	30.0	30.0
50th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min
30th %ile Green (s)	12.5	12.5	12.5	12.5	30.0	30.0	30.0	30.0	30.0
30th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
10th %ile Term Code	Min	Min	Min	Min	Min	Min	Min	Min	Min

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 59.5

Control Type: Semi Act-Uncoord

90th %ile Actuated Cycle: 70

70th %ile Actuated Cycle: 62.3

50th %ile Actuated Cycle: 58.2

30th %ile Actuated Cycle: 54.7

10th %ile Actuated Cycle: 52.2

Queues

5: Mountainview Road North & River Drive

11/05/2024























Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	277	195	140	300	166	51	542
v/c Ratio	0.52	0.72	0.41	0.32	0.23	0.09	0.57
Control Delay	14.6	34.1	15.8	11.0	3.0	10.0	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.6	34.1	15.8	11.0	3.0	10.0	14.3
Queue Length 50th (m)	15.1	17.6	8.4	16.9	0.0	2.5	35.8
Queue Length 95th (m)	33.5	38.1	27.8	41.4	9.0	9.4	82.9
Internal Link Dist (m)	40.6	113.6		67.3			254.8
Turn Bay Length (m)			50.0			50.0	
Base Capacity (vph)	780	422	355	969	765	565	997
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.46	0.39	0.31	0.22	0.09	0.54

Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 5: Mountainview Road North & River Drive

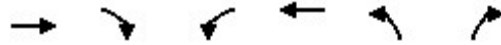
11/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	102	144	130	31	23	132	282	156	48	501	8
Future Volume (vph)	14	102	144	130	31	23	132	282	156	48	501	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.1			6.1		6.1	6.1	6.1	6.1	6.1	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes		0.99			1.00		1.00	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	
Frt		0.93			0.98		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1676			1545		1704	1795	1276	1722	1843	
Flt Permitted		0.98			0.59		0.37	1.00	1.00	0.58	1.00	
Satd. Flow (perm)		1640			942		659	1795	1276	1046	1843	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	15	109	153	138	33	24	140	300	166	51	533	9
RTOR Reduction (vph)	0	73	0	0	8	0	0	0	80	0	1	0
Lane Group Flow (vph)	0	204	0	0	187	0	140	300	86	51	541	0
Confl. Peds. (#/hr)	4		2	2		4	2					2
Heavy Vehicles (%)	0%	0%	9%	25%	0%	0%	7%	7%	28%	6%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		16.5			16.5		30.6	30.6	30.6	30.6	30.6	
Effective Green, g (s)		16.5			16.5		30.6	30.6	30.6	30.6	30.6	
Actuated g/C Ratio		0.28			0.28		0.52	0.52	0.52	0.52	0.52	
Clearance Time (s)		6.1			6.1		6.1	6.1	6.1	6.1	6.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		456			262		340	926	658	539	951	
v/s Ratio Prot								0.17				c0.29
v/s Ratio Perm		0.12			c0.20		0.21		0.07	0.05		
v/c Ratio		0.45			0.71		0.41	0.32	0.13	0.09	0.57	
Uniform Delay, d1		17.6			19.3		8.8	8.3	7.4	7.3	9.8	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.7			8.9		0.8	0.2	0.1	0.1	0.8	
Delay (s)		18.3			28.2		9.6	8.5	7.5	7.4	10.6	
Level of Service		B			C		A	A	A	A	B	
Approach Delay (s)		18.3			28.2			8.5			10.3	
Approach LOS		B			C			A			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			13.1				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			59.3				Sum of lost time (s)				12.2	
Intersection Capacity Utilization			99.4%				ICU Level of Service				F	
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
 8: Site Access w/ River Dr & River Drive

