

Lanes, Volumes, Timings  
1: Brownridge Road/Fifth Line & Steeles Avenue

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	995	55	20	485	40	10	0	5	25	10	70
Future Volume (vph)	145	995	55	20	485	40	10	0	5	25	10	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	145.0		65.0	30.0		0.0	20.0		0.0	25.0		25.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	100.0			100.0			20.0			75.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.989			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	2959	1524	1444	2607	0	1480	1154	0	1289	1900	1468
Flt Permitted	0.457			0.287			0.751			0.754		
Satd. Flow (perm)	811	2959	1524	436	2607	0	1170	1154	0	1023	1900	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			65		24			109				109
Link Speed (k/h)		60			60			50				50
Link Distance (m)		486.3			703.6			285.2				91.4
Travel Time (s)		29.2			42.2			20.5				6.6
Peak Hour 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
Heavy Vehicles (%)	7%	22%	6%	25%	38%	24%	22%	0%	40%	40%	0%	10%
Adj. Flow (vph)	145	995	55	20	485	40	10	0	5	25	10	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	995	55	20	525	0	10	5	0	25	10	70
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)		3.6			3.6			3.6				3.6
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		4.8			4.8			4.8				4.8
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	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	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	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	0.0
Detector 1 Queue (s)	0.0	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	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
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2				6
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	4	8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	25.0	25.0	25.0	25.0	25.0		10.0	10.0		10.0	10.0	10.0

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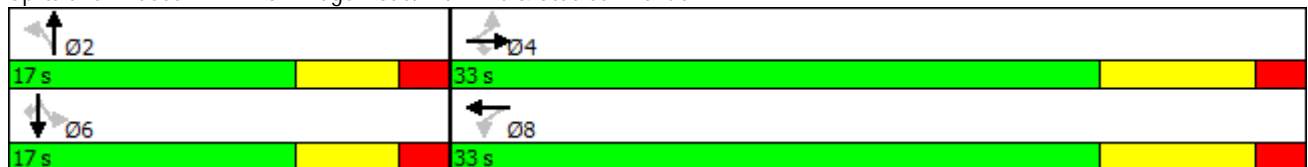


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	33.0	33.0	33.0	33.0	33.0		16.0	16.0		16.0	16.0	16.0
Total Split (s)	33.0	33.0	33.0	33.0	33.0		17.0	17.0		17.0	17.0	17.0
Total Split (%)	66.0%	66.0%	66.0%	66.0%	66.0%		34.0%	34.0%		34.0%	34.0%	34.0%
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0		11.0	11.0		11.0	11.0	11.0
Yellow Time (s)	6.0	6.0	6.0	6.0	6.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0		6.0	6.0		6.0	6.0	6.0
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	3.0
Recall Mode	Max	Max	Max	Max	Max		None	None		None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	0
Act Effct Green (s)	36.0	36.0	36.0	36.0	36.0		10.0	10.0		10.0	10.0	10.0
Actuated g/C Ratio	0.72	0.72	0.72	0.72	0.72		0.20	0.20		0.20	0.20	0.20
v/c Ratio	0.25	0.47	0.05	0.06	0.28		0.04	0.02		0.12	0.03	0.18
Control Delay	7.8	7.4	2.0	7.0	5.7		16.8	0.0		18.3	16.4	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	7.8	7.4	2.0	7.0	5.7		16.8	0.0		18.3	16.4	3.4
LOS	A	A	A	A	A		B	A		B	B	A
Approach Delay		7.2			5.8			11.2			8.2	
Approach LOS		A			A			B			A	

Intersection Summary

Area Type:	Other
Cycle Length:	50
Actuated Cycle Length:	50.1
Natural Cycle:	50
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.47
Intersection Signal Delay:	6.8
Intersection LOS:	A
Intersection Capacity Utilization:	75.0%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 1: Brownridge Road/Fifth Line & Steeles Avenue

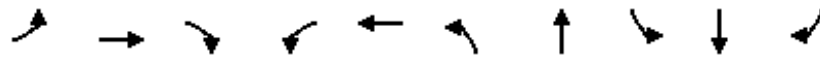


## Queues

2021 Total AM

## 1: Brownridge Road/Fifth Line &amp; Steeles Avenue

Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	145	995	55	20	525	10	5	25	10	70
v/c Ratio	0.25	0.47	0.05	0.06	0.28	0.04	0.02	0.12	0.03	0.18
Control Delay	7.8	7.4	2.0	7.0	5.7	16.8	0.0	18.3	16.4	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.8	7.4	2.0	7.0	5.7	16.8	0.0	18.3	16.4	3.4
Queue Length 50th (m)	7.1	31.5	0.0	0.8	13.0	0.9	0.0	2.3	0.9	0.0
Queue Length 95th (m)	17.5	48.5	3.3	3.6	21.7	3.8	0.0	6.9	3.8	4.6
Internal Link Dist (m)	462.3				679.6		261.2		67.4	
Turn Bay Length (m)	145.0		65.0	30.0		20.0		25.0		25.0
Base Capacity (vph)	583	2128	1114	313	1881	257	339	225	418	408
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.47	0.05	0.06	0.28	0.04	0.01	0.11	0.02	0.17

## Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 1: Brownridge Road/Fifth Line & Steeles Avenue

2021 Total AM  
Premier Gateway Phase 1B Employment Area



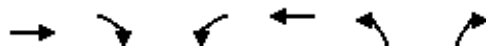
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	995	55	20	485	40	10	0	5	25	10	70
Future Volume (vph)	145	995	55	20	485	40	10	0	5	25	10	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0		6.0	6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1687	2959	1524	1444	2606		1480	1154		1289	1900	1468
Flt Permitted	0.46	1.00	1.00	0.29	1.00		0.75	1.00		0.75	1.00	1.00
Satd. Flow (perm)	812	2959	1524	436	2606		1170	1154		1024	1900	1468
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	145	995	55	20	485	40	10	0	5	25	10	70
RTOR Reduction (vph)	0	0	21	0	9	0	0	4	0	0	0	62
Lane Group Flow (vph)	145	995	34	20	516	0	10	1	0	25	10	8
Heavy Vehicles (%)	7%	22%	6%	25%	38%	24%	22%	0%	40%	40%	0%	10%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2				6
Permitted Phases	4		4	8			2			6		6
Actuated Green, G (s)	32.7	32.7	32.7	32.7	32.7		5.9	5.9		5.9	5.9	5.9
Effective Green, g (s)	32.7	32.7	32.7	32.7	32.7		5.9	5.9		5.9	5.9	5.9
Actuated g/C Ratio	0.62	0.62	0.62	0.62	0.62		0.11	0.11		0.11	0.11	0.11
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	504	1839	947	271	1620		131	129		114	213	164
v/s Ratio Prot		c0.34			0.20			0.00				0.01
v/s Ratio Perm	0.18		0.02	0.05			0.01			c0.02		0.01
v/c Ratio	0.29	0.54	0.04	0.07	0.32		0.08	0.00		0.22	0.05	0.05
Uniform Delay, d1	4.6	5.7	3.9	3.9	4.7		20.9	20.7		21.3	20.8	20.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.4	1.1	0.1	0.5	0.5		0.2	0.0		1.0	0.1	0.1
Delay (s)	6.0	6.8	3.9	4.5	5.2		21.2	20.8		22.2	20.9	21.0
Level of Service	A	A	A	A	A		C	C		C	C	C
Approach Delay (s)		6.6			5.2			21.0			21.3	
Approach LOS		A			A			C			C	

### Intersection Summary

HCM 2000 Control Delay	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	52.6	Sum of lost time (s)	14.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖	↗
Traffic Volume (vph)	1030	25	10	540	10	5
Future Volume (vph)	1030	25	10	540	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		30.0	60.0		15.0	0.0
Storage Lanes		1	1		1	1
Taper Length (m)			100.0		30.0	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	2935	1538	1543	2635	1543	1615
Flt Permitted			0.278		0.950	
Satd. Flow (perm)	2935	1538	451	2635	1543	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		25				5
Link Speed (k/h)	60			60	60	
Link Distance (m)	703.6			479.7	556.9	
Travel Time (s)	42.2			28.8	33.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	23%	5%	17%	37%	17%	0%
Adj. Flow (vph)	1030	25	10	540	10	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1030	25	10	540	10	5
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (m)	10.0	2.0	2.0	10.0	2.0	2.0
Trailing Detector (m)	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
Detector 1 Size(m)	0.6	2.0	2.0	0.6	2.0	2.0
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	CI+Ex			CI+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases		4	8		2	2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	25.0	25.0	25.0	25.0	10.0	10.0

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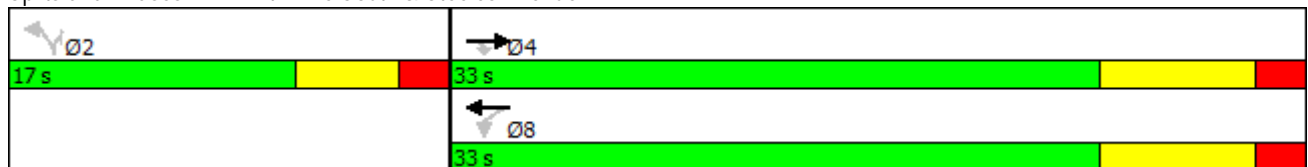


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	33.0	33.0	33.0	33.0	16.0	16.0
Total Split (s)	33.0	33.0	33.0	33.0	17.0	17.0
Total Split (%)	66.0%	66.0%	66.0%	66.0%	34.0%	34.0%
Maximum Green (s)	25.0	25.0	25.0	25.0	11.0	11.0
Yellow Time (s)	6.0	6.0	6.0	6.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	Max	Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	47.4	47.4	47.4	47.4	10.1	10.1
Actuated g/C Ratio	0.93	0.93	0.93	0.93	0.20	0.20
v/c Ratio	0.38	0.02	0.02	0.22	0.03	0.02
Control Delay	2.6	1.5	2.8	2.0	19.8	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.6	1.5	2.8	2.0	19.8	14.0
LOS	A	A	A	A	B	B
Approach Delay	2.5			2.0	17.9	
Approach LOS	A			A	B	

Intersection Summary

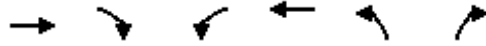
Area Type:	Other
Cycle Length:	50
Actuated Cycle Length:	51.2
Natural Cycle:	50
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.38
Intersection Signal Delay:	2.5
Intersection LOS:	A
Intersection Capacity Utilization:	55.0%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 2: Fifth Line South & Steeles Avenue



**Queues**  
**2: Fifth Line South & Steeles Avenue**

**2021 Total AM**  
 Premier Gateway Phase 1B Employment Area

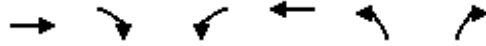


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1030	25	10	540	10	5
v/c Ratio	0.38	0.02	0.02	0.22	0.03	0.02
Control Delay	2.6	1.5	2.8	2.0	19.8	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.6	1.5	2.8	2.0	19.8	14.0
Queue Length 50th (m)	0.0	0.0	0.0	0.0	0.7	0.0
Queue Length 95th (m)	48.1	2.2	2.0	21.8	4.8	2.7
Internal Link Dist (m)	679.6			455.7	532.9	
Turn Bay Length (m)		30.0	60.0		15.0	
Base Capacity (vph)	2715	1424	417	2437	335	355
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.02	0.02	0.22	0.03	0.01
<b>Intersection Summary</b>						

# HCM Signalized Intersection Capacity Analysis

## 2: Fifth Line South & Steeles Avenue

2021 Total AM  
Premier Gateway Phase 1B Employment Area

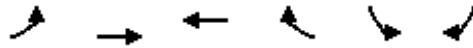


Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↘	↑↑	↘	↗
Traffic Volume (vph)	1030	25	10	540	10	5
Future Volume (vph)	1030	25	10	540	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0	8.0	8.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	2935	1538	1543	2635	1543	1615
Flt Permitted	1.00	1.00	0.28	1.00	0.95	1.00
Satd. Flow (perm)	2935	1538	452	2635	1543	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1030	25	10	540	10	5
RTOR Reduction (vph)	0	7	0	0	0	5
Lane Group Flow (vph)	1030	18	10	540	10	0
Heavy Vehicles (%)	23%	5%	17%	37%	17%	0%
Turn Type	NA	Perm	Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases		4	8		2	2
Actuated Green, G (s)	40.5	40.5	40.5	40.5	1.6	1.6
Effective Green, g (s)	40.5	40.5	40.5	40.5	1.6	1.6
Actuated g/C Ratio	0.72	0.72	0.72	0.72	0.03	0.03
Clearance Time (s)	8.0	8.0	8.0	8.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2118	1110	326	1902	44	46
v/s Ratio Prot	c0.35			0.20		
v/s Ratio Perm		0.01	0.02		c0.01	0.00
v/c Ratio	0.49	0.02	0.03	0.28	0.23	0.00
Uniform Delay, d1	3.3	2.2	2.2	2.7	26.6	26.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.0	0.2	0.4	2.6	0.0
Delay (s)	4.1	2.2	2.4	3.1	29.3	26.5
Level of Service	A	A	A	A	C	C
Approach Delay (s)	4.1			3.1	28.3	
Approach LOS	A			A	C	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			4.0		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.48			
Actuated Cycle Length (s)			56.1		Sum of lost time (s)	14.0
Intersection Capacity Utilization			55.0%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						



Lanes, Volumes, Timings  
3: Steeles Avenue & Sixth Line

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	1070	520	5	10	35
Future Volume (vph)	40	1070	520	5	10	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0			30.0	30.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr <sub>t</sub>				0.850		0.850
Fl <sub>t</sub> Protected	0.950				0.950	
Satd. Flow (prot)	1752	2935	2674	1077	1031	1568
Fl <sub>t</sub> Permitted	0.950				0.950	
Satd. Flow (perm)	1752	2935	2674	1077	1031	1568
Link Speed (k/h)		60	80		70	
Link Distance (m)		479.7	905.3		3066.1	
Travel Time (s)		28.8	40.7		157.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	23%	35%	50%	75%	3%
Adj. Flow (vph)	40	1070	520	5	10	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	1070	520	5	10	35
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

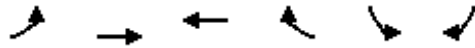
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	39.6%
ICU Level of Service	A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 3: Steeles Avenue & Sixth Line























2021 Total AM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	40	1070	520	5	10	35		
Future Volume (Veh/h)	40	1070	520	5	10	35		
Sign Control		Free	Free		Stop			
Grade		0%	0%		0%			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly flow rate (vph)	40	1070	520	5	10	35		
Pedestrians								
Lane Width (m)								
Walking Speed (m/s)								
Percent Blockage								
Right turn flare (veh)								
Median type		None	None					
Median storage (veh)								
Upstream signal (m)								
pX, platoon unblocked								
vC, conflicting volume	525				1135	260		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	525				1135	260		
tC, single (s)	4.2				8.3	7.0		
tC, 2 stage (s)								
tF (s)	2.2				4.2	3.3		
p0 queue free %	96				91	95		
cM capacity (veh/h)	1031				108	736		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	SB 2
Volume Total	40	535	535	260	260	5	10	35
Volume Left	40	0	0	0	0	0	10	0
Volume Right	0	0	0	0	0	5	0	35
cSH	1031	1700	1700	1700	1700	1700	108	736
Volume to Capacity	0.04	0.31	0.31	0.15	0.15	0.00	0.09	0.05
Queue Length 95th (m)	1.0	0.0	0.0	0.0	0.0	0.0	2.4	1.2
Control Delay (s)	8.6	0.0	0.0	0.0	0.0	0.0	41.7	10.1
Lane LOS	A						E	B
Approach Delay (s)	0.3			0.0			17.2	
Approach LOS							C	
Intersection Summary								
Average Delay	0.7							
Intersection Capacity Utilization	39.6%			ICU Level of Service			A	
Analysis Period (min)	15							

Lanes, Volumes, Timings  
 4: Sixth Line South/"Street A" & Steeles Avenue

2021 Total AM  
 Premier Gateway Phase 1B Employment Area

























												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1025	30	80	465	30	10	25	35	5	5	5
Future Volume (vph)	30	1025	30	80	465	30	10	25	35	5	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		30.0	60.0		30.0	30.0		0.0	30.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	7.5			100.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.912				0.925
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3085	1615	1736	2798	1583	1597	1652	0	1770	1723	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3085	1615	1736	2798	1583	1597	1652	0	1770	1723	0
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		905.3			497.0			169.8			144.3	
Travel Time (s)		40.7			22.4			12.2			10.4	
Peak Hour 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
Heavy Vehicles (%)	2%	17%	0%	4%	29%	2%	13%	2%	7%	2%	2%	2%
Adj. Flow (vph)	30	1025	30	80	465	30	10	25	35	5	5	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	1025	30	80	465	30	10	60	0	5	10	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.0%
Analysis Period (min)	15
	ICU Level of Service A

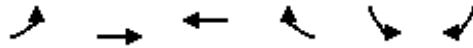
HCM Unsignalized Intersection Capacity Analysis  
 4: Sixth Line South/"Street A" & Steeles Avenue

2021 Total AM  
 Premier Gateway Phase 1B Employment Area

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1025	30	80	465	30	10	25	35	5	5	5
Future Volume (Veh/h)	30	1025	30	80	465	30	10	25	35	5	5	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	30	1025	30	80	465	30	10	25	35	5	5	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	495			1055			1485	1740	512	1245	1740	232
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	495			1055			1485	1740	512	1245	1740	232
tC, single (s)	4.1			4.2			7.8	6.5	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.0	3.4	3.5	4.0	3.3
p0 queue free %	97			88			85	66	93	94	93	99
cM capacity (veh/h)	1065			644			65	73	494	79	73	770
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	SB 1	SB 2
Volume Total	30	512	512	30	80	232	232	30	10	60	5	10
Volume Left	30	0	0	0	80	0	0	0	10	0	5	0
Volume Right	0	0	0	30	0	0	0	30	0	35	0	5
cSH	1065	1700	1700	1700	644	1700	1700	1700	65	146	79	134
Volume to Capacity	0.03	0.30	0.30	0.02	0.12	0.14	0.14	0.02	0.15	0.41	0.06	0.07
Queue Length 95th (m)	0.7	0.0	0.0	0.0	3.4	0.0	0.0	0.0	4.1	14.4	1.6	1.9
Control Delay (s)	8.5	0.0	0.0	0.0	11.4	0.0	0.0	0.0	70.1	46.1	53.3	34.1
Lane LOS	A				B				F	E	F	D
Approach Delay (s)	0.2				1.6				49.5		40.5	
Approach LOS									E		E	
Intersection Summary												
Average Delay				3.0								
Intersection Capacity Utilization			50.0%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings  
5: Steeles Avenue & Hornby Road

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	960	515	30	10	35
Future Volume (vph)	20	960	515	30	10	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0			30.0	30.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr <sub>t</sub>				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1687	2911	2597	1509	1543	1509
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1687	2911	2597	1509	1543	1509
Link Speed (k/h)		60	60		60	
Link Distance (m)		497.0	505.6		1118.8	
Travel Time (s)		29.8	30.3		67.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	24%	39%	7%	17%	7%
Adj. Flow (vph)	20	960	515	30	10	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	960	515	30	10	35
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

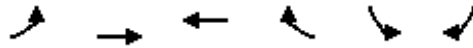
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	36.5%
Analysis Period (min)	15
	ICU Level of Service A

# HCM Unsignalized Intersection Capacity Analysis

## 5: Steeles Avenue & Hornby Road

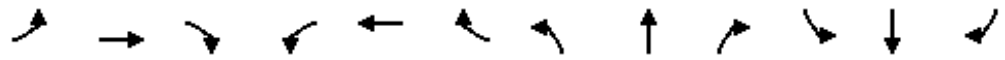
2021 Total AM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	20	960	515	30	10	35		
Future Volume (Veh/h)	20	960	515	30	10	35		
Sign Control		Free	Free		Stop			
Grade		0%	0%		0%			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly flow rate (vph)	20	960	515	30	10	35		
Pedestrians								
Lane Width (m)								
Walking Speed (m/s)								
Percent Blockage								
Right turn flare (veh)								
Median type		None	None					
Median storage (veh)								
Upstream signal (m)								
pX, platoon unblocked								
vC, conflicting volume	545				1035	258		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	545				1035	258		
tC, single (s)	4.2				7.1	7.0		
tC, 2 stage (s)								
tF (s)	2.3				3.7	3.4		
p0 queue free %	98				95	95		
cM capacity (veh/h)	986				200	727		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	SB 2
Volume Total	20	480	480	258	258	30	10	35
Volume Left	20	0	0	0	0	0	10	0
Volume Right	0	0	0	0	0	30	0	35
cSH	986	1700	1700	1700	1700	1700	200	727
Volume to Capacity	0.02	0.28	0.28	0.15	0.15	0.02	0.05	0.05
Queue Length 95th (m)	0.5	0.0	0.0	0.0	0.0	0.0	1.3	1.2
Control Delay (s)	8.7	0.0	0.0	0.0	0.0	0.0	24.0	10.2
Lane LOS	A						C	B
Approach Delay (s)	0.2		0.0				13.3	
Approach LOS							B	
Intersection Summary								
Average Delay			0.5					
Intersection Capacity Utilization			36.5%		ICU Level of Service		A	
Analysis Period (min)			15					

Lanes, Volumes, Timings  
6: Trafalgar Road & Steeles Avenue

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	585	195	475	505	45	155	320	355	155	1060	330
Future Volume (vph)	75	585	195	475	505	45	155	320	355	155	1060	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	115.0		40.0	130.0		70.0	100.0		65.0	250.0		80.0
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (m)	100.0			100.0			80.0			100.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2633	3085	1179	3400	2843	1455	2148	3167	1524	1752	3438	950
Flt Permitted	0.950			0.950			0.950			0.558		
Satd. Flow (perm)	2633	3085	1179	3400	2843	1455	2148	3167	1524	1029	3438	950
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			138			102			355			232
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		374.2			311.3			332.0			289.5	
Travel Time (s)		22.5			18.7			17.1			14.9	
Peak Hour 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
Heavy Vehicles (%)	33%	17%	37%	3%	27%	11%	63%	14%	6%	3%	5%	70%
Adj. Flow (vph)	75	585	195	475	505	45	155	320	355	155	1060	330
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	585	195	475	505	45	155	320	355	155	1060	330
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)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	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	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	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	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	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	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	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	9.0	20.0	20.0

