

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

Existing 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)	135	727	51	16	420	37	9	0	5	20	6	63
Future Volume (vph)	135	727	51	16	420	37	9	0	5	20	6	63
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		0.988			0.850				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	2959	1524	1444	2606	0	1480	1154	0	1289	1900	1468
Flt Permitted	0.489			0.375			0.754			0.754		
Satd. Flow (perm)	868	2959	1524	570	2606	0	1174	1154	0	1023	1900	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51		23			254				68
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)	135	727	51	16	420	37	9	0	5	20	6	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	727	51	16	457	0	9	5	0	20	6	63
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)	60.0	60.0	60.0	60.0	60.0		20.0	20.0		20.0	20.0	20.0
Total Split (%)	75.0%	75.0%	75.0%	75.0%	75.0%		25.0%	25.0%		25.0%	25.0%	25.0%
Maximum Green (s)	52.0	52.0	52.0	52.0	52.0		14.0	14.0		14.0	14.0	14.0
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)	62.2	62.2	62.2	62.2	62.2		10.1	10.1		10.1	10.1	10.1
Actuated g/C Ratio	0.77	0.77	0.77	0.77	0.77		0.12	0.12		0.12	0.12	0.12
v/c Ratio	0.20	0.32	0.04	0.04	0.23		0.06	0.01		0.16	0.03	0.26
Control Delay	5.0	4.6	1.4	4.1	4.0		31.0	0.0		34.0	30.0	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	5.0	4.6	1.4	4.1	4.0		31.0	0.0		34.0	30.0	10.8
LOS	A	A	A	A	A		C	A		C	C	B
Approach Delay		4.5			4.0			19.9			17.3	
Approach LOS		A			A			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 81.2
 Natural Cycle: 50
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.32
 Intersection Signal Delay: 5.2
 Intersection Capacity Utilization 68.3%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

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

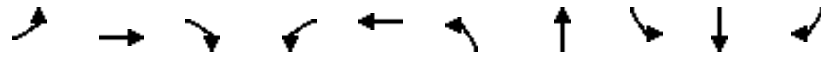


Queues

Existing AM

1: Brownridge Road/Fifth Line & Steeles Avenue

Premier Gateway Phase 1B Employment Area



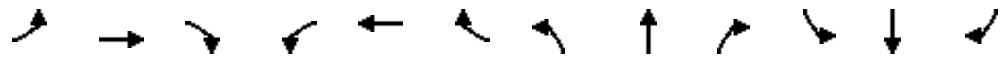
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	135	727	51	16	457	9	5	20	6	63
v/c Ratio	0.20	0.32	0.04	0.04	0.23	0.06	0.01	0.16	0.03	0.26
Control Delay	5.0	4.6	1.4	4.1	4.0	31.0	0.0	34.0	30.0	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.0	4.6	1.4	4.1	4.0	31.0	0.0	34.0	30.0	10.8
Queue Length 50th (m)	6.4	20.3	0.0	0.7	11.0	1.4	0.0	3.2	1.0	0.0
Queue Length 95th (m)	13.3	28.5	2.8	2.4	16.6	5.4	0.0	9.1	4.2	9.8
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)	665	2267	1180	437	2002	203	410	177	329	310
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	0.32	0.04	0.04	0.23	0.04	0.01	0.11	0.02	0.20