11/05/2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	192	0	88	88	0	67
Future Volume (vph)	192	0	88	88	0	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>					0.865	
Fl <sub>t</sub> Protected				0.976		
Satd. Flow (prot)	1656	0	0	1838	1629	0
Fl <sub>t</sub> Permitted				0.976		
Satd. Flow (perm)	1656	0	0	1838	1629	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	77.8			64.6	220.8	
Travel Time (s)	5.6			4.7	15.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	16%	0%	0%	4%	2%	2%
Adj. Flow (vph)	209	0	96	96	0	73
Shared Lane Traffic (%)						
Lane Group Flow (vph)	209	0	0	192	73	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	33.8%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 8: Site Access w/ River Dr & River Drive

11/05/2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	
Traffic Volume (veh/h)	192	0	88	88	0	67
Future Volume (Veh/h)	192	0	88	88	0	67
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)	209	0	96	96	0	73
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (m)	65					
pX, platoon unblocked					0.97	
vC, conflicting volume			209	497	209	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			209	471	209	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			93	100	91	
cM capacity (veh/h)			1374	500	831	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	209	192	73			
Volume Left	0	96	0			
Volume Right	0	0	73			
cSH	1700	1374	831			
Volume to Capacity	0.12	0.07	0.09			
Queue Length 95th (m)	0.0	1.7	2.2			
Control Delay (s)	0.0	4.2	9.7			
Lane LOS			A			
Approach Delay (s)	0.0	4.2	9.7			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			3.2			
Intersection Capacity Utilization			33.8%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings

9: Mountainview Road North & Site Access w/ Mountainview Rd N

11/05/2024



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	209	0	902	734	0
Future Volume (vph)	0	209	0	902	734	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr <sub>t</sub>	0.865					
Fl <sub>t</sub> Protected						
Satd. Flow (prot)	0	1662	0	3230	3380	0
Fl <sub>t</sub> Permitted						
Satd. Flow (perm)	0	1662	0	3230	3380	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	291.0			79.8	91.3	
Travel Time (s)	21.0			5.7	6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	13%	8%	0%
Adj. Flow (vph)	0	227	0	980	798	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	227	0	980	798	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97	97	97			97
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	39.9%
	ICU Level of Service A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 9: Mountainview Road North & Site Access w/ Mountainview Rd N

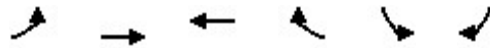
11/05/2024



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	209	0	902	734	0
Future Volume (Veh/h)	0	209	0	902	734	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	227	0	980	798	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					91	
pX, platoon unblocked						
vC, conflicting volume	1288	399	798			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1288	399	798			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	63	100			
cM capacity (veh/h)	158	606	833			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>	<b>SB 2</b>	
Volume Total	227	490	490	532	266	
Volume Left	0	0	0	0	0	
Volume Right	227	0	0	0	0	
cSH	606	1700	1700	1700	1700	
Volume to Capacity	0.37	0.29	0.29	0.31	0.16	
Queue Length 95th (m)	13.2	0.0	0.0	0.0	0.0	
Control Delay (s)	14.4	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	14.4	0.0		0.0		
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			1.6			
Intersection Capacity Utilization			39.9%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
 11: River Drive & Daniela Court

11/05/2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	4	196	86	3	13	0
Future Volume (vph)	4	196	86	3	13	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.995					
Flt Protected	0.999		0.950			
Satd. Flow (prot)	0	1659	1841	0	1825	0
Flt Permitted	0.999		0.950			
Satd. Flow (perm)	0	1659	1841	0	1825	0
Link Speed (k/h)	50		50		50	
Link Distance (m)	153.6		77.8		141.8	
Travel Time (s)	11.1		5.6		10.2	
Confl. Peds. (#/hr)	3		3			
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	16%	4%	0%	0%	0%
Adj. Flow (vph)	5	231	101	4	15	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	236	105	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)	0.0		0.0		3.7	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	1.6		1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14		24	
Sign Control	Free		Free		Stop	

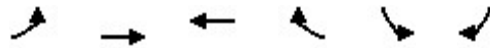
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	23.5%
ICU Level of Service	A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 11: River Drive & Daniela Court



