Lanes, Volumes, Timings  
6: Trafalgar Road & Steeles Avenue

2021 Total AM  
Premier Gateway Phase 1B Employment Area

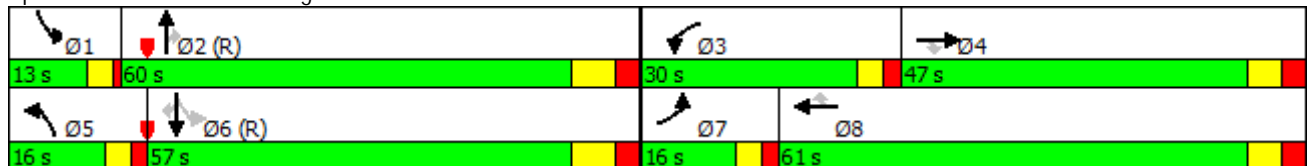


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.0	27.0	27.0	13.0	27.0	27.0	13.0	28.0	28.0	13.0	28.0	28.0
Total Split (s)	16.0	47.0	47.0	30.0	61.0	61.0	16.0	60.0	60.0	13.0	57.0	57.0
Total Split (%)	10.7%	31.3%	31.3%	20.0%	40.7%	40.7%	10.7%	40.0%	40.0%	8.7%	38.0%	38.0%
Maximum Green (s)	11.0	40.0	40.0	25.0	54.0	54.0	11.0	52.0	52.0	9.0	49.0	49.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	8.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	4.0	3.0	3.0	4.0	0.2	0.2	3.0	0.2	0.2
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	9.4	33.8	33.8	24.3	48.7	48.7	15.2	57.2	57.2	66.3	51.6	51.6
Actuated g/C Ratio	0.06	0.23	0.23	0.16	0.32	0.32	0.10	0.38	0.38	0.44	0.34	0.34
v/c Ratio	0.46	0.84	0.52	0.86	0.55	0.08	0.71	0.27	0.44	0.31	0.90	0.69
Control Delay	76.5	66.9	20.4	77.4	43.5	0.3	82.9	33.9	5.0	24.0	57.9	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.5	66.9	20.4	77.4	43.5	0.3	82.9	33.9	5.0	24.0	57.9	21.3
LOS	E	E	C	E	D	A	F	C	A	C	E	C
Approach Delay		57.1			57.4			30.7			46.7	
Approach LOS		E			E			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle:	85
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	48.2
Intersection LOS:	D
Intersection Capacity Utilization	87.0%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 6: Trafalgar Road & Steeles Avenue





Queues  
6: Trafalgar Road & Steeles Avenue

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	75	585	195	475	505	45	155	320	355	155	1060	330
v/c Ratio	0.46	0.84	0.52	0.86	0.55	0.08	0.71	0.27	0.44	0.31	0.90	0.69
Control Delay	76.5	66.9	20.4	77.4	43.5	0.3	82.9	33.9	5.0	24.0	57.9	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.5	66.9	20.4	77.4	43.5	0.3	82.9	33.9	5.0	24.0	57.9	21.3
Queue Length 50th (m)	11.9	92.4	14.6	75.2	67.5	0.0	24.3	37.5	0.0	26.3	170.4	27.0
Queue Length 95th (m)	21.0	110.5	39.6	#101.2	82.9	0.0	#50.6	51.8	22.8	44.1	#214.7	69.7
Internal Link Dist (m)		350.2			287.3			308.0			265.5	
Turn Bay Length (m)	115.0		40.0	130.0		70.0	100.0		65.0	250.0		80.0
Base Capacity (vph)	193	822	415	566	1023	589	218	1207	800	506	1183	479
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.71	0.47	0.84	0.49	0.08	0.71	0.27	0.44	0.31	0.90	0.69

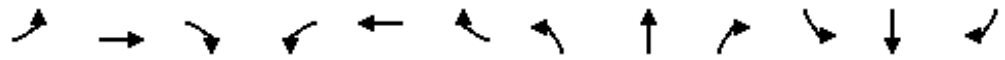
Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 6: Trafalgar Road & Steeles Avenue

2021 Total AM  
Premier Gateway Phase 1B Employment Area



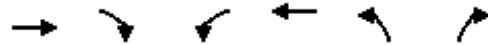
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	585	195	475	505	45	155	320	355	155	1060	330
Future Volume (vph)	75	585	195	475	505	45	155	320	355	155	1060	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	8.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2633	3085	1179	3400	2843	1455	2148	3167	1524	1752	3438	950
Fl <sub>t</sub> Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.56	1.00	1.00
Satd. Flow (perm)	2633	3085	1179	3400	2843	1455	2148	3167	1524	1029	3438	950
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	75	585	195	475	505	45	155	320	355	155	1060	330
RTOR Reduction (vph)	0	0	107	0	0	30	0	0	220	0	0	152
Lane Group Flow (vph)	75	585	88	475	505	15	155	320	135	155	1060	178
Heavy Vehicles (%)	33%	17%	37%	3%	27%	11%	63%	14%	6%	3%	5%	70%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2	6		6
Actuated Green, G (s)	9.4	33.8	33.8	24.3	48.7	48.7	15.2	57.2	57.2	62.4	51.7	51.7
Effective Green, g (s)	9.4	33.8	33.8	24.3	48.7	48.7	15.2	57.2	57.2	62.4	51.7	51.7
Actuated g/C Ratio	0.06	0.23	0.23	0.16	0.32	0.32	0.10	0.38	0.38	0.42	0.34	0.34
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0	3.0	4.0	3.0	3.0	4.0	0.2	0.2	3.0	0.2	0.2
Lane Grp Cap (vph)	165	695	265	550	923	472	217	1207	581	479	1184	327
v/s Ratio Prot	0.03	c0.19		c0.14	0.18		c0.07	0.10		0.02	c0.31	
v/s Ratio Perm			0.07			0.01			0.09	0.11		0.19
v/c Ratio	0.45	0.84	0.33	0.86	0.55	0.03	0.71	0.27	0.23	0.32	0.90	0.54
Uniform Delay, d <sub>1</sub>	67.8	55.5	48.7	61.2	41.6	34.6	65.3	31.9	31.5	28.1	46.6	39.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d <sub>2</sub>	2.0	9.1	0.7	13.6	0.7	0.0	11.3	0.5	0.9	0.4	10.6	6.4
Delay (s)	69.8	64.6	49.4	74.9	42.3	34.6	76.6	32.5	32.4	28.5	57.2	46.0
Level of Service	E	E	D	E	D	C	E	C	C	C	E	D
Approach Delay (s)		61.6			57.0			40.7			51.9	
Approach LOS		E			E			D			D	

### Intersection Summary

HCM 2000 Control Delay	52.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings  
7: Toronto Premier Outlets & Steeles Avenue

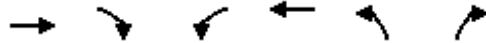
2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖↗	↗
Traffic Volume (vph)	1050	5	10	1000	25	5
Future Volume (vph)	1050	5	10	1000	25	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		130.0	45.0		0.0	40.0
Storage Lanes		1	1		2	1
Taper Length (m)			80.0		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3374	1615	1543	3195	3045	1615
Flt Permitted			0.200		0.950	
Satd. Flow (perm)	3374	1615	325	3195	3045	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		5				5
Link Speed (k/h)	60			60	50	
Link Distance (m)	311.3			200.7	119.1	
Travel Time (s)	18.7			12.0	8.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	0%	17%	13%	15%	0%
Adj. Flow (vph)	1050	5	10	1000	25	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1050	5	10	1000	25	5
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			7.2	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (m)	10.0	2.0	2.0	10.0	2.0	2.0
Trailing Detector (m)	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
Detector 1 Size(m)	0.6	2.0	2.0	0.6	2.0	2.0
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	CI+Ex			CI+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	20.0	20.0	6.0	20.0	10.0	10.0

Lanes, Volumes, Timings  
7: Toronto Premier Outlets & Steeles Avenue

2021 Total AM  
Premier Gateway Phase 1B Employment Area

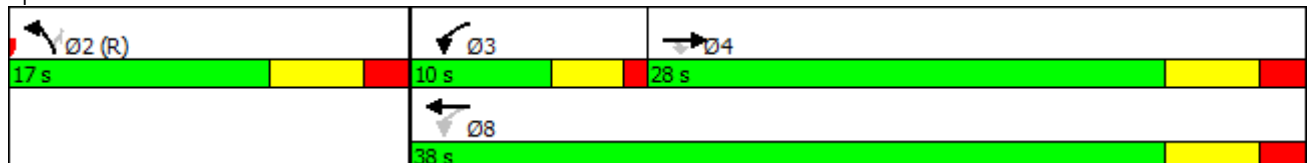


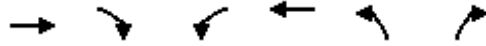
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	26.0	26.0	10.0	26.0	17.0	17.0
Total Split (s)	28.0	28.0	10.0	38.0	17.0	17.0
Total Split (%)	50.9%	50.9%	18.2%	69.1%	30.9%	30.9%
Maximum Green (s)	22.0	22.0	6.0	32.0	11.0	11.0
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	0.2	0.2	3.0	0.2	4.0	4.0
Recall Mode	Max	Max	None	Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	17.0	17.0		17.0	21.0	21.0
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effct Green (s)	30.0	30.0	34.0	32.0	11.0	11.0
Actuated g/C Ratio	0.55	0.55	0.62	0.58	0.20	0.20
v/c Ratio	0.57	0.01	0.03	0.54	0.04	0.02
Control Delay	11.0	5.8	4.3	8.3	18.0	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.0	5.8	4.3	8.3	18.0	12.2
LOS	B	A	A	A	B	B
Approach Delay	11.0			8.3	17.1	
Approach LOS	B			A	B	

Intersection Summary

Area Type: Other  
 Cycle Length: 55  
 Actuated Cycle Length: 55  
 Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.57  
 Intersection Signal Delay: 9.8  
 Intersection Capacity Utilization 47.4%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 7: Toronto Premier Outlets & Steeles Avenue





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1050	5	10	1000	25	5
v/c Ratio	0.57	0.01	0.03	0.54	0.04	0.02
Control Delay	11.0	5.8	4.3	8.3	18.0	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.0	5.8	4.3	8.3	18.0	12.2
Queue Length 50th (m)	30.2	0.0	0.4	28.9	1.0	0.0
Queue Length 95th (m)	69.7	1.7	1.6	42.5	3.7	2.3
Internal Link Dist (m)	287.3			176.7	95.1	
Turn Bay Length (m)		130.0	45.0			40.0
Base Capacity (vph)	1840	883	333	1858	609	327
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.01	0.03	0.54	0.04	0.02
<b>Intersection Summary</b>						

# HCM Signalized Intersection Capacity Analysis

## 7: Toronto Premier Outlets & Steeles Avenue

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↗↖	↗
Traffic Volume (vph)	1050	5	10	1000	25	5
Future Volume (vph)	1050	5	10	1000	25	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3374	1615	1543	3195	3045	1615
Flt Permitted	1.00	1.00	0.20	1.00	0.95	1.00
Satd. Flow (perm)	3374	1615	325	3195	3045	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1050	5	10	1000	25	5
RTOR Reduction (vph)	0	2	0	0	0	4
Lane Group Flow (vph)	1050	3	10	1000	25	1
Heavy Vehicles (%)	7%	0%	17%	13%	15%	0%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Actuated Green, G (s)	30.0	30.0	35.2	35.2	7.8	7.8
Effective Green, g (s)	30.0	30.0	35.2	35.2	7.8	7.8
Actuated g/C Ratio	0.55	0.55	0.64	0.64	0.14	0.14
Clearance Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Vehicle Extension (s)	0.2	0.2	3.0	0.2	4.0	4.0
Lane Grp Cap (vph)	1840	880	234	2044	431	229
v/s Ratio Prot	c0.31		0.00	c0.31	c0.01	
v/s Ratio Perm		0.00	0.03			0.00
v/c Ratio	0.57	0.00	0.04	0.49	0.06	0.00
Uniform Delay, d1	8.2	5.7	4.4	5.2	20.4	20.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.0	0.1	0.8	0.3	0.0
Delay (s)	9.5	5.7	4.4	6.0	20.7	20.3
Level of Service	A	A	A	A	C	C
Approach Delay (s)	9.5			6.0	20.6	
Approach LOS	A			A	C	

### Intersection Summary

HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

8: Toronto Premium Outlets/Eighth Line & Steeles Avenue Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	970	15	30	650	50	5	5	10	195	5	375
Future Volume (vph)	80	970	15	30	650	50	5	5	10	195	5	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		55.0	30.0		30.0	0.0		0.0	70.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	55.0			90.0			7.5			45.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850			0.850		0.900			0.852	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	3252	1404	1752	2983	1482	2633	1574	0	1787	1603	0
Flt Permitted	0.331			0.201			0.950			0.748		
Satd. Flow (perm)	599	3252	1404	371	2983	1482	2633	1574	0	1407	1603	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218			218		10				375
Link Speed (k/h)		60			60			50				70
Link Distance (m)		200.7			870.8			218.1				709.3
Travel Time (s)		12.0			52.2			15.7				36.5
Peak Hour 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
Heavy Vehicles (%)	5%	11%	15%	3%	21%	9%	33%	0%	13%	1%	0%	1%
Adj. Flow (vph)	80	970	15	30	650	50	5	5	10	195	5	375
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	970	15	30	650	50	5	15	0	195	380	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)		3.6			3.6			7.2				7.2
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		4.8			4.8			4.8				4.8
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		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	0.0	
Detector 1 Position(m)	0.0	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	2.0	0.6	2.0	2.0	0.6		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	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	0.0	
Detector 1 Queue (s)	0.0	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	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
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Perm	NA	
Protected Phases	7	4		3	8		5	2				6
Permitted Phases	4		4	8		8				6		
Detector Phase	7	4	4	3	8	8	5	2		6		6
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	10.0	10.0		10.0		10.0

8: Toronto Premium Outlets/Eighth Line & Steeles Avenue Premier Gateway Phase 1B Employment Area

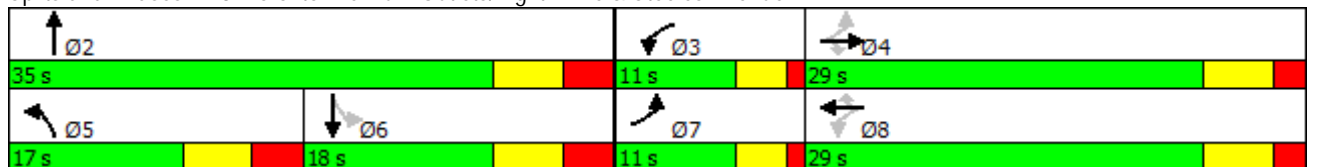


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.0	26.0	26.0	11.0	26.0	26.0	17.0	17.0		17.0	17.0	
Total Split (s)	11.0	29.0	29.0	11.0	29.0	29.0	17.0	35.0		18.0	18.0	
Total Split (%)	14.7%	38.7%	38.7%	14.7%	38.7%	38.7%	22.7%	46.7%		24.0%	24.0%	
Maximum Green (s)	7.0	23.0	23.0	7.0	23.0	23.0	10.0	28.0		11.0	11.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	7.0	7.0		7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2	0.2	4.0	4.0		3.0	3.0	
Recall Mode	None	Max	Max	None	Max	Max	None	None		Max	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0				
Flash Dont Walk (s)		17.0	17.0		17.0	17.0		21.0				
Pedestrian Calls (#/hr)		0	0		0	0		0				
Act Effct Green (s)	31.4	26.9	26.9	30.6	24.7	24.7	10.3	13.9		11.3	11.3	
Actuated g/C Ratio	0.54	0.46	0.46	0.53	0.43	0.43	0.18	0.24		0.19	0.19	
v/c Ratio	0.17	0.64	0.02	0.08	0.51	0.07	0.01	0.04		0.71	0.62	
Control Delay	8.0	17.9	0.1	7.8	16.4	0.2	25.2	12.0		42.9	8.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	8.0	17.9	0.1	7.8	16.4	0.2	25.2	12.0		42.9	8.8	
LOS	A	B	A	A	B	A	C	B		D	A	
Approach Delay		16.9			14.9			15.3			20.3	
Approach LOS		B			B			B			C	

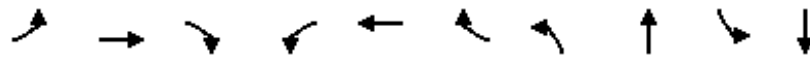
Intersection Summary

Area Type:	Other
Cycle Length:	75
Actuated Cycle Length:	58
Natural Cycle:	80
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	17.1
Intersection LOS:	B
Intersection Capacity Utilization:	70.3%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 8: Toronto Premium Outlets/Eighth Line & Steeles Avenue







Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	80	970	15	30	650	50	5	15	195	380
v/c Ratio	0.17	0.64	0.02	0.08	0.51	0.07	0.01	0.04	0.71	0.62
Control Delay	8.0	17.9	0.1	7.8	16.4	0.2	25.2	12.0	42.9	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	17.9	0.1	7.8	16.4	0.2	25.2	12.0	42.9	8.8
Queue Length 50th (m)	3.0	29.2	0.0	1.1	28.1	0.0	0.2	0.5	21.1	0.5
Queue Length 95th (m)	13.2	#114.2	0.0	6.4	63.4	0.0	1.8	4.1	#69.2	25.4
Internal Link Dist (m)		176.7			846.8			194.1		685.3
Turn Bay Length (m)	105.0		55.0	30.0		30.0			70.0	
Base Capacity (vph)	462	1506	767	367	1270	756	467	787	274	614
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.64	0.02	0.08	0.51	0.07	0.01	0.02	0.71	0.62

#### Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

2021 Total AM

## 8: Toronto Premium Outlets/Eighth Line & Steeles Avenue Premier Gateway Phase 1B Employment Area



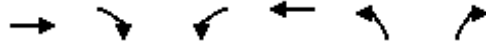
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	970	15	30	650	50	5	5	10	195	5	375
Future Volume (vph)	80	970	15	30	650	50	5	5	10	195	5	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0	6.0	4.0	6.0	6.0	7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.90		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1719	3252	1404	1752	2983	1482	2633	1574		1787	1603	
Flt Permitted	0.33	1.00	1.00	0.20	1.00	1.00	0.95	1.00		0.75	1.00	
Satd. Flow (perm)	598	3252	1404	371	2983	1482	2633	1574		1407	1603	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	970	15	30	650	50	5	5	10	195	5	375
RTOR Reduction (vph)	0	0	9	0	0	31	0	7	0	0	311	0
Lane Group Flow (vph)	80	970	6	30	650	19	5	8	0	195	69	0
Heavy Vehicles (%)	5%	11%	15%	3%	21%	9%	33%	0%	13%	1%	0%	1%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Perm	NA	
Protected Phases	7	4		3	8		5	2				6
Permitted Phases	4		4	8		8				6		
Actuated Green, G (s)	30.7	26.9	26.9	27.9	25.5	25.5	1.5	19.8		11.3	11.3	
Effective Green, g (s)	30.7	26.9	26.9	27.9	25.5	25.5	1.5	19.8		11.3	11.3	
Actuated g/C Ratio	0.46	0.41	0.41	0.42	0.39	0.39	0.02	0.30		0.17	0.17	
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2	0.2	4.0	4.0		3.0	3.0	
Lane Grp Cap (vph)	342	1323	571	206	1150	571	59	471		240	274	
v/s Ratio Prot	c0.01	c0.30		0.01	0.22		c0.00	0.01				0.04
v/s Ratio Perm	0.10		0.00	0.06		0.01				c0.14		
v/c Ratio	0.23	0.73	0.01	0.15	0.57	0.03	0.08	0.02		0.81	0.25	
Uniform Delay, d1	10.1	16.6	11.7	11.8	15.9	12.6	31.6	16.3		26.4	23.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	3.6	0.0	0.3	2.0	0.1	0.8	0.0		25.1	2.2	
Delay (s)	10.5	20.2	11.7	12.1	18.0	12.7	32.5	16.3		51.4	25.9	
Level of Service	B	C	B	B	B	B	C	B		D	C	
Approach Delay (s)		19.3			17.4			20.4			34.6	
Approach LOS		B			B			C			C	

### Intersection Summary

HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	66.1	Sum of lost time (s)	24.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings  
 9: Eighth Line South & Steeles Avenue

2021 Total AM  
 Premier Gateway Phase 1B Employment Area



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	1170	5	5	730	5	0
Future Volume (vph)	1170	5	5	730	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	90.0		30.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.999					
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3280	0	1805	3034	1805	1900
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3280	0	1805	3034	1805	1900
Link Speed (k/h)	70			70	50	
Link Distance (m)	870.8			525.4	458.2	
Travel Time (s)	44.8			27.0	33.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	10%	0%	0%	19%	0%	0%
Adj. Flow (vph)	1170	5	5	730	5	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1175	0	5	730	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	42.5%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis  
 9: Eighth Line South & Steeles Avenue

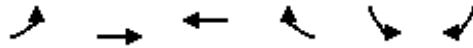
2021 Total AM  
 Premier Gateway Phase 1B Employment Area



Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Traffic Volume (veh/h)	1170	5	5	730	5	0	
Future Volume (Veh/h)	1170	5	5	730	5	0	
Sign Control	Free		Free		Stop		
Grade	0%		0%		0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly flow rate (vph)	1170	5	5	730	5	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)							
pX, platoon unblocked							
vC, conflicting volume			1175		1548	588	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol			1175		1548	588	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)							
tF (s)			2.2		3.5	3.3	
p0 queue free %			99		95	100	
cM capacity (veh/h)			602		106	458	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	780	395	5	365	365	5	0
Volume Left	0	0	5	0	0	5	0
Volume Right	0	5	0	0	0	0	0
cSH	1700	1700	602	1700	1700	106	1700
Volume to Capacity	0.46	0.23	0.01	0.21	0.21	0.05	0.00
Queue Length 95th (m)	0.0	0.0	0.2	0.0	0.0	1.2	0.0
Control Delay (s)	0.0	0.0	11.0	0.0	0.0	40.6	0.0
Lane LOS			B			E	A
Approach Delay (s)	0.0		0.1			40.6	
Approach LOS							E
Intersection Summary							
Average Delay			0.1				
Intersection Capacity Utilization			42.5%		ICU Level of Service		A
Analysis Period (min)			15				