Intersection Summary

HCM Signalized Intersection Capacity Analysis

1: Brownridge Road/Fifth Line & Steeles Avenue

Existing 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)	135	727	51	16	420	37	9	0	5	20	6	63
Future Volume (vph)	135	727	51	16	420	37	9	0	5	20	6	63
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	0.49	1.00	1.00	0.38	1.00		0.75	1.00		0.75	1.00	1.00
Satd. Flow (perm)	868	2959	1524	571	2606		1174	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)	135	727	51	16	420	37	9	0	5	20	6	63
RTOR Reduction (vph)	0	0	14	0	6	0	0	5	0	0	0	57
Lane Group Flow (vph)	135	727	37	16	451	0	9	0	0	20	6	6
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)	60.5	60.5	60.5	60.5	60.5		7.9	7.9		7.9	7.9	7.9
Effective Green, g (s)	60.5	60.5	60.5	60.5	60.5		7.9	7.9		7.9	7.9	7.9
Actuated g/C Ratio	0.73	0.73	0.73	0.73	0.73		0.10	0.10		0.10	0.10	0.10
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)	637	2172	1118	419	1913		112	110		98	182	140
v/s Ratio Prot		c0.25			0.17			0.00				0.00
v/s Ratio Perm	0.16		0.02	0.03			0.01			c0.02		0.00
v/c Ratio	0.21	0.33	0.03	0.04	0.24		0.08	0.00		0.20	0.03	0.04
Uniform Delay, d1	3.4	3.9	3.0	3.0	3.5		33.9	33.7		34.4	33.8	33.8
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	0.8	0.4	0.1	0.2	0.3		0.3	0.0		1.0	0.1	0.1
Delay (s)	4.2	4.3	3.0	3.2	3.8		34.2	33.7		35.4	33.9	33.9
Level of Service	A	A	A	A	A		C	C		D	C	C
Approach Delay (s)		4.2			3.8			34.1			34.3	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			6.1			HCM 2000 Level of Service				A		
HCM 2000 Volume to Capacity ratio			0.32									
Actuated Cycle Length (s)			82.4			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

Existing AM
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖	↗
Traffic Volume (vph)	759	21	6	474	6	3
Future Volume (vph)	759	21	6	474	6	3
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			0.364		0.950	
Satd. Flow (perm)	2935	1538	591	2635	1543	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		21				3
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)	759	21	6	474	6	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	759	21	6	474	6	3
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

Existing AM
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)	60.0	60.0	60.0	60.0	20.0	20.0
Total Split (%)	75.0%	75.0%	75.0%	75.0%	25.0%	25.0%
Maximum Green (s)	52.0	52.0	52.0	52.0	14.0	14.0
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)	74.1	74.1	74.1	74.1	10.1	10.1
Actuated g/C Ratio	0.95	0.95	0.95	0.95	0.13	0.13
v/c Ratio	0.27	0.01	0.01	0.19	0.03	0.01
Control Delay	1.5	1.0	1.8	1.3	33.2	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.5	1.0	1.8	1.3	33.2	23.7
LOS	A	A	A	A	C	C
Approach Delay	1.5			1.3	30.0	
Approach LOS	A			A	C	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 78.2
 Natural Cycle: 50
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.27
 Intersection Signal Delay: 1.6
 Intersection Capacity Utilization 55.0%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

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



Queues
2: Fifth Line South & Steeles Avenue

Existing AM
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	759	21	6	474	6	3
v/c Ratio	0.27	0.01	0.01	0.19	0.03	0.01
Control Delay	1.5	1.0	1.8	1.3	33.2	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.5	1.0	1.8	1.3	33.2	23.7
Queue Length 50th (m)	0.0	0.0	0.0	0.0	0.8	0.0
Queue Length 95th (m)	29.2	1.7	1.2	17.4	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)	2780	1458	560	2496	278	293
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	0.27	0.01	0.01	0.19	0.02	0.01
Intersection Summary						

HCM Signalized Intersection Capacity Analysis

2: Fifth Line South & Steeles Avenue

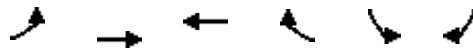
Existing AM
Premier Gateway Phase 1B Employment Area