11/05/2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	196	86	3	13	0
Future Volume (Veh/h)	4	196	86	3	13	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	5	231	101	4	15	0
Pedestrians					3	
Lane Width (m)					3.7	
Walking Speed (m/s)					1.1	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)			142			
pX, platoon unblocked						
vC, conflicting volume	108				347	106
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	108				347	106
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	100
cM capacity (veh/h)	1491				650	951
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	236	105	15			
Volume Left	5	0	15			
Volume Right	0	4	0			
cSH	1491	1700	650			
Volume to Capacity	0.00	0.06	0.02			
Queue Length 95th (m)	0.1	0.0	0.5			
Control Delay (s)	0.2	0.0	10.7			
Lane LOS	A		B			
Approach Delay (s)	0.2	0.0	10.7			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			0.6			
Intersection Capacity Utilization			23.5%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
 14: Mountainview Road North & John Street

11/05/2024



















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	11	76	23	16	13	64	255	30	11	423	44
Future Volume (vph)	36	11	76	23	16	13	64	255	30	11	423	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	75.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.917			0.967			0.984			0.959	
Flt Protected		0.986			0.978		0.950			0.950		
Satd. Flow (prot)	0	1679	0	0	1769	0	1573	1815	0	1825	1775	0
Flt Permitted		0.986			0.978		0.950			0.950		
Satd. Flow (perm)	0	1679	0	0	1769	0	1573	1815	0	1825	1775	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		140.9			171.9			278.8			156.1	
Travel Time (s)		10.1			12.4			20.1			11.2	
Confl. Peds. (#/hr)	6		5	5		6	5		2	2		5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.25
Heavy Vehicles (%)	4%	12%	2%	6%	0%	0%	16%	3%	14%	0%	3%	6%
Adj. Flow (vph)	40	12	84	26	18	14	71	283	33	12	470	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	136	0	0	58	0	71	316	0	12	646	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	47.8%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 14: Mountainview Road North & John Street

11/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	36	11	76	23	16	13	64	255	30	11	423	44
Future Volume (vph)	36	11	76	23	16	13	64	255	30	11	423	44
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.25
Hourly flow rate (vph)	40	12	84	26	18	14	71	283	33	12	470	176
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	136	58	71	316	12	646						
Volume Left (vph)	40	26	71	0	12	0						
Volume Right (vph)	84	14	0	33	0	176						
Hadj (s)	-0.25	-0.01	0.77	0.00	0.50	-0.13						
Departure Headway (s)	6.4	6.9	6.7	5.9	6.2	5.5						
Degree Utilization, x	0.24	0.11	0.13	0.52	0.02	1.00						
Capacity (veh/h)	537	484	527	599	564	646						
Control Delay (s)	11.4	10.8	9.6	14.0	8.1	56.3						
Approach Delay (s)	11.4	10.8	13.2		55.4							
Approach LOS	B	B	B		F							
Intersection Summary												
Delay			35.3									
Level of Service			E									
Intersection Capacity Utilization			47.8%	ICU Level of Service		A						
Analysis Period (min)			15									

# Lanes, Volumes, Timings

## 3: Mountainview Road North & Stewart MacLaren Road

11/05/2024



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↖
Traffic Volume (vph)	3	23	1032	60	1	842
Future Volume (vph)	3	23	1032	60	1	842
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.865	0.992			
Flt Protected	0.950					
Satd. Flow (prot)	0	1329	3427	0	0	3544
Flt Permitted	0.950					
Satd. Flow (perm)	0	1329	3427	0	0	3544
Link Speed (k/h)	50		50			50
Link Distance (m)	176.8		193.3			79.8
Travel Time (s)	12.7		13.9			5.7
Confl. Peds. (#/hr)				8	8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	25%	6%	0%	0%	3%
Adj. Flow (vph)	3	24	1098	64	1	896
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	24	1162	0	0	897
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	0.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

### Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization Err%	ICU Level of Service H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 3: Mountainview Road North & Stewart MacLaren Road