Lanes, Volumes, Timings  
10: Steeles Avenue & Ninth Line

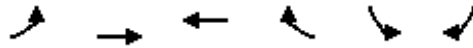
2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	80	1115	680	225	600	80
Future Volume (vph)	80	1115	680	225	600	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0			75.0	90.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	100.0				40.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1556	3312	3059	1509	3433	1324
Flt Permitted	0.307				0.950	
Satd. Flow (perm)	503	3312	3059	1509	3433	1324
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				225		80
Link Speed (k/h)		70	70		70	
Link Distance (m)		525.4	728.8		3120.2	
Travel Time (s)		27.0	37.5		160.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	16%	9%	18%	7%	2%	22%
Adj. Flow (vph)	80	1115	680	225	600	80
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	1115	680	225	600	80
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		7.2	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (m)	2.0	10.0	10.0	2.0	2.0	2.0
Trailing Detector (m)	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
Detector 1 Size(m)	2.0	0.6	0.6	2.0	2.0	2.0
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	7.0	20.0	20.0	20.0	10.0	10.0

Lanes, Volumes, Timings  
10: Steeles Avenue & Ninth Line

2021 Total AM  
Premier Gateway Phase 1B Employment Area

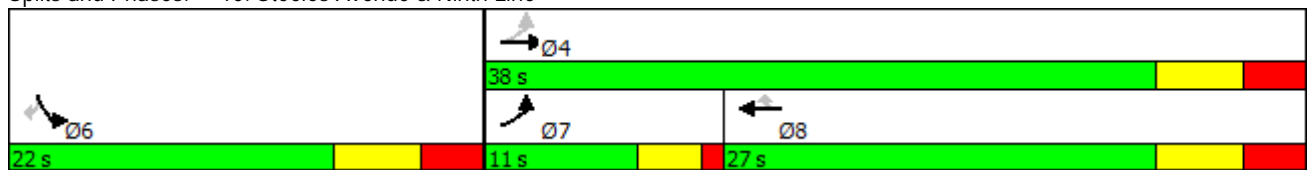


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Split (s)	11.0	27.0	27.0	27.0	17.0	17.0
Total Split (s)	11.0	38.0	27.0	27.0	22.0	22.0
Total Split (%)	18.3%	63.3%	45.0%	45.0%	36.7%	36.7%
Maximum Green (s)	7.0	31.0	20.0	20.0	15.0	15.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	0.2	0.2	0.2	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	Max
Act Effect Green (s)	34.0	31.0	24.4	24.4	15.0	15.0
Actuated g/C Ratio	0.57	0.52	0.41	0.41	0.25	0.25
v/c Ratio	0.20	0.65	0.55	0.30	0.70	0.20
Control Delay	7.2	12.8	17.1	3.8	25.6	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.2	12.8	17.1	3.8	25.6	6.7
LOS	A	B	B	A	C	A
Approach Delay		12.5	13.8		23.3	
Approach LOS		B	B		C	

Intersection Summary

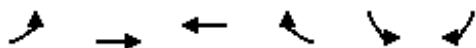
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	15.5
Intersection LOS:	B
Intersection Capacity Utilization:	59.6%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 10: Steeles Avenue & Ninth Line



Queues  
10: Steeles Avenue & Ninth Line

2021 Total AM  
Premier Gateway Phase 1B Employment Area

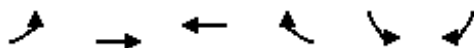


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	80	1115	680	225	600	80
v/c Ratio	0.20	0.65	0.55	0.30	0.70	0.20
Control Delay	7.2	12.8	17.1	3.8	25.6	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.2	12.8	17.1	3.8	25.6	6.7
Queue Length 50th (m)	3.8	45.3	34.7	0.0	32.5	0.0
Queue Length 95th (m)	8.8	64.1	51.6	12.5	48.1	8.9
Internal Link Dist (m)		501.4	704.8		3096.2	
Turn Bay Length (m)	65.0			75.0	90.0	
Base Capacity (vph)	407	1711	1243	747	858	391
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.65	0.55	0.30	0.70	0.20
<b>Intersection Summary</b>						

# HCM Signalized Intersection Capacity Analysis

## 10: Steeles Avenue & Ninth Line

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	80	1115	680	225	600	80
Future Volume (vph)	80	1115	680	225	600	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1556	3312	3059	1509	3433	1324
Flt Permitted	0.31	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	503	3312	3059	1509	3433	1324
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	1115	680	225	600	80
RTOR Reduction (vph)	0	0	0	136	0	61
Lane Group Flow (vph)	80	1115	680	89	600	19
Heavy Vehicles (%)	16%	9%	18%	7%	2%	22%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	32.6	32.6	24.4	24.4	15.0	15.0
Effective Green, g (s)	32.6	32.6	24.4	24.4	15.0	15.0
Actuated g/C Ratio	0.53	0.53	0.40	0.40	0.24	0.24
Clearance Time (s)	4.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	0.2	0.2	0.2	3.0	3.0
Lane Grp Cap (vph)	337	1752	1211	597	835	322
v/s Ratio Prot	0.02	c0.34	0.22		c0.17	
v/s Ratio Perm	0.11			0.06		0.01
v/c Ratio	0.24	0.64	0.56	0.15	0.72	0.06
Uniform Delay, d1	7.6	10.3	14.4	11.9	21.4	17.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	1.8	1.9	0.5	5.3	0.4
Delay (s)	7.9	12.1	16.3	12.5	26.6	18.2
Level of Service	A	B	B	B	C	B
Approach Delay (s)		11.8	15.4		25.7	
Approach LOS		B	B		C	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			16.3	HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.72			
Actuated Cycle Length (s)			61.6	Sum of lost time (s)	18.0	
Intersection Capacity Utilization			59.6%	ICU Level of Service	B	
Analysis Period (min)			15			
c Critical Lane Group						



Lanes, Volumes, Timings  
11: Trafalgar Rd & Hornby Rd

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	25	10	5	350	1485	65
Future Volume (vph)	25	10	5	350	1485	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	100.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.961				0.994	
Flt Protected	0.966			0.999		
Satd. Flow (prot)	1437	0	0	1630	1802	0
Flt Permitted	0.966			0.999		
Satd. Flow (perm)	1437	0	0	1630	1802	0
Link Speed (k/h)	60			80	80	
Link Distance (m)	54.4			135.9	215.8	
Travel Time (s)	3.3			6.1	9.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	25%	17%	50%	16%	5%	0%
Adj. Flow (vph)	25	10	5	350	1485	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	0	355	1550	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	92.1%
Analysis Period (min)	15
	ICU Level of Service F

# HCM Unsignalized Intersection Capacity Analysis

## 11: Trafalgar Rd & Hornby Rd

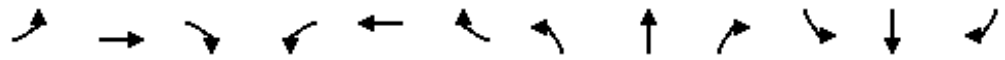
2021 Total AM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	10	5	350	1485	65
Future Volume (Veh/h)	25	10	5	350	1485	65
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	25	10	5	350	1485	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1878	1518	1485			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1878	1518	1485			
tC, single (s)	6.6	6.4	4.6			
tC, 2 stage (s)						
tF (s)	3.7	3.5	2.7			
p0 queue free %	63	93	99			
cM capacity (veh/h)	67	135	335			
<b>Direction, Lane #</b>						
	EB 1	NB 1	SB 1			
Volume Total	35	355	1550			
Volume Left	25	5	0			
Volume Right	10	0	65			
cSH	79	335	1700			
Volume to Capacity	0.45	0.01	0.91			
Queue Length 95th (m)	14.5	0.4	0.0			
Control Delay (s)	83.4	0.5	0.0			
Lane LOS	F	A				
Approach Delay (s)	83.4	0.5	0.0			
Approach LOS	F					
<b>Intersection Summary</b>						
Average Delay			1.6			
Intersection Capacity Utilization		92.1%		ICU Level of Service		F
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Fifth Line & 5 Side Road

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	15	605	15	25	170	5	5	25	20	40	50	30
Future Volume (vph)	15	605	15	25	170	5	5	25	20	40	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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
Frt		0.997			0.997			0.946			0.966	
Flt Protected		0.999			0.994			0.995			0.984	
Satd. Flow (prot)	0	1849	0	0	1785	0	0	1535	0	0	1726	0
Flt Permitted		0.999			0.994			0.995			0.984	
Satd. Flow (perm)	0	1849	0	0	1785	0	0	1535	0	0	1726	0
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		320.1			648.3			2473.7			211.2	
Travel Time (s)		19.2			38.9			127.2			10.9	
Peak Hour 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
Heavy Vehicles (%)	10%	2%	9%	10%	5%	0%	25%	20%	10%	9%	4%	0%
Adj. Flow (vph)	15	605	15	25	170	5	5	25	20	40	50	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	635	0	0	200	0	0	50	0	0	120	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 55.4%

ICU Level of Service B

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 12: Fifth Line & 5 Side Road

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	15	605	15	25	170	5	5	25	20	40	50	30
Future Volume (Veh/h)	15	605	15	25	170	5	5	25	20	40	50	30
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	15	605	15	25	170	5	5	25	20	40	50	30
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	175			620			920	868	612	898	872	172
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	175			620			920	868	612	898	872	172
tC, single (s)	4.2			4.2			7.3	6.7	6.3	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.3			3.7	4.2	3.4	3.6	4.0	3.3
p0 queue free %	99			97			97	90	96	82	82	97
cM capacity (veh/h)	1354			923			185	262	478	218	276	876
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	635	200	50	120								
Volume Left	15	25	5	40								
Volume Right	15	5	20	30								
cSH	1354	923	304	301								
Volume to Capacity	0.01	0.03	0.16	0.40								
Queue Length 95th (m)	0.3	0.7	4.6	14.7								
Control Delay (s)	0.3	1.4	19.1	24.7								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.3	1.4	19.1	24.7								
Approach LOS			C	C								
<b>Intersection Summary</b>												
Average Delay			4.4									
Intersection Capacity Utilization			55.4%		ICU Level of Service				B			
Analysis Period (min)			15									

Lanes, Volumes, Timings  
13: Sixth Line & 5 Side Road

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	10	640	5	10	180	5	5	10	35	25	20	20
Future Volume (vph)	10	640	5	10	180	5	5	10	35	25	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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
Frt		0.999			0.997			0.905			0.958	
Flt Protected		0.999			0.997			0.995			0.981	
Satd. Flow (prot)	0	1838	0	0	1791	0	0	1529	0	0	1719	0
Flt Permitted		0.999			0.997			0.995			0.981	
Satd. Flow (perm)	0	1838	0	0	1791	0	0	1529	0	0	1719	0
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		620.4			640.8			3066.1			190.9	
Travel Time (s)		37.2			38.4			157.7			9.8	
Peak Hour 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
Heavy Vehicles (%)	14%	3%	1%	0%	5%	33%	0%	0%	17%	10%	0%	0%
Adj. Flow (vph)	10	640	5	10	180	5	5	10	35	25	20	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	655	0	0	195	0	0	50	0	0	65	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			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 53.4%

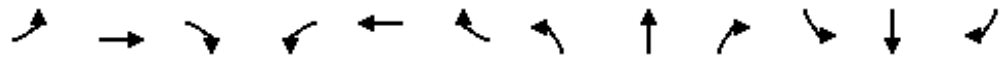
ICU Level of Service A

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 13: Sixth Line & 5 Side Road

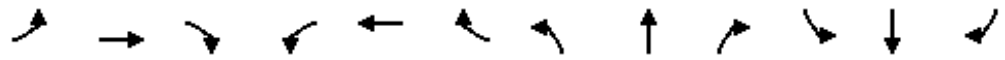
2021 Total AM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	10	640	5	10	180	5	5	10	35	25	20	20
Future Volume (Veh/h)	10	640	5	10	180	5	5	10	35	25	20	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	10	640	5	10	180	5	5	10	35	25	20	20
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	185			645			895	868	642	905	868	182
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	185			645			895	868	642	905	868	182
tC, single (s)	4.2			4.1			7.1	6.5	6.4	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.5	3.6	4.0	3.3
p0 queue free %	99			99			98	97	92	89	93	98
cM capacity (veh/h)	1321			950			241	288	448	221	288	865
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	655	195	50	65								
Volume Left	10	10	5	25								
Volume Right	5	5	35	20								
cSH	1321	950	374	315								
Volume to Capacity	0.01	0.01	0.13	0.21								
Queue Length 95th (m)	0.2	0.3	3.7	6.1								
Control Delay (s)	0.2	0.6	16.1	19.3								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.2	0.6	16.1	19.3								
Approach LOS			C	C								
<b>Intersection Summary</b>												
Average Delay			2.4									
Intersection Capacity Utilization			53.4%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings  
14: Trafalgar Rd & 5 Side Road

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	370	260	70	100	10	20	360	35	30	1305	35
Future Volume (vph)	40	370	260	70	100	10	20	360	35	30	1305	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		40.0	40.0		0.0	40.0		0.0	50.0		20.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	80.0			80.0			100.0			100.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.986			0.987				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	1863	1568	1687	1757	0	1444	2863	0	1480	3374	1292
Flt Permitted	0.686			0.365			0.113			0.519		
Satd. Flow (perm)	1196	1863	1568	648	1757	0	172	2863	0	808	3374	1292
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			192		6			13				90
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		617.5			665.2			264.1			262.0	
Travel Time (s)		37.1			39.9			11.9			11.8	
Peak Hour 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
Heavy Vehicles (%)	9%	2%	3%	7%	1%	63%	25%	25%	19%	22%	7%	25%
Adj. Flow (vph)	40	370	260	70	100	10	20	360	35	30	1305	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	370	260	70	110	0	20	395	0	30	1305	35
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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	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	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	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	0.0
Detector 1 Queue (s)	0.0	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	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	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0		7.0	25.0		7.0	25.0	25.0

Lanes, Volumes, Timings  
14: Trafalgar Rd & 5 Side Road

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	38.4	38.4	38.4	21.4	21.4		11.0	31.0		11.0	31.0	31.0
Total Split (s)	38.5	38.5	38.5	38.5	38.5		11.0	40.5		11.0	40.5	40.5
Total Split (%)	42.8%	42.8%	42.8%	42.8%	42.8%		12.2%	45.0%		12.2%	45.0%	45.0%
Maximum Green (s)	32.1	32.1	32.1	32.1	32.1		7.0	34.5		7.0	34.5	34.5
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		3.0	4.6		3.0	4.6	4.6
All-Red Time (s)	1.8	1.8	1.8	1.8	1.8		1.0	1.4		1.0	1.4	1.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4		4.0	6.0		4.0	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		3.0	5.0		3.0	5.0	5.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Dont Walk (s)	25.0	25.0	25.0	25.0	25.0			20.0			20.0	20.0
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	0
Act Effct Green (s)	23.3	23.3	23.3	23.3	23.3		39.7	35.3		39.7	35.3	35.3
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31		0.53	0.47		0.53	0.47	0.47
v/c Ratio	0.11	0.64	0.42	0.35	0.20		0.09	0.29		0.06	0.82	0.05
Control Delay	19.8	28.2	8.5	26.2	19.2		10.6	14.9		9.9	25.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	19.8	28.2	8.5	26.2	19.2		10.6	14.9		9.9	25.9	0.1
LOS	B	C	A	C	B		B	B		A	C	A
Approach Delay		20.0			21.9			14.7			24.9	
Approach LOS		C			C			B			C	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	75
Natural Cycle:	85
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.82
Intersection Signal Delay:	21.9
Intersection LOS:	C
Intersection Capacity Utilization:	83.7%
ICU Level of Service:	E
Analysis Period (min):	15

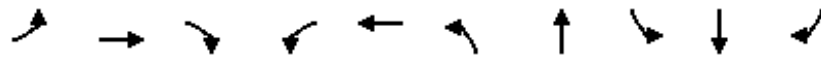
Splits and Phases: 14: Trafalgar Rd & 5 Side Road





Queues  
14: Trafalgar Rd & 5 Side Road

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	40	370	260	70	110	20	395	30	1305	35
v/c Ratio	0.11	0.64	0.42	0.35	0.20	0.09	0.29	0.06	0.82	0.05
Control Delay	19.8	28.2	8.5	26.2	19.2	10.6	14.9	9.9	25.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.8	28.2	8.5	26.2	19.2	10.6	14.9	9.9	25.9	0.1
Queue Length 50th (m)	3.8	42.0	6.5	7.1	10.1	1.3	15.8	2.0	76.8	0.0
Queue Length 95th (m)	11.9	81.7	26.2	20.8	24.7	5.1	37.6	6.7	#174.3	0.0
Internal Link Dist (m)		593.5			641.2		240.1		238.0	
Turn Bay Length (m)	40.0		40.0	40.0		40.0		50.0		20.0
Base Capacity (vph)	523	815	794	283	772	212	1354	491	1587	655
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.45	0.33	0.25	0.14	0.09	0.29	0.06	0.82	0.05

Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 14: Trafalgar Rd & 5 Side Road

2021 Total AM  
Premier Gateway Phase 1B Employment Area



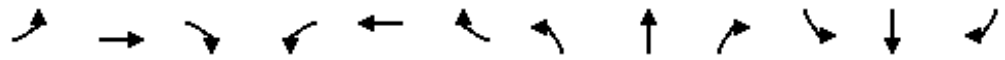
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	370	260	70	100	10	20	360	35	30	1305	35
Future Volume (vph)	40	370	260	70	100	10	20	360	35	30	1305	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	6.4	6.4	6.4		4.0	6.0		4.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1656	1863	1568	1687	1757		1444	2862		1480	3374	1292
Flt Permitted	0.69	1.00	1.00	0.36	1.00		0.11	1.00		0.52	1.00	1.00
Satd. Flow (perm)	1196	1863	1568	648	1757		172	2862		808	3374	1292
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	370	260	70	100	10	20	360	35	30	1305	35
RTOR Reduction (vph)	0	0	134	0	4	0	0	7	0	0	0	19
Lane Group Flow (vph)	40	370	126	70	106	0	20	388	0	30	1305	16
Heavy Vehicles (%)	9%	2%	3%	7%	1%	63%	25%	25%	19%	22%	7%	25%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6
Actuated Green, G (s)	23.3	23.3	23.3	23.3	23.3		37.7	35.3		37.7	35.3	35.3
Effective Green, g (s)	23.3	23.3	23.3	23.3	23.3		37.7	35.3		37.7	35.3	35.3
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30		0.49	0.46		0.49	0.46	0.46
Clearance Time (s)	6.4	6.4	6.4	6.4	6.4		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		3.0	5.0		3.0	5.0	5.0
Lane Grp Cap (vph)	360	560	472	195	528		123	1305		414	1538	589
v/s Ratio Prot		c0.20			0.06		c0.01	0.14		0.00	c0.39	
v/s Ratio Perm	0.03		0.08	0.11			0.07			0.03		0.01
v/c Ratio	0.11	0.66	0.27	0.36	0.20		0.16	0.30		0.07	0.85	0.03
Uniform Delay, d1	19.6	23.6	20.6	21.2	20.1		13.0	13.2		10.4	18.7	11.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	3.9	0.6	2.4	0.4		0.6	0.6		0.1	6.0	0.1
Delay (s)	19.8	27.5	21.2	23.6	20.5		13.7	13.8		10.5	24.7	11.7
Level of Service	B	C	C	C	C		B	B		B	C	B
Approach Delay (s)		24.6			21.7			13.8			24.1	
Approach LOS		C			C			B			C	

### Intersection Summary

HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	77.4	Sum of lost time (s)	16.4
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings  
15: Eighth Line & 5 Side Road

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	20	380	10	40	130	15	5	95	25	70	535	70
Future Volume (vph)	20	380	10	40	130	15	5	95	25	70	535	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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
Fr <sub>t</sub>		0.997			0.989			0.973			0.986	
Fl <sub>t</sub> Protected		0.998			0.989			0.998			0.995	
Satd. Flow (prot)	0	1838	0	0	1782	0	0	1817	0	0	1862	0
Fl <sub>t</sub> Permitted		0.980			0.848			0.980			0.958	
Satd. Flow (perm)	0	1805	0	0	1528	0	0	1784	0	0	1793	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			9			25			15	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		643.4			668.7			2377.1			454.5	
Travel Time (s)		38.6			40.1			122.3			23.4	
Peak Hour 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
Heavy Vehicles (%)	13%	2%	14%	7%	3%	8%	0%	1%	4%	0%	0%	1%
Adj. Flow (vph)	20	380	10	40	130	15	5	95	25	70	535	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	410	0	0	185	0	0	125	0	0	675	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	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	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
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	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		32.0	32.0		32.0	32.0	
Total Split (%)	41.8%	41.8%		41.8%	41.8%		58.2%	58.2%		58.2%	58.2%	

Lanes, Volumes, Timings  
15: Eighth Line & 5 Side Road

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	18.5	18.5		18.5	18.5		27.5	27.5		27.5	27.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		15.5			15.5			27.6			27.6	
Actuated g/C Ratio		0.30			0.30			0.53			0.53	
v/c Ratio		0.76			0.40			0.13			0.71	
Control Delay		26.9			16.5			6.4			15.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		26.9			16.5			6.4			15.3	
LOS		C			B			A			B	
Approach Delay		26.9			16.5			6.4			15.3	
Approach LOS		C			B			A			B	

Intersection Summary

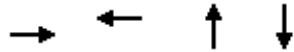
Area Type:	Other
Cycle Length:	55
Actuated Cycle Length:	52.1
Natural Cycle:	55
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	18.1
Intersection LOS:	B
Intersection Capacity Utilization:	74.1%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 15: Eighth Line & 5 Side Road