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖	↗
Traffic Volume (vph)	759	21	6	474	6	3
Future Volume (vph)	759	21	6	474	6	3
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	0.36	1.00	0.95	1.00
Satd. Flow (perm)	2935	1538	591	2635	1543	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	759	21	6	474	6	3
RTOR Reduction (vph)	0	4	0	0	0	3
Lane Group Flow (vph)	759	17	6	474	6	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)	67.4	67.4	67.4	67.4	1.7	1.7
Effective Green, g (s)	67.4	67.4	67.4	67.4	1.7	1.7
Actuated g/C Ratio	0.81	0.81	0.81	0.81	0.02	0.02
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)	2380	1247	479	2137	31	33
v/s Ratio Prot	c0.26			0.18		
v/s Ratio Perm		0.01	0.01		c0.00	0.00
v/c Ratio	0.32	0.01	0.01	0.22	0.19	0.00
Uniform Delay, d1	2.0	1.5	1.5	1.8	40.0	39.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.0	0.0	0.2	3.0	0.0
Delay (s)	2.4	1.5	1.5	2.0	43.1	39.9
Level of Service	A	A	A	A	D	D
Approach Delay (s)	2.3			2.0	42.0	
Approach LOS	A			A	D	
Intersection Summary						
HCM 2000 Control Delay			2.5		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.32			
Actuated Cycle Length (s)			83.1		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

Existing AM
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷↷	↷↷	↷	↶	↷
Traffic Volume (vph)	34	801	454	2	8	33
Future Volume (vph)	34	801	454	2	8	33
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
Flt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	2935	2674	1077	1031	1568
Flt 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)	34	801	454	2	8	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	801	454	2	8	33
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	

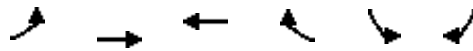
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	32.1%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis

3: Steeles Avenue & Sixth Line

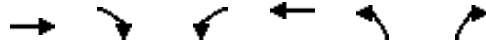
Existing AM
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	34	801	454	2	8	33		
Future Volume (Veh/h)	34	801	454	2	8	33		
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)	34	801	454	2	8	33		
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	456				922	227		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	456				922	227		
tC, single (s)	4.2				8.3	7.0		
tC, 2 stage (s)								
tF (s)	2.2				4.2	3.3		
p0 queue free %	97				95	96		
cM capacity (veh/h)	1094				161	773		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	SB 2
Volume Total	34	400	400	227	227	2	8	33
Volume Left	34	0	0	0	0	0	8	0
Volume Right	0	0	0	0	0	2	0	33
cSH	1094	1700	1700	1700	1700	1700	161	773
Volume to Capacity	0.03	0.24	0.24	0.13	0.13	0.00	0.05	0.04
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	0.0	1.2	1.1
Control Delay (s)	8.4	0.0	0.0	0.0	0.0	0.0	28.6	9.9
Lane LOS	A						D	A
Approach Delay (s)	0.3			0.0			13.5	
Approach LOS							B	
Intersection Summary								
Average Delay			0.6					
Intersection Capacity Utilization			32.1%		ICU Level of Service			A
Analysis Period (min)			15					

Lanes, Volumes, Timings
4: Sixth Line South & Steeles Avenue

Existing AM
Premier Gateway Phase 1B Employment Area



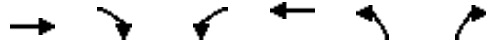
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖	↗
Traffic Volume (vph)	784	25	73	407	8	29
Future Volume (vph)	784	25	73	407	8	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		30.0	60.0		30.0	0.0
Storage Lanes		1	1		1	1
Taper Length (m)			100.0		7.5	
Lane Util. 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	1736	2798	1597	1509
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3085	1615	1736	2798	1597	1509
Link Speed (k/h)	80			80	50	
Link Distance (m)	905.3			497.0	169.8	
Travel Time (s)	40.7			22.4	12.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	17%	0%	4%	29%	13%	7%
Adj. Flow (vph)	784	25	73	407	8	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	784	25	73	407	8	29
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	39.0%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis
4: Sixth Line South & Steeles Avenue

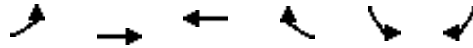
Existing AM
Premier Gateway Phase 1B Employment Area