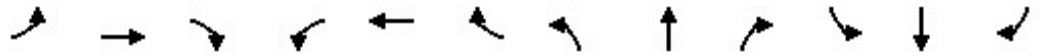
11/05/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↖
Traffic Volume (veh/h)	3	23	1032	60	1	842
Future Volume (Veh/h)	3	23	1032	60	1	842
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	3	24	1098	64	1	896
Pedestrians	8					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						171
pX, platoon unblocked						
vC, conflicting volume	1588	589			1106	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1588	589			1106	
tC, single (s)	6.8	7.4			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.2	
p0 queue free %	97	94			100	
cM capacity (veh/h)	100	395			634	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>	<b>SB 2</b>	
Volume Total	27	732	430	300	597	
Volume Left	3	0	0	1	0	
Volume Right	24	0	64	0	0	
cSH	297	1700	1700	634	1700	
Volume to Capacity	0.09	0.43	0.25	0.00	0.35	
Queue Length 95th (m)	2.3	0.0	0.0	0.0	0.0	
Control Delay (s)	18.3	0.0	0.0	0.1	0.0	
Lane LOS	C			A		
Approach Delay (s)	18.3	0.0		0.0		
Approach LOS	C					
<b>Intersection Summary</b>						
Average Delay			0.2			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

Lanes, Volumes, Timings  
5: Mountainview Road North & River Drive

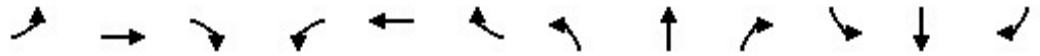
11/05/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖	↗	↗	↖	↖
Traffic Volume (vph)	6	44	116	133	100	42	356	526	174	38	432	19
Future Volume (vph)	6	44	116	133	100	42	356	526	174	38	432	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00		1.00					1.00
Frt		0.906			0.979				0.850			0.994
Flt Protected		0.998			0.976		0.950			0.950		
Satd. Flow (prot)	0	1656	0	0	1753	0	1825	1865	1372	1755	1880	0
Flt Permitted		0.986			0.757		0.423			0.362		
Satd. Flow (perm)	0	1636	0	0	1360	0	811	1865	1372	669	1880	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		123			10				185			4
Link Speed (k/h)		50			50			50				50
Link Distance (m)		64.6			137.6			91.3				278.8
Travel Time (s)		4.7			9.9			6.6				20.1
Confl. Peds. (#/hr)	2						2	3				3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	7%	9%	0%	0%	0%	3%	19%	4%	1%	12%
Adj. Flow (vph)	6	47	123	141	106	45	379	560	185	40	460	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	176	0	0	292	0	379	560	185	40	480	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		4.9			4.9			4.9				4.9
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	2.0	10.0		2.0	10.0		6.1	10.0	2.0	2.0		10.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		6.1	0.6	2.0	2.0		0.6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 2 Position(m)		9.4			9.4			9.4				9.4
Detector 2 Size(m)		0.6			0.6			0.6				0.6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0