Queues  
15: Eighth Line & 5 Side Road

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	410	185	125	675
v/c Ratio	0.76	0.40	0.13	0.71
Control Delay	26.9	16.5	6.4	15.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.9	16.5	6.4	15.3
Queue Length 50th (m)	35.8	13.5	4.7	46.5
Queue Length 95th (m)	#63.0	27.5	12.1	#92.1
Internal Link Dist (m)	619.4	644.7	2353.1	430.5
Turn Bay Length (m)				
Base Capacity (vph)	644	549	956	956
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.64	0.34	0.13	0.71

Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 15: Eighth Line & 5 Side Road

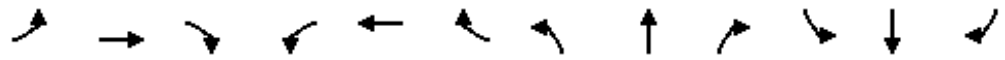
2021 Total AM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	20	380	10	40	130	15	5	95	25	70	535	70
Future Volume (vph)	20	380	10	40	130	15	5	95	25	70	535	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.97			0.99	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1837			1783			1817			1862	
Flt Permitted		0.98			0.85			0.98			0.96	
Satd. Flow (perm)		1806			1528			1783			1794	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	380	10	40	130	15	5	95	25	70	535	70
RTOR Reduction (vph)	0	1	0	0	6	0	0	12	0	0	7	0
Lane Group Flow (vph)	0	409	0	0	179	0	0	113	0	0	668	0
Heavy Vehicles (%)	13%	2%	14%	7%	3%	8%	0%	1%	4%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		15.5			15.5			27.6			27.6	
Effective Green, g (s)		15.5			15.5			27.6			27.6	
Actuated g/C Ratio		0.30			0.30			0.53			0.53	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		537			454			944			950	
v/s Ratio Prot												
v/s Ratio Perm		c0.23			0.12			0.06			c0.37	
v/c Ratio		0.76			0.39			0.12			0.70	
Uniform Delay, d1		16.6			14.6			6.2			9.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		6.3			0.6			0.3			4.3	
Delay (s)		22.9			15.1			6.4			13.5	
Level of Service		C			B			A			B	
Approach Delay (s)		22.9			15.1			6.4			13.5	
Approach LOS		C			B			A			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay		15.9			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.72										
Actuated Cycle Length (s)		52.1			Sum of lost time (s)			9.0				
Intersection Capacity Utilization		74.1%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

Lanes, Volumes, Timings  
16: Ninth Line & 5 Side Road

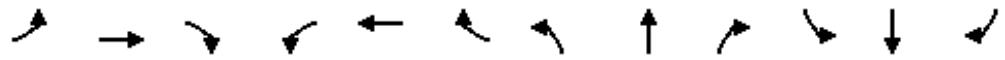
2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	475	30	5	130	15	10	320	25	280	680	30
Future Volume (vph)	25	475	30	5	130	15	10	320	25	280	680	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	40.0		40.0	40.0		0.0	40.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.991				0.850		0.989			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1641	1808	0	1805	1863	1615	1289	3213	0	1805	3388	0
Flt Permitted	0.674			0.249			0.382			0.454		
Satd. Flow (perm)	1164	1808	0	473	1863	1615	518	3213	0	863	3388	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				117		13			9	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		580.9			458.3			3120.2			329.9	
Travel Time (s)		34.9			27.5			160.5			17.0	
Peak Hour 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
Heavy Vehicles (%)	10%	4%	6%	0%	2%	0%	40%	12%	0%	0%	6%	4%
Adj. Flow (vph)	25	475	30	5	130	15	10	320	25	280	680	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	505	0	5	130	15	10	345	0	280	710	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		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	2.0	2.0	0.6		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	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	20.0	20.0		5.0	20.0	

Lanes, Volumes, Timings  
16: Ninth Line & 5 Side Road

2021 Total AM  
Premier Gateway Phase 1B Employment Area

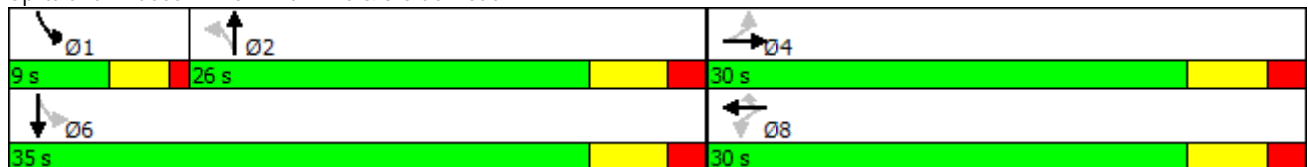


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	24.0	24.0		24.0	24.0	24.0	26.0	26.0		9.0	26.0	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	26.0	26.0		9.0	35.0	
Total Split (%)	46.2%	46.2%		46.2%	46.2%	46.2%	40.0%	40.0%		13.8%	53.8%	
Maximum Green (s)	24.0	24.0		24.0	24.0	24.0	20.0	20.0		5.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0	6.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.5	3.5		3.5	3.5	3.5	5.5	5.5		3.0	5.5	
Recall Mode	None	None		None	None	None	Max	Max		None	Max	
Walk Time (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0			7.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0			0	
Act Effct Green (s)	20.9	20.9		20.9	20.9	20.9	20.1	20.1		31.1	29.1	
Actuated g/C Ratio	0.34	0.34		0.34	0.34	0.34	0.32	0.32		0.50	0.47	
v/c Ratio	0.06	0.83		0.03	0.21	0.02	0.06	0.33		0.55	0.45	
Control Delay	13.9	31.5		13.8	15.2	0.1	17.2	17.1		15.2	12.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	13.9	31.5		13.8	15.2	0.1	17.2	17.1		15.2	12.6	
LOS	B	C		B	B	A	B	B		B	B	
Approach Delay		30.7			13.7			17.1			13.3	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other  
 Cycle Length: 65  
 Actuated Cycle Length: 62  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 18.6  
 Intersection LOS: B  
 Intersection Capacity Utilization 78.2%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 16: Ninth Line & 5 Side Road





## Queues

2021 Total AM

## 16: Ninth Line &amp; 5 Side Road

Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	25	505	5	130	15	10	345	280	710
v/c Ratio	0.06	0.83	0.03	0.21	0.02	0.06	0.33	0.55	0.45
Control Delay	13.9	31.5	13.8	15.2	0.1	17.2	17.1	15.2	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	31.5	13.8	15.2	0.1	17.2	17.1	15.2	12.6
Queue Length 50th (m)	2.0	53.8	0.4	10.9	0.0	0.9	16.5	20.1	30.2
Queue Length 95th (m)	6.4	#99.1	2.4	21.7	0.0	4.2	27.1	35.9	44.6
Internal Link Dist (m)		556.9		434.3			3096.2		305.9
Turn Bay Length (m)	40.0		40.0		40.0	40.0		40.0	
Base Capacity (vph)	451	705	183	723	698	167	1048	509	1594
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.72	0.03	0.18	0.02	0.06	0.33	0.55	0.45

## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 16: Ninth Line & 5 Side Road

2021 Total AM  
Premier Gateway Phase 1B Employment Area



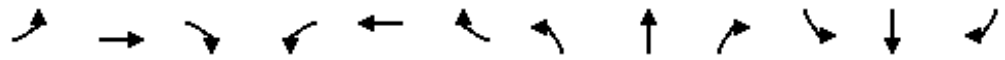
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗↖		↖	↗↖	
Traffic Volume (vph)	25	475	30	5	130	15	10	320	25	280	680	30
Future Volume (vph)	25	475	30	5	130	15	10	320	25	280	680	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1641	1809		1805	1863	1615	1289	3213		1805	3387	
Flt Permitted	0.67	1.00		0.25	1.00	1.00	0.38	1.00		0.45	1.00	
Satd. Flow (perm)	1164	1809		472	1863	1615	518	3213		863	3387	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	475	30	5	130	15	10	320	25	280	680	30
RTOR Reduction (vph)	0	4	0	0	0	10	0	9	0	0	5	0
Lane Group Flow (vph)	25	501	0	5	130	5	10	336	0	280	705	0
Heavy Vehicles (%)	10%	4%	6%	0%	2%	0%	40%	12%	0%	0%	6%	4%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	20.9	20.9		20.9	20.9	20.9	20.1	20.1		29.1	29.1	
Effective Green, g (s)	20.9	20.9		20.9	20.9	20.9	20.1	20.1		29.1	29.1	
Actuated g/C Ratio	0.34	0.34		0.34	0.34	0.34	0.32	0.32		0.47	0.47	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.5	3.5	3.5	5.5	5.5		3.0	5.5	
Lane Grp Cap (vph)	392	609		159	628	544	167	1041		481	1589	
v/s Ratio Prot		c0.28			0.07			0.10		c0.05	0.21	
v/s Ratio Perm	0.02			0.01		0.00	0.02			c0.23		
v/c Ratio	0.06	0.82		0.03	0.21	0.01	0.06	0.32		0.58	0.44	
Uniform Delay, d1	13.9	18.9		13.8	14.6	13.7	14.4	15.8		11.1	11.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	9.0		0.1	0.2	0.0	0.7	0.8		1.8	0.9	
Delay (s)	14.0	27.9		13.9	14.8	13.7	15.1	16.6		12.9	11.9	
Level of Service	B	C		B	B	B	B	B		B	B	
Approach Delay (s)		27.2			14.7			16.6			12.2	
Approach LOS		C			B			B			B	

### Intersection Summary

HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	62.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings  
17: "Street C"/"Street B" & Steeles Avenue

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	850	185	475	975	10	30	0	80	5	0	0
Future Volume (vph)	5	850	185	475	975	10	30	0	80	5	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		30.0	60.0		30.0	30.0		100.0	30.0		0.0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	2911	1583	3433	2597	1583	1770	1863	1583	1770	1863	0
Flt Permitted	0.294			0.950			0.757			0.757		
Satd. Flow (perm)	548	2911	1583	3433	2597	1583	1410	1863	1583	1410	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			122			33			402			
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		505.6			374.2			202.7			275.4	
Travel Time (s)		30.3			22.5			14.6			19.8	
Peak Hour 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
Heavy Vehicles (%)	2%	24%	2%	2%	39%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	5	850	185	475	975	10	30	0	80	5	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	850	185	475	975	10	30	0	80	5	0	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)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	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	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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	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	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	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	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	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	
Turn Type	Perm	NA	Perm	Prot	NA	Perm	Perm		Perm	Perm		
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4			8	2		2	6		
Detector Phase	4	4	4	3	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0	20.0	10.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	

Lanes, Volumes, Timings  
17: "Street C"/"Street B" & Steeles Avenue

2021 Total AM  
Premier Gateway Phase 1B Employment Area

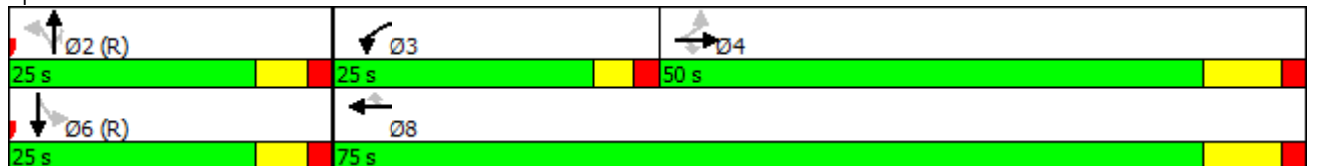


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	28.0	28.0	28.0	15.0	28.0	28.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	50.0	50.0	50.0	25.0	75.0	75.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50.0%	50.0%	50.0%	25.0%	75.0%	75.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Maximum Green (s)	42.0	42.0	42.0	20.0	67.0	67.0	19.0	19.0	19.0	19.0	19.0	19.0
Yellow Time (s)	6.0	6.0	6.0	3.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	5.0	8.0	8.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0	0	0
Act Effct Green (s)	35.8	35.8	35.8	18.0	58.8	58.8	27.2		27.2	27.2		
Actuated g/C Ratio	0.36	0.36	0.36	0.18	0.59	0.59	0.27		0.27	0.27		
v/c Ratio	0.03	0.82	0.29	0.77	0.64	0.01	0.08		0.11	0.01		
Control Delay	18.4	35.8	8.8	47.8	15.2	0.1	32.2		0.3	32.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		
Total Delay	18.4	35.8	8.8	47.8	15.2	0.1	32.2		0.3	32.0		
LOS	B	D	A	D	B	A	C		A	C		
Approach Delay		30.9			25.7			9.0			32.0	
Approach LOS		C			C			A			C	

Intersection Summary

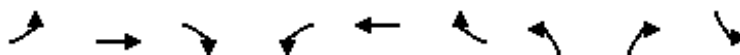
Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 27.1      Intersection LOS: C  
 Intersection Capacity Utilization 70.3%      ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 17: "Street C"/"Street B" & Steeles Avenue



Queues  
17: "Street C"/"Street B" & Steeles Avenue

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL
Lane Group Flow (vph)	5	850	185	475	975	10	30	80	5
v/c Ratio	0.03	0.82	0.29	0.77	0.64	0.01	0.08	0.11	0.01
Control Delay	18.4	35.8	8.8	47.8	15.2	0.1	32.2	0.3	32.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	35.8	8.8	47.8	15.2	0.1	32.2	0.3	32.0
Queue Length 50th (m)	0.7	81.0	8.4	47.4	61.5	0.0	4.7	0.0	0.8
Queue Length 95th (m)	2.9	96.1	21.3	64.2	65.7	0.3	13.4	0.0	4.1
Internal Link Dist (m)	481.6			350.2					
Turn Bay Length (m)	30.0		30.0	60.0		30.0	30.0	100.0	30.0
Base Capacity (vph)	230	1222	735	686	1739	1071	383	723	383
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.70	0.25	0.69	0.56	0.01	0.08	0.11	0.01
<b>Intersection Summary</b>									

# HCM Signalized Intersection Capacity Analysis

## 17: "Street C"/"Street B" & Steeles Avenue

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	5	850	185	475	975	10	30	0	80	5	0	0	
Future Volume (vph)	5	850	185	475	975	10	30	0	80	5	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	8.0	8.0	8.0	5.0	8.0	8.0	6.0		6.0	6.0			
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00		1.00	1.00			
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00			
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95			
Satd. Flow (prot)	1770	2911	1583	3433	2597	1583	1770		1583	1770			
Fl <sub>t</sub> Permitted	0.29	1.00	1.00	0.95	1.00	1.00	0.76		1.00	0.76			
Satd. Flow (perm)	547	2911	1583	3433	2597	1583	1410		1583	1410			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj. Flow (vph)	5	850	185	475	975	10	30	0	80	5	0	0	
RTOR Reduction (vph)	0	0	78	0	0	4	0	0	58	0	0	0	
Lane Group Flow (vph)	5	850	107	475	975	6	30	0	22	5	0	0	
Heavy Vehicles (%)	2%	24%	2%	2%	39%	2%	2%	2%	2%	2%	2%	2%	
Turn Type	Perm	NA	Perm	Prot	NA	Perm	Perm		Perm	Perm			
Protected Phases		4		3	8			2			6		
Permitted Phases	4		4			8	2		2	6			
Actuated Green, G (s)	35.8	35.8	35.8	18.0	58.8	58.8	27.2		27.2	27.2			
Effective Green, g (s)	35.8	35.8	35.8	18.0	58.8	58.8	27.2		27.2	27.2			
Actuated g/C Ratio	0.36	0.36	0.36	0.18	0.59	0.59	0.27		0.27	0.27			
Clearance Time (s)	8.0	8.0	8.0	5.0	8.0	8.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	195	1042	566	617	1527	930	383		430	383			
v/s Ratio Prot		c0.29		c0.14	0.38								
v/s Ratio Perm	0.01		0.07			0.00	c0.02		0.01	0.00			
v/c Ratio	0.03	0.82	0.19	0.77	0.64	0.01	0.08		0.05	0.01			
Uniform Delay, d <sub>1</sub>	20.8	29.1	22.1	39.0	13.6	8.5	27.1		26.9	26.6			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00			
Incremental Delay, d <sub>2</sub>	0.1	5.0	0.2	5.8	0.9	0.0	0.4		0.2	0.1			
Delay (s)	20.9	34.1	22.3	44.8	14.5	8.5	27.5		27.1	26.7			
Level of Service	C	C	C	D	B	A	C		C	C			
Approach Delay (s)		32.0			24.3			27.2			26.7		
Approach LOS		C			C			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			27.5									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.56										
Actuated Cycle Length (s)			100.0									Sum of lost time (s)	19.0
Intersection Capacity Utilization			70.3%									ICU Level of Service	C
Analysis Period (min)			15										
c	Critical Lane Group												

Lanes, Volumes, Timings  
18: Hornby Road & "Street A"

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	0	0	25	30	40
Future Volume (vph)	10	0	0	25	30	40
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>						0.923
Fl <sub>t</sub> Protected	0.950					
Satd. Flow (prot)	1770	0	0	1863	1719	0
Fl <sub>t</sub> Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1863	1719	0
Link Speed (k/h)	50			60	60	
Link Distance (m)	360.3			1118.8	104.9	
Travel Time (s)	25.9			67.1	6.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	0	0	25	30	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	0	0	25	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Yield			Yield	Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	14.0%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 18: Hornby Road & "Street A"

2021 Total AM  
 Premier Gateway Phase 1B Employment Area



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Right Turn Channelized						
Traffic Volume (veh/h)	10	0	0	25	30	40
Future Volume (veh/h)	10	0	0	25	30	40
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	10	0	0	25	30	40
Approach Volume (veh/h)	10			25	70	
Crossing Volume (veh/h)	30			10	0	
High Capacity (veh/h)	1353			1374	1385	
High v/c (veh/h)	0.01			0.02	0.05	
Low Capacity (veh/h)	1132			1151	1161	
Low v/c (veh/h)	0.01			0.02	0.06	
<b>Intersection Summary</b>						
Maximum v/c High			0.05			
Maximum v/c Low			0.06			
Intersection Capacity Utilization			14.0%		ICU Level of Service	A



Lanes, Volumes, Timings  
19: Trafalgar Road & "Street B"

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖		↗	↖	
Traffic Volume (vph)	5	0	5	5	0	10	45	345	10	10	1480	15
Future Volume (vph)	5	0	5	5	0	10	45	345	10	10	1480	15
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	30.0		0.0	30.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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
Frt		0.932			0.910			0.996			0.998	
Flt Protected		0.976			0.984		0.950			0.950		
Satd. Flow (prot)	0	1694	0	0	1668	0	1770	1804	0	1770	1637	0
Flt Permitted		0.976			0.984		0.950			0.950		
Satd. Flow (perm)	0	1694	0	0	1668	0	1770	1804	0	1770	1637	0
Link Speed (k/h)		50			50			80			80	
Link Distance (m)		251.6			769.0			201.0			552.4	
Travel Time (s)		18.1			55.4			9.0			24.9	
Peak Hour 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
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	16%	2%
Adj. Flow (vph)	5	0	5	5	0	10	45	345	10	10	1480	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	15	0	45	355	0	10	1495	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			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	88.8%
ICU Level of Service	E
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 19: Trafalgar Road & "Street B"

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↘		↗	↘	
Traffic Volume (veh/h)	5	0	5	5	0	10	45	345	10	10	1480	15
Future Volume (Veh/h)	5	0	5	5	0	10	45	345	10	10	1480	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	5	0	5	5	0	10	45	345	10	10	1480	15
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1952	1952	1488	1945	1955	350	1495			355		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1952	1952	1488	1945	1955	350	1495			355		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	89	100	97	88	100	99	90			99		
cM capacity (veh/h)	44	57	153	43	57	693	449			1204		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	10	15	45	355	10	1495						
Volume Left	5	5	45	0	10	0						
Volume Right	5	10	0	10	0	15						
cSH	68	116	449	1700	1204	1700						
Volume to Capacity	0.15	0.13	0.10	0.21	0.01	0.88						
Queue Length 95th (m)	3.9	3.5	2.7	0.0	0.2	0.0						
Control Delay (s)	67.0	40.8	13.9	0.0	8.0	0.0						
Lane LOS	F	E	B		A							
Approach Delay (s)	67.0	40.8	1.6		0.1							
Approach LOS	F	E										
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			88.8%		ICU Level of Service					E		
Analysis Period (min)			15									

Lanes, Volumes, Timings  
20: Eighth Line & "Street B"

2021 Total AM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	5	25	125	660	20
Future Volume (vph)	5	5	25	125	660	20
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	0.932				0.996	
Flt Protected	0.976			0.992		
Satd. Flow (prot)	1694	0	0	1804	1855	0
Flt Permitted	0.976			0.992		
Satd. Flow (perm)	1694	0	0	1804	1855	0
Link Speed (k/h)	50			70	70	
Link Distance (m)	769.0			709.3	2377.1	
Travel Time (s)	55.4			36.5	122.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	5%	2%	2%
Adj. Flow (vph)	5	5	25	125	660	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	0	0	150	680	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	45.9% ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 20: Eighth Line & "Street B"

2021 Total AM  
 Premier Gateway Phase 1B Employment Area



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	5	25	125	660	20
Future Volume (Veh/h)	5	5	25	125	660	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	5	25	125	660	20
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	845	670	680			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	845	670	680			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	99	97			
cM capacity (veh/h)	324	457	912			
<b>Direction, Lane #</b>						
	EB 1	NB 1	SB 1			
Volume Total	10	150	680			
Volume Left	5	25	0			
Volume Right	5	0	20			
cSH	379	912	1700			
Volume to Capacity	0.03	0.03	0.40			
Queue Length 95th (m)	0.6	0.7	0.0			
Control Delay (s)	14.8	1.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.8	1.7	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			0.5			
Intersection Capacity Utilization			45.9%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
1: Brownridge Road/Fifth Line & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	535	5	5	1225	15	45	10	25	45	5	110
Future Volume (vph)	50	535	5	5	1225	15	45	10	25	45	5	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	145.0		65.0	30.0		0.0	20.0		0.0	25.0		25.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	100.0			100.0			20.0			75.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.998			0.893				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	3085	1214	1203	3299	0	1687	1513	0	1583	1429	1568
Flt Permitted	0.193			0.453			0.754			0.734		
Satd. Flow (perm)	346	3085	1214	574	3299	0	1339	1513	0	1223	1429	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			65		4			25				109
Link Speed (k/h)		60			60			50				50
Link Distance (m)		486.3			703.6			285.2				91.4
Travel Time (s)		29.2			42.2			20.5				6.6
Peak Hour 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
Heavy Vehicles (%)	6%	17%	33%	50%	9%	27%	7%	0%	17%	14%	33%	3%
Adj. Flow (vph)	50	535	5	5	1225	15	45	10	25	45	5	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	535	5	5	1240	0	45	35	0	45	5	110
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)		3.6			3.6			3.6				3.6
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		4.8			4.8			4.8				4.8
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	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	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	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	0.0
Detector 1 Queue (s)	0.0	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	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
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2				6
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	4	8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	25.0	25.0	25.0	25.0	25.0		10.0	10.0		10.0	10.0	10.0