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↗	↖	↑↑	↖	↗		
Traffic Volume (veh/h)	784	25	73	407	8	29		
Future Volume (Veh/h)	784	25	73	407	8	29		
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)	784	25	73	407	8	29		
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			809		1134	392		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol			809		1134	392		
tC, single (s)			4.2		7.1	7.0		
tC, 2 stage (s)								
tF (s)			2.2		3.6	3.4		
p0 queue free %			91		95	95		
cM capacity (veh/h)			800		164	593		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	392	392	25	73	204	204	8	29
Volume Left	0	0	0	73	0	0	8	0
Volume Right	0	0	25	0	0	0	0	29
cSH	1700	1700	1700	800	1700	1700	164	593
Volume to Capacity	0.23	0.23	0.01	0.09	0.12	0.12	0.05	0.05
Queue Length 95th (m)	0.0	0.0	0.0	2.4	0.0	0.0	1.2	1.2
Control Delay (s)	0.0	0.0	0.0	10.0	0.0	0.0	28.1	11.4
Lane LOS			A			D		B
Approach Delay (s)	0.0		1.5			15.0		
Approach LOS						B		
Intersection Summary								
Average Delay			1.0					
Intersection Capacity Utilization			39.0%			ICU Level of Service		A
Analysis Period (min)			15					

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

Existing AM
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	14	719	426	15	6	30
Future Volume (vph)	14	719	426	15	6	30
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
Frt				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	879.8		1223.8	
Travel Time (s)		29.8	52.8		73.4	
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)	14	719	426	15	6	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	719	426	15	6	30
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	

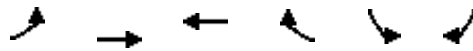
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	29.9%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

5: Steeles Avenue & Hornby Road

Existing AM
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↶	↷	↷	↷	↶	↷		
Traffic Volume (veh/h)	14	719	426	15	6	30		
Future Volume (Veh/h)	14	719	426	15	6	30		
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)	14	719	426	15	6	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	441				814	213		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	441				814	213		
tC, single (s)	4.2				7.1	7.0		
tC, 2 stage (s)								
tF (s)	2.3				3.7	3.4		
p0 queue free %	99				98	96		
cM capacity (veh/h)	1081				284	777		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	SB 2
Volume Total	14	360	360	213	213	15	6	30
Volume Left	14	0	0	0	0	0	6	0
Volume Right	0	0	0	0	0	15	0	30
cSH	1081	1700	1700	1700	1700	1700	284	777
Volume to Capacity	0.01	0.21	0.21	0.13	0.13	0.01	0.02	0.04
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0	0.0	0.5	1.0
Control Delay (s)	8.4	0.0	0.0	0.0	0.0	0.0	18.0	9.8
Lane LOS	A						C A	
Approach Delay (s)	0.2			0.0			11.2	
Approach LOS							B	
Intersection Summary								
Average Delay			0.4					
Intersection Capacity Utilization			29.9%		ICU Level of Service		A	
Analysis Period (min)			15					

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

Existing 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)	27	503	181	449	305	35	118	264	336	145	995	10
Future Volume (vph)	27	503	181	449	305	35	118	264	336	145	995	10
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		0.0
Storage Lanes	1		1	2		1	2		1	1		0
Taper Length (m)	100.0			100.0			80.0			100.0		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1357	3085	1179	3400	2843	1455	2148	3167	1524	1752	3414	0
Flt Permitted	0.566			0.950			0.950			0.589		
Satd. Flow (perm)	809	3085	1179	3400	2843	1455	2148	3167	1524	1087	3414	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			170			122			336			1
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		879.8			311.3			332.0			289.5	
Travel Time (s)		52.8			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)	27	503	181	449	305	35	118	264	336	145	995	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	503	181	449	305	35	118	264	336	145	1005	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			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	
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	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8			2	6		
Detector Phase	7	4	4	3	8	8	5	2	2	1	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	