Lanes, Volumes, Timings  
5: Mountainview Road North & River Drive

11/05/2024

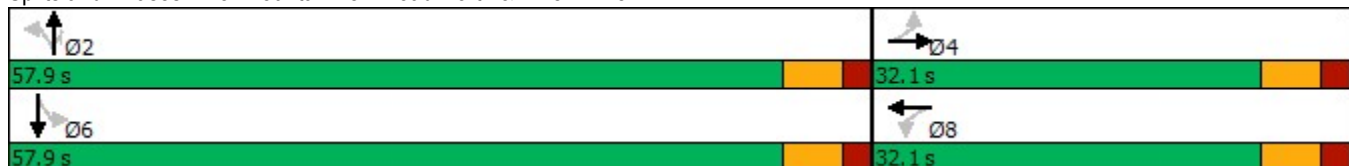


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	32.1	32.1		32.1	32.1		36.1	36.1	36.1	36.1	36.1	
Total Split (s)	32.1	32.1		32.1	32.1		57.9	57.9	57.9	57.9	57.9	
Total Split (%)	35.7%	35.7%		35.7%	35.7%		64.3%	64.3%	64.3%	64.3%	64.3%	
Maximum Green (s)	26.0	26.0		26.0	26.0		51.8	51.8	51.8	51.8	51.8	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.1	2.1		2.1	2.1		2.1	2.1	2.1	2.1	2.1	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.1			6.1		6.1	6.1	6.1	6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	Min	Min		Min	Min		Min	Min	Min	Min	Min	
Walk Time (s)	10.0	10.0		10.0	10.0		15.0	15.0	15.0	16.0	16.0	
Flash Dont Walk (s)	16.0	16.0		16.0	16.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		20.6			20.6		42.8	42.8	42.8	42.8	42.8	
Actuated g/C Ratio		0.27			0.27		0.56	0.56	0.56	0.56	0.56	
v/c Ratio		0.33			0.78		0.83	0.53	0.22	0.11	0.45	
Control Delay		10.7			42.0		33.0	13.1	2.1	9.4	11.8	
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		10.7			42.0		33.0	13.1	2.1	9.4	11.8	
LOS		B			D		C	B	A	A	B	
Approach Delay		10.7			42.0			18.0				11.6
Approach LOS		B			D			B				B

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	76.1
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	19.1
Intersection LOS:	B
Intersection Capacity Utilization:	98.4%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 5: Mountainview Road North & River Drive



# Timings

## 5: Mountainview Road North & River Drive

11/05/2024

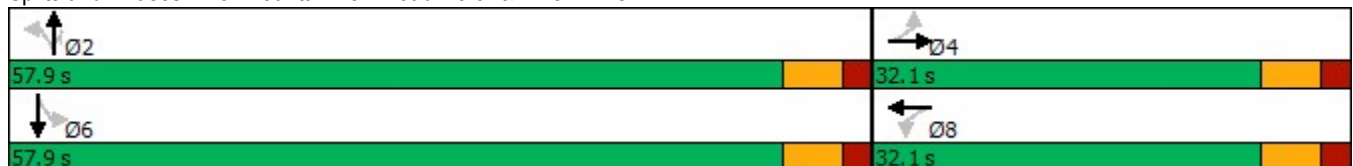


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔		↔	↔	↑	↗	↖	↗
Traffic Volume (vph)	6	44	133	100	356	526	174	38	432
Future Volume (vph)	6	44	133	100	356	526	174	38	432
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Detector Phase	4	4	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
Minimum Split (s)	32.1	32.1	32.1	32.1	36.1	36.1	36.1	36.1	36.1
Total Split (s)	32.1	32.1	32.1	32.1	57.9	57.9	57.9	57.9	57.9
Total Split (%)	35.7%	35.7%	35.7%	35.7%	64.3%	64.3%	64.3%	64.3%	64.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.1		6.1	6.1	6.1	6.1	6.1	6.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)		20.6		20.6	42.8	42.8	42.8	42.8	42.8
Actuated g/C Ratio		0.27		0.27	0.56	0.56	0.56	0.56	0.56
v/c Ratio		0.33		0.78	0.83	0.53	0.22	0.11	0.45
Control Delay		10.7		42.0	33.0	13.1	2.1	9.4	11.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		10.7		42.0	33.0	13.1	2.1	9.4	11.8
LOS		B		D	C	B	A	A	B
Approach Delay		10.7		42.0		18.0			11.6
Approach LOS		B		D		B			B

### Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 76.1	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 19.1	Intersection LOS: B
Intersection Capacity Utilization 98.4%	ICU Level of Service F
Analysis Period (min) 15	