Lanes, Volumes, Timings  
1: Brownridge Road/Fifth Line & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area

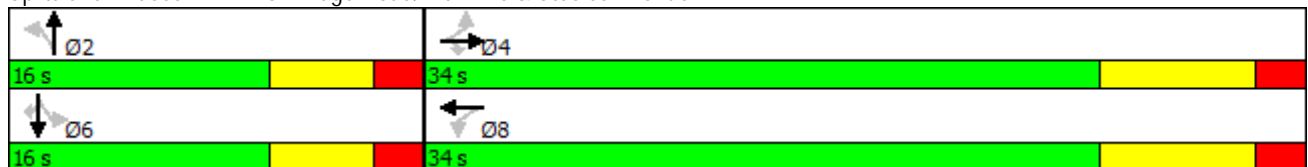


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	33.0	33.0	33.0	33.0	33.0		16.0	16.0		16.0	16.0	16.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0		16.0	16.0		16.0	16.0	16.0
Total Split (%)	68.0%	68.0%	68.0%	68.0%	68.0%		32.0%	32.0%		32.0%	32.0%	32.0%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		10.0	10.0		10.0	10.0	10.0
Yellow Time (s)	6.0	6.0	6.0	6.0	6.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0		6.0	6.0		6.0	6.0	6.0
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	3.0
Recall Mode	Max	Max	Max	Max	Max		None	None		None	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	0
Act Effct Green (s)	32.9	32.9	32.9	32.9	32.9		10.1	10.1		10.1	10.1	10.1
Actuated g/C Ratio	0.63	0.63	0.63	0.63	0.63		0.19	0.19		0.19	0.19	0.19
v/c Ratio	0.23	0.27	0.01	0.01	0.59		0.17	0.11		0.19	0.02	0.28
Control Delay	10.3	6.6	0.0	6.0	9.5		18.9	10.4		19.4	16.4	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	10.3	6.6	0.0	6.0	9.5		18.9	10.4		19.4	16.4	6.8
LOS	B	A	A	A	A		B	B		B	B	A
Approach Delay		6.9			9.5			15.2			10.7	
Approach LOS		A			A			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	50
Actuated Cycle Length:	52
Natural Cycle:	50
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.59
Intersection Signal Delay:	9.1
Intersection LOS:	A
Intersection Capacity Utilization:	68.3%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 1: Brownridge Road/Fifth Line & Steeles Avenue

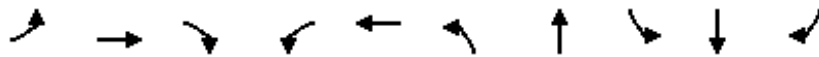


Queues

2021 Total PM

1: Brownridge Road/Fifth Line & Steeles Avenue

Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	50	535	5	5	1240	45	35	45	5	110
v/c Ratio	0.23	0.27	0.01	0.01	0.59	0.17	0.11	0.19	0.02	0.28
Control Delay	10.3	6.6	0.0	6.0	9.5	18.9	10.4	19.4	16.4	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.3	6.6	0.0	6.0	9.5	18.9	10.4	19.4	16.4	6.8
Queue Length 50th (m)	2.4	13.6	0.0	0.2	41.7	3.5	0.8	3.5	0.4	0.1
Queue Length 95th (m)	8.8	21.7	0.0	1.4	62.1	10.4	6.5	10.5	2.5	9.9
Internal Link Dist (m)	462.3		679.6			261.2		67.4		
Turn Bay Length (m)	145.0		65.0	30.0		20.0		25.0		25.0
Base Capacity (vph)	219	1954	793	363	2091	258	312	236	276	391
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.27	0.01	0.01	0.59	0.17	0.11	0.19	0.02	0.28

Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 1: Brownridge Road/Fifth Line & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	535	5	5	1225	15	45	10	25	45	5	110
Future Volume (vph)	50	535	5	5	1225	15	45	10	25	45	5	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0		6.0	6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1703	3085	1214	1203	3299		1687	1513		1583	1429	1568
Flt Permitted	0.19	1.00	1.00	0.45	1.00		0.75	1.00		0.73	1.00	1.00
Satd. Flow (perm)	347	3085	1214	574	3299		1340	1513		1224	1429	1568
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	535	5	5	1225	15	45	10	25	45	5	110
RTOR Reduction (vph)	0	0	2	0	2	0	0	21	0	0	0	93
Lane Group Flow (vph)	50	535	3	5	1238	0	45	14	0	45	5	17
Heavy Vehicles (%)	6%	17%	33%	50%	9%	27%	7%	0%	17%	14%	33%	3%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		6
Actuated Green, G (s)	31.3	31.3	31.3	31.3	31.3		7.9	7.9		7.9	7.9	7.9
Effective Green, g (s)	31.3	31.3	31.3	31.3	31.3		7.9	7.9		7.9	7.9	7.9
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.59		0.15	0.15		0.15	0.15	0.15
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	204	1815	714	337	1940		198	224		181	212	232
v/s Ratio Prot		0.17			c0.38			0.01			0.00	
v/s Ratio Perm	0.14		0.00	0.01			0.03			c0.04		0.01
v/c Ratio	0.25	0.29	0.00	0.01	0.64		0.23	0.06		0.25	0.02	0.07
Uniform Delay, d1	5.3	5.5	4.5	4.5	7.2		20.0	19.5		20.0	19.4	19.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.8	0.4	0.0	0.1	1.6		0.6	0.1		0.7	0.0	0.1
Delay (s)	8.1	5.9	4.5	4.6	8.8		20.5	19.6		20.7	19.4	19.6
Level of Service	A	A	A	A	A		C	B		C	B	B
Approach Delay (s)		6.0			8.8			20.1			19.9	
Approach LOS		A			A			C			B	

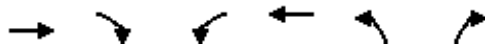
### Intersection Summary

HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	53.2	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lanes, Volumes, Timings  
2: Fifth Line South & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖	↗
Traffic Volume (vph)	615	5	5	1245	15	10
Future Volume (vph)	615	5	5	1245	15	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		30.0	60.0		15.0	0.0
Storage Lanes		1	1		1	1
Taper Length (m)			100.0		30.0	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3085	1615	1203	3312	1687	1380
Flt Permitted			0.419		0.950	
Satd. Flow (perm)	3085	1615	531	3312	1687	1380
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		5				10
Link Speed (k/h)	60			60	60	
Link Distance (m)	703.6			479.7	556.9	
Travel Time (s)	42.2			28.8	33.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	17%	0%	50%	9%	7%	17%
Adj. Flow (vph)	615	5	5	1245	15	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	615	5	5	1245	15	10
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (m)	10.0	2.0	2.0	10.0	2.0	2.0
Trailing Detector (m)	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
Detector 1 Size(m)	0.6	2.0	2.0	0.6	2.0	2.0
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	CI+Ex			CI+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases		4	8		2	2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	25.0	25.0	25.0	25.0	10.0	10.0

Lanes, Volumes, Timings  
2: Fifth Line South & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area

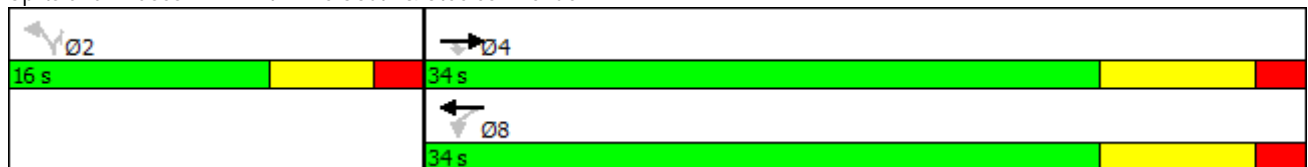


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	33.0	33.0	33.0	33.0	16.0	16.0
Total Split (s)	34.0	34.0	34.0	34.0	16.0	16.0
Total Split (%)	68.0%	68.0%	68.0%	68.0%	32.0%	32.0%
Maximum Green (s)	26.0	26.0	26.0	26.0	10.0	10.0
Yellow Time (s)	6.0	6.0	6.0	6.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	Max	Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	47.5	47.5	47.5	47.5	10.1	10.1
Actuated g/C Ratio	0.92	0.92	0.92	0.92	0.20	0.20
v/c Ratio	0.22	0.00	0.01	0.41	0.05	0.04
Control Delay	2.0	2.2	2.8	2.7	19.4	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.0	2.2	2.8	2.7	19.4	12.3
LOS	A	A	A	A	B	B
Approach Delay	2.0			2.7	16.6	
Approach LOS	A			A	B	

Intersection Summary

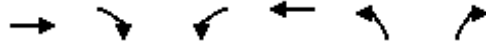
Area Type:	Other
Cycle Length:	50
Actuated Cycle Length:	51.5
Natural Cycle:	50
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.41
Intersection Signal Delay:	2.7
Intersection LOS:	A
Intersection Capacity Utilization:	55.0%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 2: Fifth Line South & Steeles Avenue



Queues  
2: Fifth Line South & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area

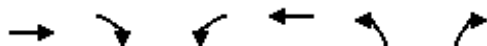


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	615	5	5	1245	15	10
v/c Ratio	0.22	0.00	0.01	0.41	0.05	0.04
Control Delay	2.0	2.2	2.8	2.7	19.4	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.0	2.2	2.8	2.7	19.4	12.3
Queue Length 50th (m)	0.0	0.0	0.0	0.0	1.1	0.0
Queue Length 95th (m)	24.0	1.0	1.3	59.3	6.1	3.6
Internal Link Dist (m)	679.6			455.7	532.9	
Turn Bay Length (m)		30.0	60.0		15.0	
Base Capacity (vph)	2844	1489	489	3053	330	278
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.00	0.01	0.41	0.05	0.04
<b>Intersection Summary</b>						

# HCM Signalized Intersection Capacity Analysis

## 2: Fifth Line South & Steeles Avenue

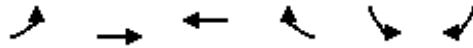
2021 Total PM  
Premier Gateway Phase 1B Employment Area



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↘	↑↑	↘	↗
Traffic Volume (vph)	615	5	5	1245	15	10
Future Volume (vph)	615	5	5	1245	15	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0	8.0	8.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3085	1615	1203	3312	1687	1380
Flt Permitted	1.00	1.00	0.42	1.00	0.95	1.00
Satd. Flow (perm)	3085	1615	531	3312	1687	1380
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	615	5	5	1245	15	10
RTOR Reduction (vph)	0	1	0	0	0	10
Lane Group Flow (vph)	615	4	5	1245	15	0
Heavy Vehicles (%)	17%	0%	50%	9%	7%	17%
Turn Type	NA	Perm	Perm	NA	Perm	Perm
Protected Phases	4		8			
Permitted Phases	4		8		2 2	
Actuated Green, G (s)	40.7	40.7	40.7	40.7	1.7	1.7
Effective Green, g (s)	40.7	40.7	40.7	40.7	1.7	1.7
Actuated g/C Ratio	0.72	0.72	0.72	0.72	0.03	0.03
Clearance Time (s)	8.0	8.0	8.0	8.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2226	1165	383	2390	50	41
v/s Ratio Prot	0.20		c0.38			
v/s Ratio Perm	0.00		0.01		c0.01 0.00	
v/c Ratio	0.28	0.00	0.01	0.52	0.30	0.01
Uniform Delay, d1	2.7	2.2	2.2	3.5	26.8	26.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.0	0.1	0.8	3.4	0.1
Delay (s)	3.0	2.2	2.3	4.3	30.1	26.6
Level of Service	A	A	A	A	C	C
Approach Delay (s)	3.0			4.3	28.7	
Approach LOS	A			A	C	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			4.2	HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.51			
Actuated Cycle Length (s)			56.4	Sum of lost time (s)		14.0
Intersection Capacity Utilization			55.0%	ICU Level of Service		B
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings  
3: Steeles Avenue & Sixth Line

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	50	855	1280	20	5	35
Future Volume (vph)	50	855	1280	20	5	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0			30.0	30.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr <sub>t</sub>				0.850		0.850
Fl <sub>t</sub> Protected	0.950				0.950	
Satd. Flow (prot)	1770	2983	3282	1524	1805	1615
Fl <sub>t</sub> Permitted	0.950				0.950	
Satd. Flow (perm)	1770	2983	3282	1524	1805	1615
Link Speed (k/h)		60	80		70	
Link Distance (m)		479.7	905.3		3066.1	
Travel Time (s)		28.8	40.7		157.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	21%	10%	6%	0%	0%
Adj. Flow (vph)	50	855	1280	20	5	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	50	855	1280	20	5	35
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

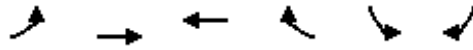
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	51.6%
ICU Level of Service	A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 3: Steeles Avenue & Sixth Line

























2021 Total PM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	50	855	1280	20	5	35		
Future Volume (Veh/h)	50	855	1280	20	5	35		
Sign Control		Free	Free		Stop			
Grade		0%	0%		0%			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly flow rate (vph)	50	855	1280	20	5	35		
Pedestrians								
Lane Width (m)								
Walking Speed (m/s)								
Percent Blockage								
Right turn flare (veh)								
Median type		None	None					
Median storage (veh)								
Upstream signal (m)								
pX, platoon unblocked								
vC, conflicting volume	1300				1808	640		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	1300				1808	640		
tC, single (s)	4.1				6.8	6.9		
tC, 2 stage (s)								
tF (s)	2.2				3.5	3.3		
p0 queue free %	91				92	92		
cM capacity (veh/h)	529				65	423		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	SB 2
Volume Total	50	428	428	640	640	20	5	35
Volume Left	50	0	0	0	0	0	5	0
Volume Right	0	0	0	0	0	20	0	35
cSH	529	1700	1700	1700	1700	1700	65	423
Volume to Capacity	0.09	0.25	0.25	0.38	0.38	0.01	0.08	0.08
Queue Length 95th (m)	2.5	0.0	0.0	0.0	0.0	0.0	1.9	2.2
Control Delay (s)	12.5	0.0	0.0	0.0	0.0	0.0	64.9	14.3
Lane LOS	B						F	B
Approach Delay (s)	0.7				0.0			20.6
Approach LOS							C	
Intersection Summary								
Average Delay				0.6				
Intersection Capacity Utilization				51.6%		ICU Level of Service		A
Analysis Period (min)	15							

Lanes, Volumes, Timings  
4: Sixth Line South/"Street A" & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area

























												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (vph)	60	430	15	260	960	5	25	5	85	25	25	30
Future Volume (vph)	60	430	15	260	960	5	25	5	85	25	25	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		30.0	60.0		30.0	30.0		0.0	30.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	7.5			100.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.858				0.918
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	2959	1538	1719	3282	1538	1719	1553	0	1770	1710	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	2959	1538	1719	3282	1538	1719	1553	0	1770	1710	0
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		905.3			497.0			169.8			144.3	
Travel Time (s)		40.7			22.4			12.2			10.4	
Peak Hour 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
Heavy Vehicles (%)	5%	22%	5%	5%	10%	5%	5%	5%	5%	2%	2%	2%
Adj. Flow (vph)	60	430	15	260	960	5	25	5	85	25	25	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	430	15	260	960	5	25	90	0	25	55	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	47.9%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis  
 4: Sixth Line South/"Street A" & Steeles Avenue

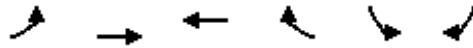
2021 Total PM  
 Premier Gateway Phase 1B Employment Area

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	430	15	260	960	5	25	5	85	25	25	30
Future Volume (Veh/h)	60	430	15	260	960	5	25	5	85	25	25	30
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	60	430	15	260	960	5	25	5	85	25	25	30
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	965			445			1592	2035	215	1902	2045	480
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	965			445			1592	2035	215	1902	2045	480
tC, single (s)	4.2			4.2			7.6	6.6	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			76			0	87	89	3	35	94
cM capacity (veh/h)	691			1091			25	38	781	26	39	532
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	SB 1	SB 2
Volume Total	60	215	215	15	260	480	480	5	25	90	25	55
Volume Left	60	0	0	0	260	0	0	0	25	0	25	0
Volume Right	0	0	0	15	0	0	0	5	0	85	0	30
cSH	691	1700	1700	1700	1091	1700	1700	1700	25	373	26	78
Volume to Capacity	0.09	0.13	0.13	0.01	0.24	0.28	0.28	0.00	1.00	0.24	0.97	0.70
Queue Length 95th (m)	2.3	0.0	0.0	0.0	7.4	0.0	0.0	0.0	24.5	7.4	24.1	26.6
Control Delay (s)	10.7	0.0	0.0	0.0	9.3	0.0	0.0	0.0	403.1	17.7	384.4	122.6
Lane LOS	B				A				F	C	F	F
Approach Delay (s)	1.3				2.0				101.5		204.4	
Approach LOS									F		F	
Intersection Summary												
Average Delay			16.2									
Intersection Capacity Utilization			47.9%		ICU Level of Service				A			
Analysis Period (min)			15									



Lanes, Volumes, Timings  
5: Steeles Avenue & Hornby Road

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	35	590	1190	15	15	60
Future Volume (vph)	35	590	1190	15	15	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0			30.0	30.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr <sub>t</sub>				0.850		0.850
Fl <sub>t</sub> Protected	0.950				0.950	
Satd. Flow (prot)	1805	3034	3282	1615	1357	1615
Fl <sub>t</sub> Permitted	0.950				0.950	
Satd. Flow (perm)	1805	3034	3282	1615	1357	1615
Link Speed (k/h)		60	60		60	
Link Distance (m)		497.0	505.6		1118.8	
Travel Time (s)		29.8	30.3		67.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	19%	10%	0%	33%	0%
Adj. Flow (vph)	35	590	1190	15	15	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	590	1190	15	15	60
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

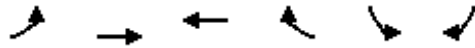
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	43.3%
Analysis Period (min)	15
	ICU Level of Service A

# HCM Unsignalized Intersection Capacity Analysis

## 5: Steeles Avenue & Hornby Road

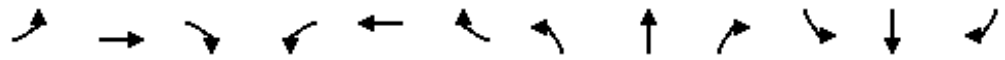
2021 Total PM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	35	590	1190	15	15	60		
Future Volume (Veh/h)	35	590	1190	15	15	60		
Sign Control		Free	Free		Stop			
Grade		0%	0%		0%			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly flow rate (vph)	35	590	1190	15	15	60		
Pedestrians								
Lane Width (m)								
Walking Speed (m/s)								
Percent Blockage								
Right turn flare (veh)								
Median type		None	None					
Median storage (veh)								
Upstream signal (m)								
pX, platoon unblocked								
vC, conflicting volume	1205				1555	595		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	1205				1555	595		
tC, single (s)	4.1				7.5	6.9		
tC, 2 stage (s)								
tF (s)	2.2				3.8	3.3		
p0 queue free %	94				79	87		
cM capacity (veh/h)	586				72	452		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	SB 2
Volume Total	35	295	295	595	595	15	15	60
Volume Left	35	0	0	0	0	0	15	0
Volume Right	0	0	0	0	0	15	0	60
cSH	586	1700	1700	1700	1700	1700	72	452
Volume to Capacity	0.06	0.17	0.17	0.35	0.35	0.01	0.21	0.13
Queue Length 95th (m)	1.5	0.0	0.0	0.0	0.0	0.0	5.7	3.6
Control Delay (s)	11.5	0.0	0.0	0.0	0.0	0.0	67.6	14.2
Lane LOS	B						F	B
Approach Delay (s)	0.6			0.0			24.9	
Approach LOS							C	
Intersection Summary								
Average Delay	1.2							
Intersection Capacity Utilization	43.3%			ICU Level of Service			A	
Analysis Period (min)	15							

Lanes, Volumes, Timings  
6: Trafalgar Road & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	330	620	145	600	905	165	180	665	570	45	345	80
Future Volume (vph)	330	620	145	600	905	165	180	665	570	45	345	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	115.0		40.0	130.0		70.0	100.0		65.0	250.0		80.0
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (m)	100.0			100.0			80.0			100.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2653	3139	1262	3433	3312	1583	3099	3505	1568	1805	3471	1129
Flt Permitted	0.950			0.950			0.950			0.321		
Satd. Flow (perm)	2653	3139	1262	3433	3312	1583	3099	3505	1568	610	3471	1129
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			187			148			497			179
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		374.2			311.3			332.0			289.5	
Travel Time (s)		22.5			18.7			17.1			14.9	
Peak Hour 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
Heavy Vehicles (%)	32%	15%	28%	2%	9%	2%	13%	3%	3%	0%	4%	43%
Adj. Flow (vph)	330	620	145	600	905	165	180	665	570	45	345	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	330	620	145	600	905	165	180	665	570	45	345	80
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)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	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	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	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	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	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	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	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	7.0	20.0	20.0

Lanes, Volumes, Timings  
6: Trafalgar Road & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area