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

Existing AM
Premier Gateway Phase 1B Employment Area

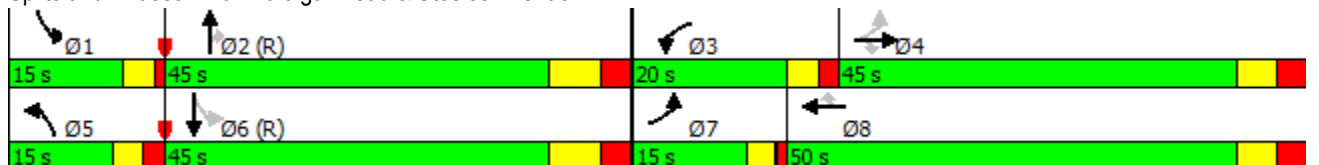


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.0	40.0	40.0	13.0	27.0	27.0	13.0	28.0	28.0	11.0	28.0	
Total Split (s)	15.0	45.0	45.0	20.0	50.0	50.0	15.0	45.0	45.0	15.0	45.0	
Total Split (%)	12.0%	36.0%	36.0%	16.0%	40.0%	40.0%	12.0%	36.0%	36.0%	12.0%	36.0%	
Maximum Green (s)	11.0	38.0	38.0	15.0	43.0	43.0	10.0	37.0	37.0	11.0	37.0	
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	
All-Red Time (s)	1.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	1.0	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	
Total Lost Time (s)	4.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		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	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	36.7	26.2	26.2	15.0	39.0	39.0	13.0	49.0	49.0	60.7	45.9	
Actuated g/C Ratio	0.29	0.21	0.21	0.12	0.31	0.31	0.10	0.39	0.39	0.49	0.37	
v/c Ratio	0.10	0.78	0.48	1.10	0.34	0.07	0.53	0.21	0.42	0.25	0.80	
Control Delay	23.1	55.3	11.2	124.9	34.7	0.2	61.6	27.5	5.0	16.7	42.5	
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	23.1	55.3	11.2	124.9	34.7	0.2	61.6	27.5	5.0	16.7	42.5	
LOS	C	E	B	F	C	A	E	C	A	B	D	
Approach Delay		42.8			84.5			22.6			39.2	
Approach LOS		D			F			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	125
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle:	105
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.10
Intersection Signal Delay:	47.0
Intersection LOS:	D
Intersection Capacity Utilization	84.8%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 6: Trafalgar Road & Steeles Avenue



Queues
6: Trafalgar Road & Steeles Avenue

Existing AM
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	27	503	181	449	305	35	118	264	336	145	1005
v/c Ratio	0.10	0.78	0.48	1.10	0.34	0.07	0.53	0.21	0.42	0.25	0.80
Control Delay	23.1	55.3	11.2	124.9	34.7	0.2	61.6	27.5	5.0	16.7	42.5
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	23.1	55.3	11.2	124.9	34.7	0.2	61.6	27.5	5.0	16.7	42.5
Queue Length 50th (m)	4.3	65.5	2.3	~67.9	33.6	0.0	15.1	23.3	0.0	17.9	121.8
Queue Length 95th (m)	9.8	80.2	22.0	#102.0	44.7	0.0	25.1	39.0	22.1	33.2	#185.0
Internal Link Dist (m)		855.8			287.3			308.0			265.5
Turn Bay Length (m)	115.0		40.0	130.0		70.0	100.0		65.0	250.0	
Base Capacity (vph)	308	937	476	408	978	581	225	1240	801	602	1253
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.54	0.38	1.10	0.31	0.06	0.52	0.21	0.42	0.24	0.80