### Splits and Phases: 5: Mountainview Road North & River Drive



Phasings

5: Mountainview Road North & River Drive

11/05/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Protected Phases		4		8		2			6
Permitted Phases	4		8		2		2	6	
Minimum Initial (s)	10.0	10.0	10.0	10.0	30.0	30.0	30.0	30.0	30.0
Minimum Split (s)	32.1	32.1	32.1	32.1	36.1	36.1	36.1	36.1	36.1
Total Split (s)	32.1	32.1	32.1	32.1	57.9	57.9	57.9	57.9	57.9
Total Split (%)	35.7%	35.7%	35.7%	35.7%	64.3%	64.3%	64.3%	64.3%	64.3%
Maximum Green (s)	26.0	26.0	26.0	26.0	51.8	51.8	51.8	51.8	51.8
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)	10.0	10.0	10.0	10.0	15.0	15.0	15.0	16.0	16.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	26.0	26.0	26.0	26.0	51.8	51.8	51.8	51.8	51.8
90th %ile Term Code	Hold	Hold	Max	Max	Max	Max	Max	Hold	Hold
70th %ile Green (s)	26.0	26.0	26.0	26.0	51.8	51.8	51.8	51.8	51.8
70th %ile Term Code	Hold	Hold	Max	Max	Max	Max	Max	Hold	Hold
50th %ile Green (s)	23.8	23.8	23.8	23.8	47.5	47.5	47.5	47.5	47.5
50th %ile Term Code	Hold	Hold	Gap	Gap	Gap	Gap	Gap	Hold	Hold
30th %ile Green (s)	17.2	17.2	17.2	17.2	33.9	33.9	33.9	33.9	33.9
30th %ile Term Code	Hold	Hold	Gap	Gap	Gap	Gap	Gap	Hold	Hold
10th %ile Green (s)	11.7	11.7	11.7	11.7	30.0	30.0	30.0	30.0	30.0
10th %ile Term Code	Hold	Hold	Gap	Gap	Min	Min	Min	Min	Min

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 76.1

Control Type: Semi Act-Uncoord

90th %ile Actuated Cycle: 90

70th %ile Actuated Cycle: 90

50th %ile Actuated Cycle: 83.5

30th %ile Actuated Cycle: 63.3

10th %ile Actuated Cycle: 53.9

Queues

5: Mountainview Road North & River Drive

11/05/2024



Lane Group	EBT	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	176	292	379	560	185	40	480
v/c Ratio	0.33	0.78	0.83	0.53	0.22	0.11	0.45
Control Delay	10.7	42.0	33.0	13.1	2.1	9.4	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	42.0	33.0	13.1	2.1	9.4	11.8
Queue Length 50th (m)	6.2	40.6	45.1	50.8	0.0	2.7	40.5
Queue Length 95th (m)	21.8	#79.9	#105.6	80.8	8.0	7.5	65.0
Internal Link Dist (m)	40.6	113.6		67.3			254.8
Turn Bay Length (m)			50.0			50.0	
Base Capacity (vph)	662	491	575	1324	1028	475	1336
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.59	0.66	0.42	0.18	0.08	0.36





















Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 5: Mountainview Road North & River Drive

11/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	44	116	133	100	42	356	526	174	38	432	19
Future Volume (vph)	6	44	116	133	100	42	356	526	174	38	432	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.1			6.1		6.1	6.1	6.1	6.1	6.1	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes		1.00			1.00		1.00	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	
Frt		0.91			0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected		1.00			0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1656			1754		1822	1865	1372	1755	1880	
Flt Permitted		0.99			0.76		0.42	1.00	1.00	0.36	1.00	
Satd. Flow (perm)		1635			1360		810	1865	1372	668	1880	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	47	123	141	106	45	379	560	185	40	460	20
RTOR Reduction (vph)	0	89	0	0	7	0	0	0	80	0	2	0
Lane Group Flow (vph)	0	87	0	0	285	0	379	560	105	40	478	0
Confl. Peds. (#/hr)	2					2	3					3
Heavy Vehicles (%)	0%	0%	7%	9%	0%	0%	0%	3%	19%	4%	1%	12%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		6
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		20.6			20.6		42.8	42.8	42.8	42.8	42.8	
Effective Green, g (s)		20.6			20.6		42.8	42.8	42.8	42.8	42.8	
Actuated g/C Ratio		0.27			0.27		0.57	0.57	0.57	0.57	0.57	
Clearance Time (s)		6.1			6.1		6.1	6.1	6.1	6.1	6.1	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		445			370		458	1055	776	378	1064	
v/s Ratio Prot								0.30			0.25	
v/s Ratio Perm		0.05			c0.21		c0.47		0.08	0.06		
v/c Ratio		0.19			0.77		0.83	0.53	0.13	0.11	0.45	
Uniform Delay, d1		21.1			25.3		13.4	10.2	7.7	7.6	9.5	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.2			9.3		11.7	0.5	0.1	0.1	0.3	
Delay (s)		21.3			34.6		25.1	10.7	7.8	7.7	9.8	
Level of Service		C			C		C	B	A	A	A	
Approach Delay (s)		21.3			34.6			15.1			9.7	
Approach LOS		C			C			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			17.0				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			75.6				Sum of lost time (s)			12.2		
Intersection Capacity Utilization			98.4%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
 8: Site Access w/ River Dr & River Drive