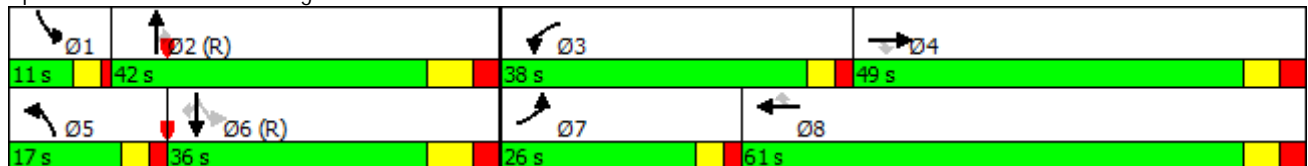


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.0	27.0	27.0	13.0	27.0	27.0	13.0	28.0	28.0	11.0	28.0	28.0
Total Split (s)	26.0	49.0	49.0	38.0	61.0	61.0	17.0	42.0	42.0	11.0	36.0	36.0
Total Split (%)	18.6%	35.0%	35.0%	27.1%	43.6%	43.6%	12.1%	30.0%	30.0%	7.9%	25.7%	25.7%
Maximum Green (s)	21.0	42.0	42.0	33.0	54.0	54.0	12.0	34.0	34.0	7.0	28.0	28.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	8.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	4.0	3.0	3.0	4.0	0.2	0.2	3.0	0.2	0.2
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	20.2	36.0	36.0	29.7	45.5	45.5	13.3	45.0	45.0	47.7	36.1	36.1
Actuated g/C Ratio	0.14	0.26	0.26	0.21	0.32	0.32	0.10	0.32	0.32	0.34	0.26	0.26
v/c Ratio	0.87	0.77	0.31	0.83	0.84	0.27	0.61	0.59	0.68	0.17	0.39	0.19
Control Delay	80.6	55.0	3.6	62.8	51.5	7.2	70.2	44.7	11.6	29.4	46.3	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.6	55.0	3.6	62.8	51.5	7.2	70.2	44.7	11.6	29.4	46.3	1.0
LOS	F	D	A	E	D	A	E	D	B	C	D	A
Approach Delay		55.9			51.2			34.6			37.0	
Approach LOS		E			D			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle:	85
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.87
Intersection Signal Delay:	45.8
Intersection LOS:	D
Intersection Capacity Utilization	78.6%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 6: Trafalgar Road & Steeles Avenue



Queues  
6: Trafalgar Road & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	330	620	145	600	905	165	180	665	570	45	345	80
v/c Ratio	0.87	0.77	0.31	0.83	0.84	0.27	0.61	0.59	0.68	0.17	0.39	0.19
Control Delay	80.6	55.0	3.6	62.8	51.5	7.2	70.2	44.7	11.6	29.4	46.3	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.6	55.0	3.6	62.8	51.5	7.2	70.2	44.7	11.6	29.4	46.3	1.0
Queue Length 50th (m)	48.8	88.3	0.0	86.2	128.6	3.4	26.1	88.6	15.7	7.9	44.8	0.0
Queue Length 95th (m)	#73.2	106.1	7.2	106.1	143.3	18.6	39.8	119.7	65.7	17.9	64.1	0.0
Internal Link Dist (m)		350.2			287.3			308.0			265.5	
Turn Bay Length (m)	115.0		40.0	130.0		70.0	100.0		65.0	250.0		80.0
Base Capacity (vph)	397	941	509	809	1277	701	300	1126	841	272	894	424
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.66	0.28	0.74	0.71	0.24	0.60	0.59	0.68	0.17	0.39	0.19

Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 6: Trafalgar Road & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area



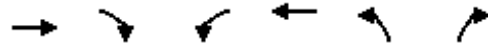
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕	↗	↔↔	↕↕	↗	↔↔	↕↕	↗	↗	↕↕	↗
Traffic Volume (vph)	330	620	145	600	905	165	180	665	570	45	345	80
Future Volume (vph)	330	620	145	600	905	165	180	665	570	45	345	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	8.0
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2653	3139	1262	3433	3312	1583	3099	3505	1568	1805	3471	1129
Fl <sub>t</sub> Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.32	1.00	1.00
Satd. Flow (perm)	2653	3139	1262	3433	3312	1583	3099	3505	1568	610	3471	1129
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	330	620	145	600	905	165	180	665	570	45	345	80
RTOR Reduction (vph)	0	0	108	0	0	100	0	0	340	0	0	59
Lane Group Flow (vph)	330	620	37	600	905	65	180	665	230	45	345	21
Heavy Vehicles (%)	32%	15%	28%	2%	9%	2%	13%	3%	3%	0%	4%	43%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2	6		6
Actuated Green, G (s)	20.2	36.0	36.0	29.7	45.5	45.5	13.3	44.1	44.1	42.2	36.0	36.0
Effective Green, g (s)	20.2	36.0	36.0	29.7	45.5	45.5	13.3	44.1	44.1	42.2	36.0	36.0
Actuated g/C Ratio	0.14	0.26	0.26	0.21	0.32	0.32	0.10	0.32	0.32	0.30	0.26	0.26
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0	3.0	4.0	3.0	3.0	4.0	0.2	0.2	3.0	0.2	0.2
Lane Grp Cap (vph)	382	807	324	728	1076	514	294	1104	493	236	892	290
v/s Ratio Prot	0.12	0.20		c0.17	c0.27		c0.06	c0.19		0.01	0.10	
v/s Ratio Perm			0.03			0.04			0.15	0.05		0.02
v/c Ratio	0.86	0.77	0.12	0.82	0.84	0.13	0.61	0.60	0.47	0.19	0.39	0.07
Uniform Delay, d <sub>1</sub>	58.6	48.1	39.8	52.7	43.9	33.3	60.9	40.5	38.5	35.2	42.9	39.3
Progression 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
Incremental Delay, d <sub>2</sub>	17.9	4.4	0.2	7.9	6.1	0.1	4.3	2.4	3.1	0.4	1.3	0.5
Delay (s)	76.5	52.6	40.0	60.5	50.0	33.4	65.2	43.0	41.6	35.6	44.2	39.8
Level of Service	E	D	D	E	D	C	E	D	D	D	D	D
Approach Delay (s)		58.1			52.1			45.3			42.6	
Approach LOS		E			D			D			D	

### Intersection Summary

HCM 2000 Control Delay	50.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings  
7: Toronto Premier Outlets & Steeles Avenue

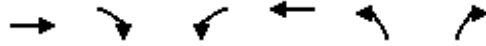
2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖↗	↗
Traffic Volume (vph)	1180	40	25	1375	305	70
Future Volume (vph)	1180	40	25	1375	305	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		130.0	45.0		0.0	40.0
Storage Lanes		1	1		2	1
Taper Length (m)			80.0		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3312	1482	1805	3406	3467	1599
Flt Permitted			0.130		0.950	
Satd. Flow (perm)	3312	1482	247	3406	3467	1599
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		40				70
Link Speed (k/h)	60			60	50	
Link Distance (m)	311.3			200.7	119.1	
Travel Time (s)	18.7			12.0	8.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	9%	9%	0%	6%	1%	1%
Adj. Flow (vph)	1180	40	25	1375	305	70
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1180	40	25	1375	305	70
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			7.2	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (m)	10.0	2.0	2.0	10.0	2.0	2.0
Trailing Detector (m)	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
Detector 1 Size(m)	0.6	2.0	2.0	0.6	2.0	2.0
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	CI+Ex			CI+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	20.0	20.0	6.0	20.0	10.0	10.0

Lanes, Volumes, Timings  
7: Toronto Premier Outlets & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area

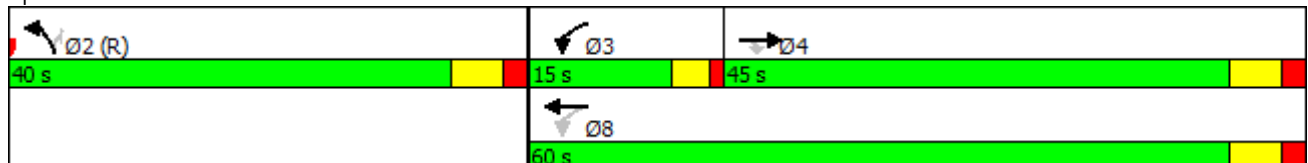


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	26.0	26.0	10.0	26.0	17.0	17.0
Total Split (s)	45.0	45.0	15.0	60.0	40.0	40.0
Total Split (%)	45.0%	45.0%	15.0%	60.0%	40.0%	40.0%
Maximum Green (s)	39.0	39.0	11.0	54.0	34.0	34.0
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	0.2	0.2	3.0	0.2	4.0	4.0
Recall Mode	Max	Max	None	Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	17.0	17.0		17.0	21.0	21.0
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effct Green (s)	49.7	49.7	56.0	54.0	34.0	34.0
Actuated g/C Ratio	0.50	0.50	0.56	0.54	0.34	0.34
v/c Ratio	0.72	0.05	0.11	0.75	0.26	0.12
Control Delay	23.9	5.6	10.8	21.0	24.6	6.2
Queue Delay	0.0	0.0	0.0	0.5	0.0	0.0
Total Delay	23.9	5.6	10.8	21.5	24.6	6.2
LOS	C	A	B	C	C	A
Approach Delay	23.3			21.3	21.2	
Approach LOS	C			C	C	

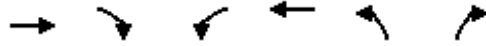
Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	22.1
Intersection LOS:	C
Intersection Capacity Utilization	56.7%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 7: Toronto Premier Outlets & Steeles Avenue





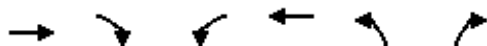


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1180	40	25	1375	305	70
v/c Ratio	0.72	0.05	0.11	0.75	0.26	0.12
Control Delay	23.9	5.6	10.8	21.0	24.6	6.2
Queue Delay	0.0	0.0	0.0	0.5	0.0	0.0
Total Delay	23.9	5.6	10.8	21.5	24.6	6.2
Queue Length 50th (m)	85.7	0.0	2.1	108.0	22.9	0.0
Queue Length 95th (m)	138.8	6.1	5.9	135.8	33.7	9.5
Internal Link Dist (m)	287.3			176.7	95.1	
Turn Bay Length (m)		130.0	45.0			40.0
Base Capacity (vph)	1646	756	309	1839	1178	589
Starvation Cap Reductn	0	0	0	145	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.05	0.08	0.81	0.26	0.12
<b>Intersection Summary</b>						

# HCM Signalized Intersection Capacity Analysis

## 7: Toronto Premier Outlets & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↘	↑↑	↗↘	↗
Traffic Volume (vph)	1180	40	25	1375	305	70
Future Volume (vph)	1180	40	25	1375	305	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3312	1482	1805	3406	3467	1599
Flt Permitted	1.00	1.00	0.13	1.00	0.95	1.00
Satd. Flow (perm)	3312	1482	247	3406	3467	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1180	40	25	1375	305	70
RTOR Reduction (vph)	0	20	0	0	0	48
Lane Group Flow (vph)	1180	20	25	1375	305	22
Heavy Vehicles (%)	9%	9%	0%	6%	1%	1%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Actuated Green, G (s)	49.7	49.7	56.4	56.4	31.6	31.6
Effective Green, g (s)	49.7	49.7	56.4	56.4	31.6	31.6
Actuated g/C Ratio	0.50	0.50	0.56	0.56	0.32	0.32
Clearance Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Vehicle Extension (s)	0.2	0.2	3.0	0.2	4.0	4.0
Lane Grp Cap (vph)	1646	736	181	1920	1095	505
v/s Ratio Prot	0.36		0.00	c0.40	c0.09	
v/s Ratio Perm		0.01	0.07			0.01
v/c Ratio	0.72	0.03	0.14	0.72	0.28	0.04
Uniform Delay, d1	19.7	12.8	12.8	15.9	25.7	23.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.7	0.1	0.4	2.3	0.6	0.2
Delay (s)	22.4	12.9	13.2	18.3	26.3	23.9
Level of Service	C	B	B	B	C	C
Approach Delay (s)	22.1			18.2	25.8	
Approach LOS	C			B	C	

### Intersection Summary

HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

8: Toronto Premium Outlets/Eighth Line & Steeles Avenue Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	930	20	120	1360	135	55	30	105	65	20	65
Future Volume (vph)	230	930	20	120	1360	135	55	30	105	65	20	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		55.0	30.0		30.0	0.0		0.0	70.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	55.0			90.0			7.5			45.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.883			0.885	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3223	1615	1770	3374	1599	3367	1652	0	1752	1656	0
Flt Permitted	0.090			0.249			0.950			0.671		
Satd. Flow (perm)	171	3223	1615	464	3374	1599	3367	1652	0	1238	1656	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			182			182		105			65	
Link Speed (k/h)		60			60			50			70	
Link Distance (m)		200.7			870.8			218.1			709.3	
Travel Time (s)		12.0			52.2			15.7			36.5	
Peak Hour 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
Heavy Vehicles (%)	0%	12%	0%	2%	7%	1%	4%	0%	2%	3%	0%	2%
Adj. Flow (vph)	230	930	20	120	1360	135	55	30	105	65	20	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	230	930	20	120	1360	135	55	135	0	65	85	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)		3.6			3.6			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		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	0.0	
Detector 1 Position(m)	0.0	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	2.0	0.6	2.0	2.0	0.6		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	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	0.0	
Detector 1 Queue (s)	0.0	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	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	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Perm	NA	
Protected Phases	7	4		3	8		5	2				6
Permitted Phases	4		4	8		8				6		
Detector Phase	7	4	4	3	8	8	5	2		6		6
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	10.0	10.0		10.0	10.0	

8: Toronto Premium Outlets/Eighth Line & Steeles Avenue Premier Gateway Phase 1B Employment Area

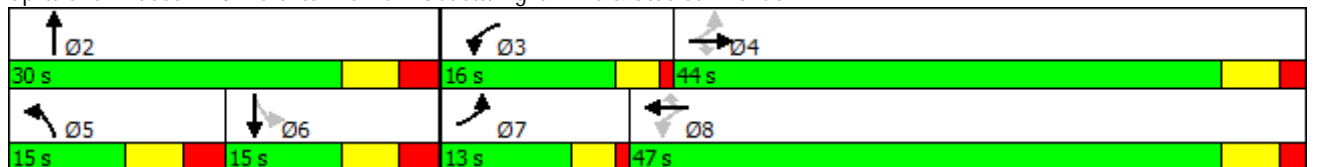


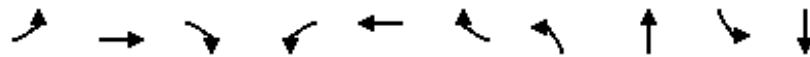
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.0	26.0	26.0	11.0	26.0	26.0	17.0	17.0		17.0	17.0	
Total Split (s)	13.0	44.0	44.0	16.0	47.0	47.0	15.0	30.0		15.0	15.0	
Total Split (%)	14.4%	48.9%	48.9%	17.8%	52.2%	52.2%	16.7%	33.3%		16.7%	16.7%	
Maximum Green (s)	9.0	38.0	38.0	12.0	41.0	41.0	8.0	23.0		8.0	8.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	7.0	7.0		7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2	0.2	4.0	4.0		3.0	3.0	
Recall Mode	None	Max	Max	None	Max	Max	None	None		Max	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0				
Flash Dont Walk (s)		17.0	17.0		17.0	17.0		21.0				
Pedestrian Calls (#/hr)		0	0		0	0		0				
Act Effct Green (s)	53.7	44.6	44.6	51.3	41.2	41.2	8.0	17.4		8.9	8.9	
Actuated g/C Ratio	0.63	0.53	0.53	0.60	0.49	0.49	0.09	0.21		0.10	0.10	
v/c Ratio	0.82	0.55	0.02	0.30	0.83	0.15	0.17	0.32		0.50	0.37	
Control Delay	42.9	17.2	0.1	8.4	25.6	1.4	38.8	10.9		53.5	20.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	42.9	17.2	0.1	8.4	25.6	1.4	38.8	10.9		53.5	20.0	
LOS	D	B	A	A	C	A	D	B		D	B	
Approach Delay		21.9			22.3			19.0			34.5	
Approach LOS		C			C			B			C	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	84.8
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	22.5
Intersection LOS:	C
Intersection Capacity Utilization:	87.0%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 8: Toronto Premium Outlets/Eighth Line & Steeles Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	230	930	20	120	1360	135	55	135	65	85
v/c Ratio	0.82	0.55	0.02	0.30	0.83	0.15	0.17	0.32	0.50	0.37
Control Delay	42.9	17.2	0.1	8.4	25.6	1.4	38.8	10.9	53.5	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.9	17.2	0.1	8.4	25.6	1.4	38.8	10.9	53.5	20.0
Queue Length 50th (m)	24.7	64.1	0.0	8.0	114.6	0.0	4.8	4.1	11.6	3.4
Queue Length 95th (m)	#68.5	88.6	0.0	14.9	#153.8	4.7	10.7	18.3	#30.2	17.6
Internal Link Dist (m)		176.7			846.8			194.1		685.3
Turn Bay Length (m)	105.0		55.0	30.0		30.0			70.0	
Base Capacity (vph)	282	1695	935	488	1641	871	319	527	130	232
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.55	0.02	0.25	0.83	0.15	0.17	0.26	0.50	0.37

#### Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

2021 Total PM

## 8: Toronto Premium Outlets/Eighth Line & Steeles Avenue Premier Gateway Phase 1B Employment Area



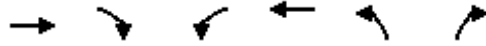
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	930	20	120	1360	135	55	30	105	65	20	65
Future Volume (vph)	230	930	20	120	1360	135	55	30	105	65	20	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0	6.0	4.0	6.0	6.0	7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.88		1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3223	1615	1770	3374	1599	3367	1653		1752	1657	
Flt Permitted	0.09	1.00	1.00	0.25	1.00	1.00	0.95	1.00		0.67	1.00	
Satd. Flow (perm)	170	3223	1615	464	3374	1599	3367	1653		1237	1657	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	230	930	20	120	1360	135	55	30	105	65	20	65
RTOR Reduction (vph)	0	0	10	0	0	71	0	81	0	0	58	0
Lane Group Flow (vph)	230	930	10	120	1360	64	55	54	0	65	27	0
Heavy Vehicles (%)	0%	12%	0%	2%	7%	1%	4%	0%	2%	3%	0%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Perm	NA	
Protected Phases	7	4		3	8		5	2				6
Permitted Phases	4		4	8		8				6		
Actuated Green, G (s)	53.7	44.6	44.6	48.7	42.1	42.1	4.5	20.4		8.9	8.9	
Effective Green, g (s)	53.7	44.6	44.6	48.7	42.1	42.1	4.5	20.4		8.9	8.9	
Actuated g/C Ratio	0.61	0.50	0.50	0.55	0.48	0.48	0.05	0.23		0.10	0.10	
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2	0.2	4.0	4.0		3.0	3.0	
Lane Grp Cap (vph)	270	1622	812	352	1603	759	171	380		124	166	
v/s Ratio Prot	c0.09	0.29		0.03	0.40		c0.02	0.03				0.02
v/s Ratio Perm	c0.43		0.01	0.16		0.04				c0.05		
v/c Ratio	0.85	0.57	0.01	0.34	0.85	0.08	0.32	0.14		0.52	0.16	
Uniform Delay, d1	21.2	15.4	11.0	10.1	20.4	12.7	40.6	27.1		37.8	36.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	21.9	1.5	0.0	0.6	5.8	0.2	1.5	0.2		14.9	2.1	
Delay (s)	43.1	16.8	11.0	10.7	26.2	12.9	42.1	27.4		52.8	38.5	
Level of Service	D	B	B	B	C	B	D	C		D	D	
Approach Delay (s)		21.9			24.0			31.6			44.7	
Approach LOS		C			C			C			D	

### Intersection Summary

HCM 2000 Control Delay	24.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	88.6	Sum of lost time (s)	24.0
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings  
 9: Eighth Line South & Steeles Avenue

2021 Total PM  
 Premier Gateway Phase 1B Employment Area



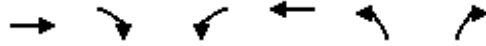
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	1070	5	0	1625	5	5
Future Volume (vph)	1070	5	0	1625	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	90.0		30.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.999					0.850
Flt Protected					0.950	
Satd. Flow (prot)	3273	0	1900	3406	1805	1346
Flt Permitted					0.950	
Satd. Flow (perm)	3273	0	1900	3406	1805	1346
Link Speed (k/h)	70			70	50	
Link Distance (m)	870.8			525.4	458.2	
Travel Time (s)	44.8			27.0	33.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	10%	50%	0%	6%	0%	20%
Adj. Flow (vph)	1070	5	0	1625	5	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1075	0	0	1625	5	5
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	54.9%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis  
 9: Eighth Line South & Steeles Avenue

2021 Total PM  
 Premier Gateway Phase 1B Employment Area

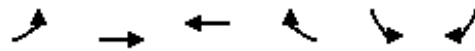


Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Traffic Volume (veh/h)	1070	5	0	1625	5	5	
Future Volume (Veh/h)	1070	5	0	1625	5	5	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly flow rate (vph)	1070	5	0	1625	5	5	
Pedestrians							
Lane Width (m)							
Walking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage veh							
Upstream signal (m)							
pX, platoon unblocked							
vC, conflicting volume			1075		1885	538	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol			1075		1885	538	
tC, single (s)			4.1		6.8	7.3	
tC, 2 stage (s)							
tF (s)			2.2		3.5	3.5	
p0 queue free %			100		92	99	
cM capacity (veh/h)			656		64	444	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	713	362	0	812	812	5	5
Volume Left	0	0	0	0	0	5	0
Volume Right	0	5	0	0	0	0	5
cSH	1700	1700	1700	1700	1700	64	444
Volume to Capacity	0.42	0.21	0.00	0.48	0.48	0.08	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	2.0	0.3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	66.2	13.2
Lane LOS						F	B
Approach Delay (s)	0.0		0.0			39.7	
Approach LOS						E	
Intersection Summary							
Average Delay			0.1				
Intersection Capacity Utilization			54.9%			ICU Level of Service A	
Analysis Period (min)			15				