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

6: Trafalgar Road & Steeles Avenue

Existing 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)	27	503	181	449	305	35	118	264	336	145	995	10
Future Volume (vph)	27	503	181	449	305	35	118	264	336	145	995	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1357	3085	1179	3400	2843	1455	2148	3167	1524	1752	3412	
Flt Permitted	0.57	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.59	1.00	
Satd. Flow (perm)	809	3085	1179	3400	2843	1455	2148	3167	1524	1086	3412	
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)	27	503	181	449	305	35	118	264	336	145	995	10
RTOR Reduction (vph)	0	0	132	0	0	24	0	0	209	0	1	0
Lane Group Flow (vph)	27	503	49	449	305	11	118	264	127	145	1004	0
Heavy Vehicles (%)	33%	17%	37%	3%	27%	11%	63%	14%	6%	3%	5%	70%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8			2	6		
Actuated Green, G (s)	32.4	27.7	27.7	15.0	39.0	39.0	13.0	47.4	47.4	55.2	44.3	
Effective Green, g (s)	32.4	27.7	27.7	15.0	39.0	39.0	13.0	47.4	47.4	55.2	44.3	
Actuated g/C Ratio	0.26	0.22	0.22	0.12	0.31	0.31	0.10	0.38	0.38	0.44	0.35	
Clearance Time (s)	4.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	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	
Lane Grp Cap (vph)	230	683	261	408	887	453	223	1200	577	537	1209	
v/s Ratio Prot	0.00	c0.16		c0.13	0.11		c0.05	0.08		0.02	c0.29	
v/s Ratio Perm	0.03		0.04			0.01			c0.08	0.10		
v/c Ratio	0.12	0.74	0.19	1.10	0.34	0.02	0.53	0.22	0.22	0.27	0.83	
Uniform Delay, d1	35.0	45.3	39.5	55.0	33.1	29.8	53.1	26.3	26.3	21.2	36.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	4.1	0.3	74.5	0.2	0.0	2.9	0.4	0.9	0.3	6.7	
Delay (s)	35.2	49.4	39.8	129.5	33.4	29.8	56.0	26.7	27.2	21.5	43.6	
Level of Service	D	D	D	F	C	C	E	C	C	C	D	
Approach Delay (s)		46.4			87.9			31.7			40.8	
Approach LOS		D			F			C			D	
Intersection Summary												
HCM 2000 Control Delay			51.1				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			125.0				Sum of lost time (s)		25.0			
Intersection Capacity Utilization			84.8%				ICU Level of Service		E			
Analysis Period (min)			15									
c Critical Lane Group												

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

Existing AM
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖↗	↗
Traffic Volume (vph)	945	5	6	775	20	4
Future Volume (vph)	945	5	6	775	20	4
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			0.214		0.950	
Satd. Flow (perm)	3374	1615	348	3195	3045	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		5				4
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)	945	5	6	775	20	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	945	5	6	775	20	4
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

Existing AM
Premier Gateway Phase 1B Employment Area

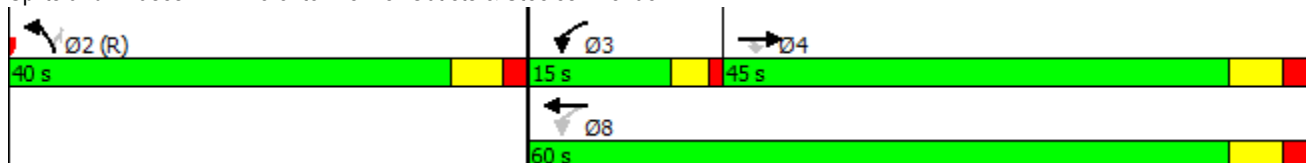


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	26.0	26.0	10.0	26.0	17.0	17.0
Total Split (s)	45.0	45.0	15.0	60.0	40.0	40.0
Total Split (%)	45.0%	45.0%	15.0%	60.0%	40.0%	40.0%
Maximum Green (s)	39.0	39.0	11.0	54.0	34.0	34.0
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	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)	52.0	52.0	56.0	54.0	34.0	34.0
Actuated g/C Ratio	0.52	0.52	0.56	0.54	0.34	0.34
v/c Ratio	0.54	0.01	0.02	0.45	0.02	0.01
Control Delay	18.1	8.8	10.0	15.0	22.1	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.1	8.8	10.0	15.0	22.1	14.0
LOS	B	A	A	B	C	B
Approach Delay	18.1			15.0	20.8	
Approach LOS	B			B	C	