11/05/2024



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	143	0	268	203	0	23
Future Volume (vph)	143	0	268	203	0	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>					0.865	
Fl <sub>t</sub> Protected				0.972		
Satd. Flow (prot)	1779	0	0	1851	1662	0
Fl <sub>t</sub> Permitted				0.972		
Satd. Flow (perm)	1779	0	0	1851	1662	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	77.8			64.6	220.8	
Travel Time (s)	5.6			4.7	15.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	0%	0%	2%	0%	0%
Adj. Flow (vph)	155	0	291	221	0	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	155	0	0	512	25	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

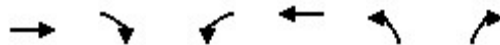
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	46.4%
ICU Level of Service	A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 8: Site Access w/ River Dr & River Drive

11/05/2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↘	↙
Traffic Volume (veh/h)	143	0	268	203	0	23
Future Volume (Veh/h)	143	0	268	203	0	23
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)	155	0	291	221	0	25
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	65					
pX, platoon unblocked					0.89	
vC, conflicting volume			155	958		155
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			155	888		155
tC, single (s)			4.1	6.4		6.2
tC, 2 stage (s)						
tF (s)			2.2	3.5		3.3
p0 queue free %			80	100		97
cM capacity (veh/h)			1438	224		896
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	155	512	25			
Volume Left	0	291	0			
Volume Right	0	0	25			
cSH	1700	1438	896			
Volume to Capacity	0.09	0.20	0.03			
Queue Length 95th (m)	0.0	5.8	0.7			
Control Delay (s)	0.0	5.4	9.1			
Lane LOS			A		A	
Approach Delay (s)	0.0	5.4	9.1			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			4.4			
Intersection Capacity Utilization			46.4%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings

9: Mountainview Road North & Site Access w/ Mountainview Rd N

11/05/2024



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	153	0	1092	691	0
Future Volume (vph)	0	153	0	1092	691	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr <sub>t</sub>	0.865					
Fl <sub>t</sub> Protected						
Satd. Flow (prot)	0	1662	0	3444	3544	0
Fl <sub>t</sub> Permitted						
Satd. Flow (perm)	0	1662	0	3444	3544	0
Link Speed (k/h)	50		50		50	
Link Distance (m)	291.0		79.8		91.3	
Travel Time (s)	21.0		5.7		6.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	3%	0%
Adj. Flow (vph)	0	166	0	1187	751	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	166	0	1187	751	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0		3.7		3.7	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	1.6		1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop		Free		Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	35.2% ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 9: Mountainview Road North & Site Access w/ Mountainview Rd N

11/05/2024



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	153	0	1092	691	0
Future Volume (Veh/h)	0	153	0	1092	691	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	166	0	1187	751	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					91	
pX, platoon unblocked						
vC, conflicting volume	1344	376	751			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1344	376	751			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	74	100			
cM capacity (veh/h)	145	628	868			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	166	594	594	501	250	
Volume Left	0	0	0	0	0	
Volume Right	166	0	0	0	0	
cSH	628	1700	1700	1700	1700	
Volume to Capacity	0.26	0.35	0.35	0.29	0.15	
Queue Length 95th (m)	8.0	0.0	0.0	0.0	0.0	
Control Delay (s)	12.8	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	12.8	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay	1.0					
Intersection Capacity Utilization	35.2%			ICU Level of Service	A	
Analysis Period (min)	15					