Lanes, Volumes, Timings  
10: Steeles Avenue & Ninth Line

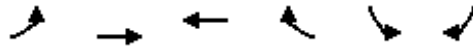
2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	105	995	1525	735	280	70
Future Volume (vph)	105	995	1525	735	280	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	65.0			75.0	90.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	100.0				40.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3252	3406	1615	3367	1524
Flt Permitted	0.097				0.950	
Satd. Flow (perm)	176	3252	3406	1615	3367	1524
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				735		70
Link Speed (k/h)		70	70		70	
Link Distance (m)		525.4	728.8		3120.2	
Travel Time (s)		27.0	37.5		160.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	11%	6%	0%	4%	6%
Adj. Flow (vph)	105	995	1525	735	280	70
Shared Lane Traffic (%)						
Lane Group Flow (vph)	105	995	1525	735	280	70
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		7.2	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (m)	2.0	10.0	10.0	2.0	2.0	2.0
Trailing Detector (m)	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
Detector 1 Size(m)	2.0	0.6	0.6	2.0	2.0	2.0
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	7.0	20.0	20.0	20.0	10.0	10.0

Lanes, Volumes, Timings  
10: Steeles Avenue & Ninth Line

2021 Total PM  
Premier Gateway Phase 1B Employment Area

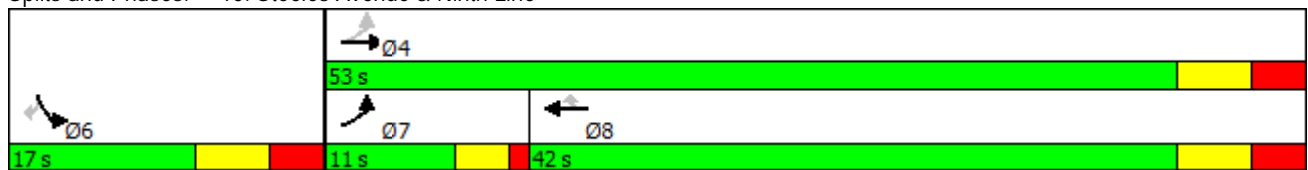


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Split (s)	11.0	27.0	27.0	27.0	17.0	17.0
Total Split (s)	11.0	53.0	42.0	42.0	17.0	17.0
Total Split (%)	15.7%	75.7%	60.0%	60.0%	24.3%	24.3%
Maximum Green (s)	7.0	46.0	35.0	35.0	10.0	10.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	0.2	0.2	0.2	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	Max
Act Effect Green (s)	49.0	46.0	37.2	37.2	10.0	10.0
Actuated g/C Ratio	0.70	0.66	0.53	0.53	0.14	0.14
v/c Ratio	0.38	0.47	0.84	0.61	0.58	0.25
Control Delay	8.5	6.8	20.8	3.4	33.5	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	6.8	20.8	3.4	33.5	10.3
LOS	A	A	C	A	C	B
Approach Delay	7.0		15.2		28.9	
Approach LOS	A		B		C	

Intersection Summary

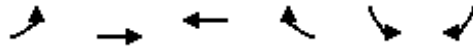
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Natural Cycle:	65
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	14.0
Intersection LOS:	B
Intersection Capacity Utilization	71.3%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 10: Steeles Avenue & Ninth Line



Queues  
10: Steeles Avenue & Ninth Line

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	105	995	1525	735	280	70
v/c Ratio	0.38	0.47	0.84	0.61	0.58	0.25
Control Delay	8.5	6.8	20.8	3.4	33.5	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	6.8	20.8	3.4	33.5	10.3
Queue Length 50th (m)	3.7	30.2	93.7	0.0	18.9	0.0
Queue Length 95th (m)	10.5	41.6	#144.5	16.0	30.4	10.4
Internal Link Dist (m)		501.4	704.8		3096.2	
Turn Bay Length (m)	65.0			75.0	90.0	
Base Capacity (vph)	277	2137	1810	1203	481	277
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.47	0.84	0.61	0.58	0.25

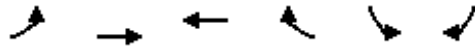
Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 10: Steeles Avenue & Ninth Line

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	105	995	1525	735	280	70
Future Volume (vph)	105	995	1525	735	280	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1719	3252	3406	1615	3367	1524
Flt Permitted	0.10	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	176	3252	3406	1615	3367	1524
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	105	995	1525	735	280	70
RTOR Reduction (vph)	0	0	0	349	0	60
Lane Group Flow (vph)	105	995	1525	386	280	10
Heavy Vehicles (%)	5%	11%	6%	0%	4%	6%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	46.8	46.8	37.2	37.2	10.0	10.0
Effective Green, g (s)	46.8	46.8	37.2	37.2	10.0	10.0
Actuated g/C Ratio	0.66	0.66	0.53	0.53	0.14	0.14
Clearance Time (s)	4.0	7.0	7.0	7.0	7.0	7.0
Vehicle Extension (s)	3.0	0.2	0.2	0.2	3.0	3.0
Lane Grp Cap (vph)	238	2149	1789	848	475	215
v/s Ratio Prot	0.03	c0.31	c0.45		c0.08	
v/s Ratio Perm	0.26			0.24		0.01
v/c Ratio	0.44	0.46	0.85	0.46	0.59	0.05
Uniform Delay, d1	9.8	5.9	14.4	10.5	28.5	26.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.7	5.4	1.8	5.3	0.4
Delay (s)	11.1	6.6	19.8	12.2	33.8	26.7
Level of Service	B	A	B	B	C	C
Approach Delay (s)		7.0	17.4		32.3	
Approach LOS		A	B		C	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			15.7		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.77			
Actuated Cycle Length (s)			70.8		Sum of lost time (s)	18.0
Intersection Capacity Utilization			71.3%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings  
11: Trafalgar Rd & Hornby Rd

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	80	5	5	1155	380	80
Future Volume (vph)	80	5	5	1155	380	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	100.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992				0.977	
Flt Protected	0.955					
Satd. Flow (prot)	1800	0	0	1863	1826	0
Flt Permitted	0.955					
Satd. Flow (perm)	1800	0	0	1863	1826	0
Link Speed (k/h)	60			80	80	
Link Distance (m)	54.4			135.9	215.8	
Travel Time (s)	3.3			6.1	9.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%
Adj. Flow (vph)	80	5	5	1155	380	80
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	0	0	1160	460	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	76.2% ICU Level of Service D
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 11: Trafalgar Rd & Hornby Rd

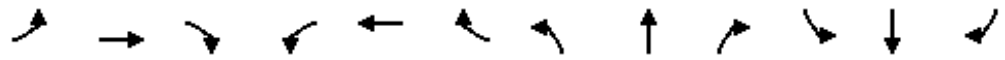
2021 Total PM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	80	5	5	1155	380	80
Future Volume (Veh/h)	80	5	5	1155	380	80
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	80	5	5	1155	380	80
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
				None	None	
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1585	420	380			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1585	420	380			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	33	99	100			
cM capacity (veh/h)	120	638	1190			
<b>Direction, Lane #</b>						
	EB 1	NB 1	SB 1			
Volume Total	85	1160	460			
Volume Left	80	5	0			
Volume Right	5	0	80			
cSH	126	1190	1700			
Volume to Capacity	0.67	0.00	0.27			
Queue Length 95th (m)	29.1	0.1	0.0			
Control Delay (s)	78.8	0.1	0.0			
Lane LOS	F	A				
Approach Delay (s)	78.8	0.1	0.0			
Approach LOS	F					
<b>Intersection Summary</b>						
Average Delay			4.0			
Intersection Capacity Utilization			76.2%	ICU Level of Service	D	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Fifth Line & 5 Side Road

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	40	210	5	15	440	20	10	40	25	5	30	15
Future Volume (vph)	40	210	5	15	440	20	10	40	25	5	30	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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
Fr <sub>t</sub>		0.997			0.994			0.955			0.959	
Fl <sub>t</sub> Protected		0.992			0.998			0.993			0.995	
Satd. Flow (prot)	0	1849	0	0	1834	0	0	1734	0	0	1725	0
Fl <sub>t</sub> Permitted		0.992			0.998			0.993			0.995	
Satd. Flow (perm)	0	1849	0	0	1834	0	0	1734	0	0	1725	0
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		320.1			648.3			2473.7			211.2	
Travel Time (s)		19.2			38.9			127.2			10.9	
Peak Hour 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
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	17%	0%	5%	0%	0%	17%
Adj. Flow (vph)	40	210	5	15	440	20	10	40	25	5	30	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	255	0	0	475	0	0	75	0	0	50	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 42.9%

ICU Level of Service A

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 12: Fifth Line & 5 Side Road

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	40	210	5	15	440	20	10	40	25	5	30	15
Future Volume (Veh/h)	40	210	5	15	440	20	10	40	25	5	30	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	40	210	5	15	440	20	10	40	25	5	30	15
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	460			215			802	782	212	818	775	450
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	460			215			802	782	212	818	775	450
tC, single (s)	4.1			4.1			7.3	6.5	6.2	7.1	6.5	6.4
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.7	4.0	3.3	3.5	4.0	3.5
p0 queue free %	96			99			96	87	97	98	91	97
cM capacity (veh/h)	1112			1367			248	313	820	251	316	579
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	255	475	75	50								
Volume Left	40	15	10	5								
Volume Right	5	20	25	15								
cSH	1112	1367	378	355								
Volume to Capacity	0.04	0.01	0.20	0.14								
Queue Length 95th (m)	0.9	0.3	5.8	3.9								
Control Delay (s)	1.6	0.4	16.9	16.8								
Lane LOS	A	A	C	C								
Approach Delay (s)	1.6	0.4	16.9	16.8								
Approach LOS			C	C								
<b>Intersection Summary</b>												
Average Delay			3.1									
Intersection Capacity Utilization			42.9%		ICU Level of Service				A			
Analysis Period (min)			15									



Lanes, Volumes, Timings  
13: Sixth Line & 5 Side Road

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	5	205	5	15	490	20	10	30	15	10	15	10
Future Volume (vph)	5	205	5	15	490	20	10	30	15	10	15	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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
Frt		0.997			0.995			0.963			0.961	
Flt Protected		0.999			0.999			0.991			0.986	
Satd. Flow (prot)	0	1834	0	0	1783	0	0	1733	0	0	1750	0
Flt Permitted		0.999			0.999			0.991			0.986	
Satd. Flow (perm)	0	1834	0	0	1783	0	0	1733	0	0	1750	0
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		620.4			640.8			3066.1			190.9	
Travel Time (s)		37.2			38.4			157.7			9.8	
Peak Hour 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
Heavy Vehicles (%)	14%	3%	1%	0%	5%	33%	0%	0%	17%	10%	0%	0%
Adj. Flow (vph)	5	205	5	15	490	20	10	30	15	10	15	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	215	0	0	525	0	0	55	0	0	35	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			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 44.5%

ICU Level of Service A

Analysis Period (min) 15

# HCM Unsignalized Intersection Capacity Analysis

## 13: Sixth Line & 5 Side Road

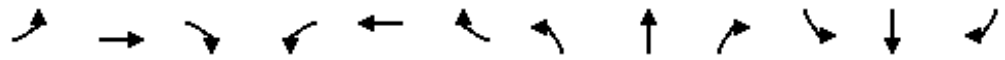
2021 Total PM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	5	205	5	15	490	20	10	30	15	10	15	10
Future Volume (Veh/h)	5	205	5	15	490	20	10	30	15	10	15	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	5	205	5	15	490	20	10	30	15	10	15	10
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	510			210			765	758	208	778	750	500
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	510			210			765	758	208	778	750	500
tC, single (s)	4.2			4.1			7.1	6.5	6.4	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.5	3.6	4.0	3.3
p0 queue free %	99			99			97	91	98	96	96	98
cM capacity (veh/h)	996			1373			302	334	796	275	337	575
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	215	525	55	35								
Volume Left	5	15	10	10								
Volume Right	5	20	15	10								
cSH	996	1373	388	356								
Volume to Capacity	0.01	0.01	0.14	0.10								
Queue Length 95th (m)	0.1	0.3	3.9	2.6								
Control Delay (s)	0.2	0.3	15.8	16.2								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.2	0.3	15.8	16.2								
Approach LOS			C	C								
<b>Intersection Summary</b>												
Average Delay			2.0									
Intersection Capacity Utilization			44.5%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings  
14: Trafalgar Rd & 5 Side Road

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	155	45	50	355	40	100	1225	65	10	555	65
Future Volume (vph)	50	155	45	50	355	40	100	1225	65	10	555	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		40.0	40.0		0.0	40.0		0.0	50.0		20.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	80.0			80.0			100.0			100.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.985			0.992				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	1863	1482	1805	1872	0	1770	3450	0	1583	3438	1509
Flt Permitted	0.323			0.659			0.364			0.123		
Satd. Flow (perm)	563	1863	1482	1252	1872	0	678	3450	0	205	3438	1509
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			90		8			7				95
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		617.5			665.2			264.1			262.0	
Travel Time (s)		37.1			39.9			11.9			11.8	
Peak Hour 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
Heavy Vehicles (%)	9%	2%	9%	0%	0%	0%	2%	4%	0%	14%	5%	7%
Adj. Flow (vph)	50	155	45	50	355	40	100	1225	65	10	555	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	155	45	50	395	0	100	1290	0	10	555	65
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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	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	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	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	0.0
Detector 1 Queue (s)	0.0	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	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	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0		7.0	25.0		7.0	25.0	25.0

Lanes, Volumes, Timings  
14: Trafalgar Rd & 5 Side Road

2021 Total PM  
Premier Gateway Phase 1B Employment Area

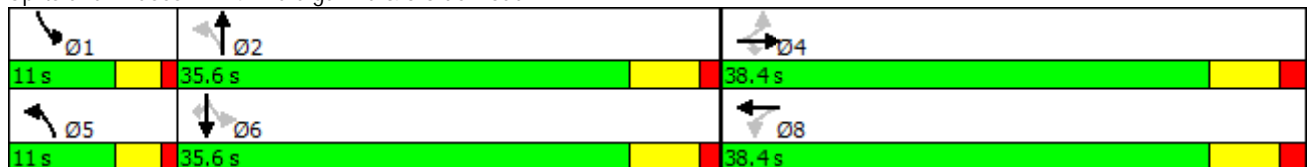


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	38.4	38.4	38.4	21.4	21.4		11.0	31.0		11.0	31.0	31.0
Total Split (s)	38.4	38.4	38.4	38.4	38.4		11.0	35.6		11.0	35.6	35.6
Total Split (%)	45.2%	45.2%	45.2%	45.2%	45.2%		12.9%	41.9%		12.9%	41.9%	41.9%
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0		7.0	29.6		7.0	29.6	29.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		3.0	4.6		3.0	4.6	4.6
All-Red Time (s)	1.8	1.8	1.8	1.8	1.8		1.0	1.4		1.0	1.4	1.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	6.4		4.0	6.0		4.0	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		3.0	5.0		3.0	5.0	5.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Dont Walk (s)	25.0	25.0	25.0	25.0	25.0			20.0			20.0	20.0
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	0
Act Effct Green (s)	22.7	22.7	22.7	22.7	22.7		39.9	36.6		37.5	30.2	30.2
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31		0.54	0.50		0.51	0.41	0.41
v/c Ratio	0.29	0.27	0.09	0.13	0.68		0.21	0.75		0.04	0.40	0.10
Control Delay	24.6	20.8	1.1	19.4	28.7		10.6	21.3		10.1	18.4	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	24.6	20.8	1.1	19.4	28.7		10.6	21.3		10.1	18.4	2.4
LOS	C	C	A	B	C		B	C		B	B	A
Approach Delay		18.0			27.6			20.5			16.6	
Approach LOS		B			C			C			B	

Intersection Summary

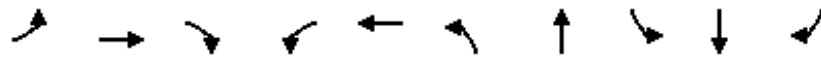
Area Type:	Other
Cycle Length:	85
Actuated Cycle Length:	73.9
Natural Cycle:	85
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	20.5
Intersection LOS:	C
Intersection Capacity Utilization	94.4%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 14: Trafalgar Rd & 5 Side Road



Queues  
14: Trafalgar Rd & 5 Side Road

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	50	155	45	50	395	100	1290	10	555	65
v/c Ratio	0.29	0.27	0.09	0.13	0.68	0.21	0.75	0.04	0.40	0.10
Control Delay	24.6	20.8	1.1	19.4	28.7	10.6	21.3	10.1	18.4	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	20.8	1.1	19.4	28.7	10.6	21.3	10.1	18.4	2.4
Queue Length 50th (m)	5.7	17.7	0.0	5.5	51.1	6.5	70.5	0.6	31.3	0.0
Queue Length 95th (m)	14.8	31.5	1.6	13.0	79.3	16.8	#172.5	3.3	53.2	4.6
Internal Link Dist (m)		593.5			641.2		240.1		238.0	
Turn Bay Length (m)	40.0		40.0	40.0		40.0		50.0		20.0
Base Capacity (vph)	248	822	704	552	830	471	1713	237	1403	672
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.19	0.06	0.09	0.48	0.21	0.75	0.04	0.40	0.10

Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 14: Trafalgar Rd & 5 Side Road

2021 Total PM  
Premier Gateway Phase 1B Employment Area



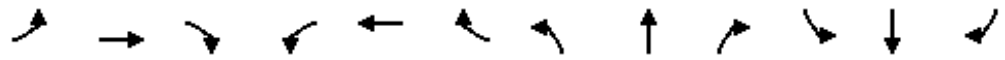
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	155	45	50	355	40	100	1225	65	10	555	65
Future Volume (vph)	50	155	45	50	355	40	100	1225	65	10	555	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	6.4	6.4	6.4		4.0	6.0		4.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	1.00	0.85
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1656	1863	1482	1805	1871		1770	3452		1583	3438	1509
Fl <sub>t</sub> Permitted	0.32	1.00	1.00	0.66	1.00		0.36	1.00		0.12	1.00	1.00
Satd. Flow (perm)	563	1863	1482	1251	1871		678	3452		205	3438	1509
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	155	45	50	355	40	100	1225	65	10	555	65
RTOR Reduction (vph)	0	0	32	0	6	0	0	4	0	0	0	38
Lane Group Flow (vph)	50	155	13	50	389	0	100	1286	0	10	555	27
Heavy Vehicles (%)	9%	2%	9%	0%	0%	0%	2%	4%	0%	14%	5%	7%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6
Actuated Green, G (s)	22.7	22.7	22.7	22.7	22.7		41.8	36.6		33.7	32.5	32.5
Effective Green, g (s)	22.7	22.7	22.7	22.7	22.7		41.8	36.6		33.7	32.5	32.5
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30		0.54	0.48		0.44	0.42	0.42
Clearance Time (s)	6.4	6.4	6.4	6.4	6.4		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		3.0	5.0		3.0	5.0	5.0
Lane Grp Cap (vph)	166	549	437	369	552		443	1642		111	1452	637
v/s Ratio Prot		0.08			c0.21		c0.02	c0.37		0.00	0.16	
v/s Ratio Perm	0.09		0.01	0.04			0.11			0.04		0.02
v/c Ratio	0.30	0.28	0.03	0.14	0.71		0.23	0.78		0.09	0.38	0.04
Uniform Delay, d <sub>1</sub>	21.0	20.8	19.3	19.9	24.1		8.8	16.8		13.6	15.3	13.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d <sub>2</sub>	2.1	0.6	0.1	0.4	5.1		0.3	3.8		0.4	0.8	0.1
Delay (s)	23.1	21.4	19.3	20.2	29.2		9.1	20.7		13.9	16.1	13.2
Level of Service	C	C	B	C	C		A	C		B	B	B
Approach Delay (s)		21.4			28.2			19.8			15.7	
Approach LOS		C			C			B			B	

### Intersection Summary

HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	76.9	Sum of lost time (s)	16.4
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings  
15: Eighth Line & 5 Side Road

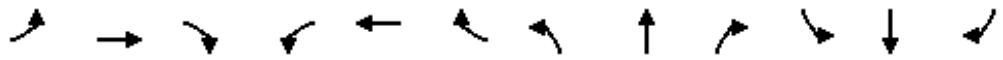
2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	55	215	5	25	415	75	5	360	55	20	110	25
Future Volume (vph)	55	215	5	25	415	75	5	360	55	20	110	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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
Fr <sub>t</sub>		0.998			0.980			0.982			0.978	
Fl <sub>t</sub> Protected		0.990			0.998			0.999			0.994	
Satd. Flow (prot)	0	1823	0	0	1831	0	0	1836	0	0	1835	0
Fl <sub>t</sub> Permitted		0.847			0.976			0.997			0.931	
Satd. Flow (perm)	0	1560	0	0	1791	0	0	1832	0	0	1719	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			23			20			25	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		643.4			668.7			2377.1			454.5	
Travel Time (s)		38.6			40.1			122.3			23.4	
Peak Hour 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
Heavy Vehicles (%)	5%	2%	22%	11%	1%	1%	0%	1%	5%	0%	0%	4%
Adj. Flow (vph)	55	215	5	25	415	75	5	360	55	20	110	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	275	0	0	515	0	0	420	0	0	155	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	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	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
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	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	

Lanes, Volumes, Timings  
15: Eighth Line & 5 Side Road

2021 Total PM  
Premier Gateway Phase 1B Employment Area

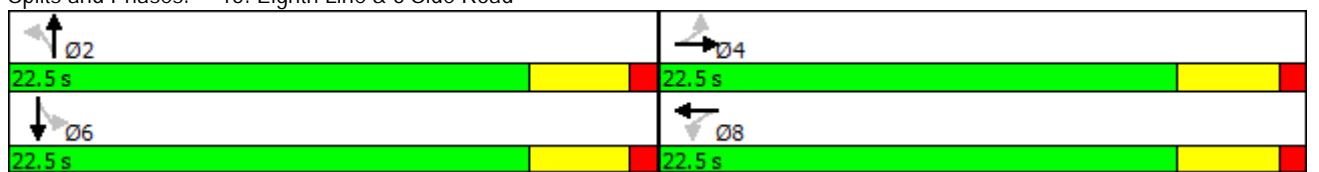


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		15.3			15.3			18.1			18.1	
Actuated g/C Ratio		0.36			0.36			0.43			0.43	
v/c Ratio		0.49			0.78			0.53			0.21	
Control Delay		13.6			21.3			12.4			8.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		13.6			21.3			12.4			8.3	
LOS		B			C			B			A	
Approach Delay		13.6			21.3			12.4			8.3	
Approach LOS		B			C			B			A	