Lanes, Volumes, Timings  
 11: River Drive & Daniela Court

11/05/2024



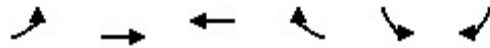
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Volume (vph)	4	135	189	14	13	3
Future Volume (vph)	4	135	189	14	13	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.991		0.972	
Flt Protected		0.998			0.962	
Satd. Flow (prot)	0	1779	1869	0	1796	0
Flt Permitted		0.998			0.962	
Satd. Flow (perm)	0	1779	1869	0	1796	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		153.6	77.8		141.8	
Travel Time (s)		11.1	5.6		10.2	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	8%	2%	0%	0%	0%
Adj. Flow (vph)	5	159	222	16	15	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	164	238	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	20.8%
	ICU Level of Service A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 11: River Drive & Daniela Court



















11/05/2024



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	4	135	189	14	13	3
Future Volume (Veh/h)	4	135	189	14	13	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	5	159	222	16	15	4
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)	142					
pX, platoon unblocked						
vC, conflicting volume	238			399	230	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	238			399	230	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	100			98	100	
cM capacity (veh/h)	1341			608	814	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	164	238	19			
Volume Left	5	0	15			
Volume Right	0	16	4			
cSH	1341	1700	642			
Volume to Capacity	0.00	0.14	0.03			
Queue Length 95th (m)	0.1	0.0	0.7			
Control Delay (s)	0.3	0.0	10.8			
Lane LOS	A		B			
Approach Delay (s)	0.3	0.0	10.8			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			0.6			
Intersection Capacity Utilization			20.8%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
 14: Mountainview Road North & John Street



















11/05/2024

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	21	66	27	31	24	101	465	46	17	365	27
Future Volume (vph)	31	21	66	27	31	24	101	465	46	17	365	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	75.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.924			0.960			0.986			0.990	
Flt Protected		0.987			0.984		0.950			0.950		
Satd. Flow (prot)	0	1715	0	0	1757	0	1755	1860	0	1690	1850	0
Flt Permitted		0.987			0.984		0.950			0.950		
Satd. Flow (perm)	0	1715	0	0	1757	0	1755	1860	0	1690	1850	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		140.9			171.9			278.8			156.1	
Travel Time (s)		10.1			12.4			20.1			11.2	
Confl. Peds. (#/hr)	1		1	1		1	2		3	3		2
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	0%	2%	0%	4%	6%	4%	2%	0%	8%	3%	0%
Adj. Flow (vph)	32	22	69	28	32	25	105	484	48	18	380	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	123	0	0	85	0	105	532	0	18	408	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	49.3%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 14: Mountainview Road North & John Street

11/05/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	31	21	66	27	31	24	101	465	46	17	365	27
Future Volume (vph)	31	21	66	27	31	24	101	465	46	17	365	27
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	32	22	69	28	32	25	105	484	48	18	380	28
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	123	85	105	532	18	408						
Volume Left (vph)	32	28	105	0	18	0						
Volume Right (vph)	69	25	0	48	0	28						
Hadj (s)	-0.25	-0.05	0.57	-0.03	0.64	0.00						
Departure Headway (s)	6.5	6.8	6.4	5.8	6.7	6.0						
Degree Utilization, x	0.22	0.16	0.19	0.85	0.03	0.68						
Capacity (veh/h)	506	473	550	615	515	572						
Control Delay (s)	11.3	11.1	9.6	31.6	8.7	19.9						
Approach Delay (s)	11.3	11.1	28.0		19.5							
Approach LOS	B	B	D		C							
Intersection Summary												
Delay			22.4									
Level of Service			C									
Intersection Capacity Utilization			49.3%	ICU Level of Service	A							
Analysis Period (min)			15									