Intersection Summary

Area Type:	Other
Cycle Length:	45
Actuated Cycle Length:	42.5
Natural Cycle:	45
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	15.5
Intersection LOS:	B
Intersection Capacity Utilization:	63.8%
ICU Level of Service:	B
Analysis Period (min):	15

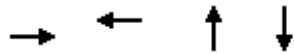
Splits and Phases: 15: Eighth Line & 5 Side Road





Queues  
15: Eighth Line & 5 Side Road

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	275	515	420	155
v/c Ratio	0.49	0.78	0.53	0.21
Control Delay	13.6	21.3	12.4	8.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.6	21.3	12.4	8.3
Queue Length 50th (m)	15.4	31.9	23.1	6.3
Queue Length 95th (m)	31.0	#65.8	45.1	15.6
Internal Link Dist (m)	619.4	644.7	2353.1	430.5
Turn Bay Length (m)				
Base Capacity (vph)	665	776	791	746
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.41	0.66	0.53	0.21

Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 15: Eighth Line & 5 Side Road

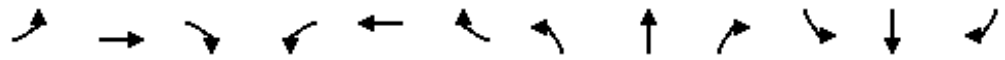
2021 Total PM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	55	215	5	25	415	75	5	360	55	20	110	25
Future Volume (vph)	55	215	5	25	415	75	5	360	55	20	110	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.98			0.98			0.98	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1823			1831			1838			1835	
Flt Permitted		0.85			0.98			1.00			0.93	
Satd. Flow (perm)		1560			1791			1833			1720	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	55	215	5	25	415	75	5	360	55	20	110	25
RTOR Reduction (vph)	0	1	0	0	15	0	0	11	0	0	14	0
Lane Group Flow (vph)	0	274	0	0	500	0	0	409	0	0	141	0
Heavy Vehicles (%)	5%	2%	22%	11%	1%	1%	0%	1%	5%	0%	0%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		15.3			15.3			18.1			18.1	
Effective Green, g (s)		15.3			15.3			18.1			18.1	
Actuated g/C Ratio		0.36			0.36			0.43			0.43	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		562			646			782			734	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.28			c0.22			0.08	
v/c Ratio		0.49			0.77			0.52			0.19	
Uniform Delay, d1		10.5			12.0			9.0			7.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.7			5.8			2.5			0.6	
Delay (s)		11.2			17.8			11.5			8.2	
Level of Service		B			B			B			A	
Approach Delay (s)		11.2			17.8			11.5			8.2	
Approach LOS		B			B			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay		13.4			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.64										
Actuated Cycle Length (s)		42.4			Sum of lost time (s)			9.0				
Intersection Capacity Utilization		63.8%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

Lanes, Volumes, Timings  
16: Ninth Line & 5 Side Road

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	225	15	10	475	235	15	790	10	30	325	25
Future Volume (vph)	30	225	15	10	475	235	15	790	10	30	325	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	40.0		40.0	40.0		0.0	40.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.991				0.850		0.998			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1883	0	1805	1900	1615	1805	3601	0	1805	3537	0
Flt Permitted	0.320			0.610			0.542			0.306		
Satd. Flow (perm)	590	1883	0	1159	1900	1615	1030	3601	0	581	3537	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				79		3			19	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		580.9			458.3			3120.2			329.9	
Travel Time (s)		34.9			27.5			160.5			17.0	
Peak Hour 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
Heavy Vehicles (%)	3%	0%	0%	0%	0%	0%	0%	0%	3%	0%	1%	0%
Adj. Flow (vph)	30	225	15	10	475	235	15	790	10	30	325	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	240	0	10	475	235	15	800	0	30	350	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		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	2.0	2.0	0.6		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	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	20.0	20.0		20.0	20.0	

Lanes, Volumes, Timings  
16: Ninth Line & 5 Side Road

2021 Total PM  
Premier Gateway Phase 1B Employment Area

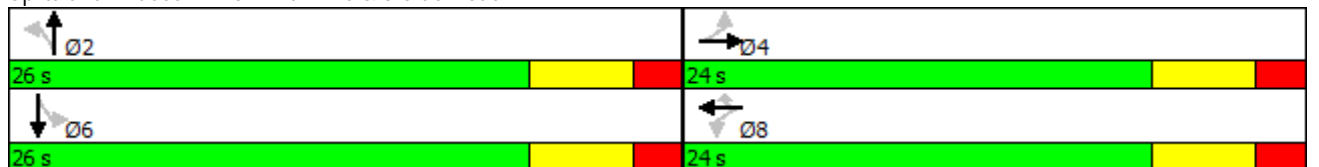


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	24.0	24.0		24.0	24.0	24.0	26.0	26.0		26.0	26.0	
Total Split (s)	24.0	24.0		24.0	24.0	24.0	26.0	26.0		26.0	26.0	
Total Split (%)	48.0%	48.0%		48.0%	48.0%	48.0%	52.0%	52.0%		52.0%	52.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0	18.0	20.0	20.0		20.0	20.0	
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)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.5	3.5		3.5	3.5	3.5	5.5	5.5		5.5	5.5	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	15.9	15.9		15.9	15.9	15.9	20.1	20.1		20.1	20.1	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33	0.42	0.42		0.42	0.42	
v/c Ratio	0.15	0.38		0.03	0.76	0.40	0.03	0.53		0.12	0.23	
Control Delay	13.3	13.7		10.6	23.4	10.3	9.5	12.5		11.2	9.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	13.3	13.7		10.6	23.4	10.3	9.5	12.5		11.2	9.5	
LOS	B	B		B	C	B	A	B		B	A	
Approach Delay		13.7			18.9			12.4			9.7	
Approach LOS		B			B			B			A	

Intersection Summary

Area Type:	Other
Cycle Length:	50
Actuated Cycle Length:	48
Natural Cycle:	50
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	14.2
Intersection Capacity Utilization	59.9%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	B

Splits and Phases: 16: Ninth Line & 5 Side Road



Queues

2021 Total PM

16: Ninth Line & 5 Side Road

Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	30	240	10	475	235	15	800	30	350
v/c Ratio	0.15	0.38	0.03	0.76	0.40	0.03	0.53	0.12	0.23
Control Delay	13.3	13.7	10.6	23.4	10.3	9.5	12.5	11.2	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.3	13.7	10.6	23.4	10.3	9.5	12.5	11.2	9.5
Queue Length 50th (m)	1.8	15.3	0.6	36.6	10.0	0.8	28.7	1.7	10.2
Queue Length 95th (m)	6.6	29.6	3.0	#66.8	23.6	3.5	43.0	6.1	17.5
Internal Link Dist (m)		556.9		434.3			3096.2		305.9
Turn Bay Length (m)	40.0		40.0		40.0	40.0		40.0	
Base Capacity (vph)	222	714	436	715	657	431	1508	243	1491
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.34	0.02	0.66	0.36	0.03	0.53	0.12	0.23

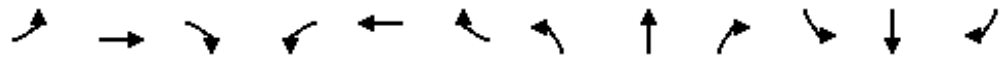
Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 16: Ninth Line & 5 Side Road

2021 Total PM  
Premier Gateway Phase 1B Employment Area



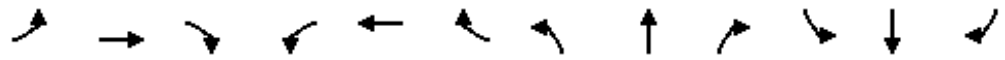
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	225	15	10	475	235	15	790	10	30	325	25
Future Volume (vph)	30	225	15	10	475	235	15	790	10	30	325	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1882		1805	1900	1615	1805	3602		1805	3538	
Flt Permitted	0.32	1.00		0.61	1.00	1.00	0.54	1.00		0.31	1.00	
Satd. Flow (perm)	590	1882		1158	1900	1615	1030	3602		582	3538	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	225	15	10	475	235	15	790	10	30	325	25
RTOR Reduction (vph)	0	5	0	0	0	53	0	2	0	0	11	0
Lane Group Flow (vph)	30	235	0	10	475	182	15	798	0	30	339	0
Heavy Vehicles (%)	3%	0%	0%	0%	0%	0%	0%	0%	3%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	15.8	15.8		15.8	15.8	15.8	20.1	20.1		20.1	20.1	
Effective Green, g (s)	15.8	15.8		15.8	15.8	15.8	20.1	20.1		20.1	20.1	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33	0.42	0.42		0.42	0.42	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.5	3.5	3.5	5.5	5.5		5.5	5.5	
Lane Grp Cap (vph)	194	620		381	626	532	432	1511		244	1484	
v/s Ratio Prot		0.12			c0.25			c0.22			0.10	
v/s Ratio Perm	0.05			0.01		0.11	0.01			0.05		
v/c Ratio	0.15	0.38		0.03	0.76	0.34	0.03	0.53		0.12	0.23	
Uniform Delay, d1	11.3	12.3		10.8	14.3	12.1	8.2	10.4		8.5	8.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.5		0.0	5.4	0.5	0.1	1.3		1.0	0.4	
Delay (s)	11.8	12.7		10.9	19.8	12.6	8.3	11.7		9.5	9.3	
Level of Service	B	B		B	B	B	A	B		A	A	
Approach Delay (s)		12.6			17.3			11.6			9.3	
Approach LOS		B			B			B			A	

### Intersection Summary

HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	47.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings  
17: "Street C"/"Street B" & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1085	45	160	1150	10	210	0	530	15	0	5
Future Volume (vph)	5	1085	45	160	1150	10	210	0	530	15	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		30.0	60.0		30.0	30.0		100.0	30.0		0.0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3034	1583	3433	3282	1583	1770	1863	1583	1770	1583	0
Flt Permitted	0.247			0.950			0.754			0.757		
Satd. Flow (perm)	460	3034	1583	3433	3282	1583	1405	1863	1583	1410	1583	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			87			33			237		109	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		505.6			374.2			202.7			275.4	
Travel Time (s)		30.3			22.5			14.6			19.8	
Peak Hour 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
Heavy Vehicles (%)	2%	19%	2%	2%	10%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	5	1085	45	160	1150	10	210	0	530	15	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1085	45	160	1150	10	210	0	530	15	5	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)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	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	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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	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	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	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	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	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	
Turn Type	Perm	NA	Perm	Prot	NA	Perm	Perm		Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4			8	2		2	6		
Detector Phase	4	4	4	3	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0	20.0	10.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	

Lanes, Volumes, Timings  
17: "Street C"/"Street B" & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area

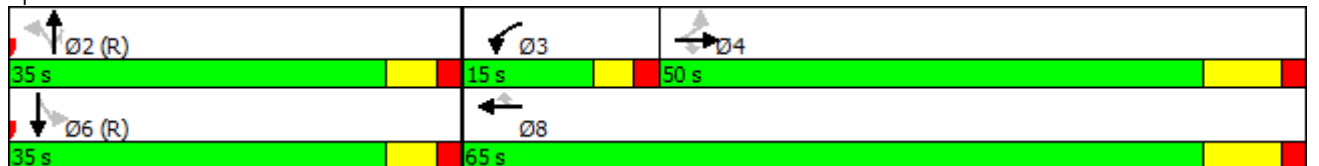


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	28.0	28.0	28.0	15.0	28.0	28.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	50.0	50.0	50.0	15.0	65.0	65.0	35.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	50.0%	50.0%	50.0%	15.0%	65.0%	65.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Maximum Green (s)	42.0	42.0	42.0	10.0	57.0	57.0	29.0	29.0	29.0	29.0	29.0	29.0
Yellow Time (s)	6.0	6.0	6.0	3.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	5.0	8.0	8.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0	0	0
Act Effect Green (s)	40.0	40.0	40.0	10.0	55.0	55.0	31.0		31.0	31.0	31.0	31.0
Actuated g/C Ratio	0.40	0.40	0.40	0.10	0.55	0.55	0.31		0.31	0.31	0.31	0.31
v/c Ratio	0.03	0.89	0.07	0.47	0.64	0.01	0.48		0.81	0.03	0.01	0.01
Control Delay	17.8	38.5	0.9	47.3	17.3	0.2	33.4		29.2	25.9	0.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	17.8	38.5	0.9	47.3	17.3	0.2	33.4		29.2	25.9	0.0	0.0
LOS	B	D	A	D	B	A	C		C	C	A	A
Approach Delay		36.9			20.8			30.4				19.4
Approach LOS		D			C			C				B

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	28.7
Intersection LOS:	C
Intersection Capacity Utilization	87.8%
ICU Level of Service	E
Analysis Period (min)	15

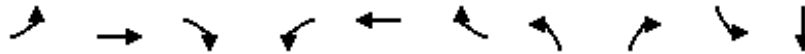
Splits and Phases: 17: "Street C"/"Street B" & Steeles Avenue





Queues  
17: "Street C"/"Street B" & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBT
Lane Group Flow (vph)	5	1085	45	160	1150	10	210	530	15	5
v/c Ratio	0.03	0.89	0.07	0.47	0.64	0.01	0.48	0.81	0.03	0.01
Control Delay	17.8	38.5	0.9	47.3	17.3	0.2	33.4	29.2	25.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	38.5	0.9	47.3	17.3	0.2	33.4	29.2	25.9	0.0
Queue Length 50th (m)	0.6	102.7	0.0	16.1	76.5	0.0	35.7	58.9	2.2	0.0
Queue Length 95th (m)	2.9	132.7	1.5	26.7	97.6	0.3	59.4	#119.9	7.2	0.0
Internal Link Dist (m)		481.6			350.2					251.4
Turn Bay Length (m)	30.0		30.0	60.0		30.0	30.0	100.0	30.0	
Base Capacity (vph)	193	1274	715	343	1870	916	435	653	436	565
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.85	0.06	0.47	0.61	0.01	0.48	0.81	0.03	0.01

Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis

## 17: "Street C"/"Street B" & Steeles Avenue

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1085	45	160	1150	10	210	0	530	15	0	5
Future Volume (vph)	5	1085	45	160	1150	10	210	0	530	15	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0	8.0	5.0	8.0	8.0	6.0		6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00		1.00	1.00	1.00	
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00	0.85	
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00	
Satd. Flow (prot)	1770	3034	1583	3433	3282	1583	1770		1583	1770	1583	
Fl <sub>t</sub> Permitted	0.25	1.00	1.00	0.95	1.00	1.00	0.75		1.00	0.76	1.00	
Satd. Flow (perm)	460	3034	1583	3433	3282	1583	1405		1583	1410	1583	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	5	1085	45	160	1150	10	210	0	530	15	0	5
RTOR Reduction (vph)	0	0	27	0	0	5	0	0	164	0	3	0
Lane Group Flow (vph)	5	1085	18	160	1150	6	210	0	366	15	2	0
Heavy Vehicles (%)	2%	19%	2%	2%	10%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA	Perm	Prot	NA	Perm	Perm		Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4			8	2		2	6		
Actuated Green, G (s)	40.0	40.0	40.0	10.0	55.0	55.0	31.0		31.0	31.0	31.0	
Effective Green, g (s)	40.0	40.0	40.0	10.0	55.0	55.0	31.0		31.0	31.0	31.0	
Actuated g/C Ratio	0.40	0.40	0.40	0.10	0.55	0.55	0.31		0.31	0.31	0.31	
Clearance Time (s)	8.0	8.0	8.0	5.0	8.0	8.0	6.0		6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	184	1213	633	343	1805	870	435		490	437	490	
v/s Ratio Prot		c0.36		0.05	c0.35							0.00
v/s Ratio Perm	0.01		0.01			0.00	0.15		c0.23	0.01		
v/c Ratio	0.03	0.89	0.03	0.47	0.64	0.01	0.48		0.75	0.03	0.00	
Uniform Delay, d <sub>1</sub>	18.2	28.0	18.2	42.5	15.6	10.2	28.0		31.0	24.1	23.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d <sub>2</sub>	0.1	8.8	0.0	1.0	0.7	0.0	3.8		10.0	0.1	0.0	
Delay (s)	18.3	36.8	18.2	43.5	16.3	10.2	31.8		41.0	24.2	23.8	
Level of Service	B	D	B	D	B	B	C		D	C	C	
Approach Delay (s)		36.0			19.6			38.4			24.1	
Approach LOS		D			B			D			C	

### Intersection Summary

HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings  
18: Hornby Road & "Street A"

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	0	0	45	70	10
Future Volume (vph)	40	0	0	45	70	10
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>						0.983
Fl <sub>t</sub> Protected	0.950					
Satd. Flow (prot)	1770	0	0	1863	1831	0
Fl <sub>t</sub> Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1863	1831	0
Link Speed (k/h)	50			60	60	
Link Distance (m)	360.3			1118.8	104.9	
Travel Time (s)	25.9			67.1	6.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	0	0	45	70	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	0	0	45	80	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Yield			Yield	Yield	

Intersection Summary

Area Type:	Other
Control Type:	Roundabout
Intersection Capacity Utilization	14.3%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 18: Hornby Road & "Street A"

2021 Total PM  
 Premier Gateway Phase 1B Employment Area



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Right Turn Channelized						
Traffic Volume (veh/h)	40	0	0	45	70	10
Future Volume (veh/h)	40	0	0	45	70	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	40	0	0	45	70	10
Approach Volume (veh/h)	40			45	80	
Crossing Volume (veh/h)	70			40	0	
High Capacity (veh/h)	1311			1342	1385	
High v/c (veh/h)	0.03			0.03	0.06	
Low Capacity (veh/h)	1094			1123	1161	
Low v/c (veh/h)	0.04			0.04	0.07	
<b>Intersection Summary</b>						
Maximum v/c High			0.06			
Maximum v/c Low			0.07			
Intersection Capacity Utilization			14.3%		ICU Level of Service	A

Lanes, Volumes, Timings  
19: Trafalgar Road & "Street B"

2021 Total PM  
Premier Gateway Phase 1B Employment Area



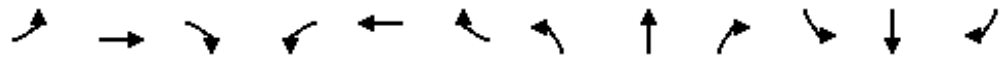
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (vph)	15	0	20	20	0	55	25	1120	10	15	425	10
Future Volume (vph)	15	0	20	20	0	55	25	1120	10	15	425	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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
Frt		0.923			0.901			0.999			0.997	
Flt Protected		0.979			0.987		0.950			0.950		
Satd. Flow (prot)	0	1683	0	0	1657	0	1770	1808	0	1770	1805	0
Flt Permitted		0.979			0.987		0.950			0.950		
Satd. Flow (perm)	0	1683	0	0	1657	0	1770	1808	0	1770	1805	0
Link Speed (k/h)		50			50			80			80	
Link Distance (m)		251.6			769.0			201.0			93.6	
Travel Time (s)		18.1			55.4			9.0			4.2	
Peak Hour 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
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Adj. Flow (vph)	15	0	20	20	0	55	25	1120	10	15	425	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	35	0	0	75	0	25	1130	0	15	435	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			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	71.3%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 19: Trafalgar Road & "Street B"

2021 Total PM  
 Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↖		↗	↖	
Traffic Volume (veh/h)	15	0	20	20	0	55	25	1120	10	15	425	10
Future Volume (Veh/h)	15	0	20	20	0	55	25	1120	10	15	425	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour 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
Hourly flow rate (vph)	15	0	20	20	0	55	25	1120	10	15	425	10
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1685	1640	430	1650	1640	1125	435			1130		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1685	1640	430	1650	1640	1125	435			1130		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	73	100	97	73	100	78	98			98		
cM capacity (veh/h)	56	96	625	74	96	250	1125			618		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	35	75	25	1130	15	435						
Volume Left	15	20	25	0	15	0						
Volume Right	20	55	0	10	0	10						
cSH	117	152	1125	1700	618	1700						
Volume to Capacity	0.30	0.49	0.02	0.66	0.02	0.26						
Queue Length 95th (m)	9.2	18.7	0.5	0.0	0.6	0.0						
Control Delay (s)	48.5	49.6	8.3	0.0	11.0	0.0						
Lane LOS	E	E	A		B							
Approach Delay (s)	48.5	49.6	0.2		0.4							
Approach LOS	E	E										
<b>Intersection Summary</b>												
Average Delay			3.4									
Intersection Capacity Utilization			71.3%		ICU Level of Service					C		
Analysis Period (min)			15									

Lanes, Volumes, Timings  
20: Eighth Line & "Street B"

2021 Total PM  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	25	30	15	470	150	10
Future Volume (vph)	25	30	15	470	150	10
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>	0.926				0.992	
Fl <sub>t</sub> Protected	0.978			0.998		
Satd. Flow (prot)	1687	0	0	1859	1848	0
Fl <sub>t</sub> Permitted	0.978			0.998		
Satd. Flow (perm)	1687	0	0	1859	1848	0
Link Speed (k/h)	50			70	70	
Link Distance (m)	769.0			709.3	2377.1	
Travel Time (s)	55.4			36.5	122.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	30	15	470	150	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	0	485	160	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	46.8%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 20: Eighth Line & "Street B"

2021 Total PM  
 Premier Gateway Phase 1B Employment Area



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	30	15	470	150	10
Future Volume (Veh/h)	25	30	15	470	150	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	25	30	15	470	150	10
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	655	155	160			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	655	155	160			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	97	99			
cM capacity (veh/h)	426	891	1419			
<b>Direction, Lane #</b>						
	EB 1	NB 1	SB 1			
Volume Total	55	485	160			
Volume Left	25	15	0			
Volume Right	30	0	10			
cSH	596	1419	1700			
Volume to Capacity	0.09	0.01	0.09			
Queue Length 95th (m)	2.4	0.3	0.0			
Control Delay (s)	11.7	0.3	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.7	0.3	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			1.2			
Intersection Capacity Utilization			46.8%	ICU Level of Service	A	
Analysis Period (min)			15			