Intersection Summary

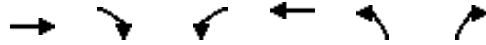
Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 16.7
 Intersection LOS: B
 Intersection Capacity Utilization 44.5%
 ICU Level of Service A
 Analysis Period (min) 15

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



Queues
7: Toronto Premier Outlets & Steeles Avenue

Existing AM
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	945	5	6	775	20	4
v/c Ratio	0.54	0.01	0.02	0.45	0.02	0.01
Control Delay	18.1	8.8	10.0	15.0	22.1	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.1	8.8	10.0	15.0	22.1	14.0
Queue Length 50th (m)	61.4	0.0	0.5	47.8	1.3	0.0
Queue Length 95th (m)	98.8	2.2	2.3	62.8	4.0	2.4
Internal Link Dist (m)	287.3			176.7	95.1	
Turn Bay Length (m)		130.0	45.0			40.0
Base Capacity (vph)	1752	841	326	1725	1035	551
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	0.54	0.01	0.02	0.45	0.02	0.01
Intersection Summary						

HCM Signalized Intersection Capacity Analysis
7: Toronto Premier Outlets & Steeles Avenue

Existing AM
Premier Gateway Phase 1B Employment Area



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖↗	↗
Traffic Volume (vph)	945	5	6	775	20	4
Future Volume (vph)	945	5	6	775	20	4
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
Flt	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	0.21	1.00	0.95	1.00
Satd. Flow (perm)	3374	1615	348	3195	3045	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	945	5	6	775	20	4
RTOR Reduction (vph)	0	2	0	0	0	3
Lane Group Flow (vph)	945	3	6	775	20	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)	52.0	52.0	57.2	57.2	30.8	30.8
Effective Green, g (s)	52.0	52.0	57.2	57.2	30.8	30.8
Actuated g/C Ratio	0.52	0.52	0.57	0.57	0.31	0.31
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)	1754	839	213	1827	937	497
v/s Ratio Prot	c0.28		0.00	c0.24	c0.01	
v/s Ratio Perm		0.00	0.02			0.00
v/c Ratio	0.54	0.00	0.03	0.42	0.02	0.00
Uniform Delay, d1	16.0	11.5	10.5	12.1	24.1	24.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.0	0.1	0.7	0.0	0.0
Delay (s)	17.2	11.5	10.6	12.8	24.1	24.0
Level of Service	B	B	B	B	C	C
Approach Delay (s)	17.2			12.8	24.1	
Approach LOS	B			B	C	
Intersection Summary						
HCM 2000 Control Delay			15.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.35			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	16.0
Intersection Capacity Utilization			44.5%		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)	74	867	13	29	442	22	3	1	8	177	5	354
Future Volume (vph)	74	867	13	29	442	22	3	1	8	177	5	354
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		55.0	30.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	1		1	1		0	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	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.993			0.867			0.852	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	3252	1404	1752	2977	0	2633	1477	0	1787	1603	0
Flt Permitted	0.439			0.288			0.950			0.752		
Satd. Flow (perm)	794	3252	1404	531	2977	0	2633	1477	0	1415	1603	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		4			8			354	
Link Speed (k/h)		60			60			50			70	
Link Distance (m)		200.7			870.8			218.1			3086.4	
Travel Time (s)		12.0			52.2			15.7			158.7	
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)	74	867	13	29	442	22	3	1	8	177	5	354
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	867	13	29	464	0	3	9	0	177	359	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	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	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	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	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	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	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Perm	NA	
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4		4	8						6		
Detector Phase	7	4	4	3	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0		10.0	10.0		10.0	10.0	

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

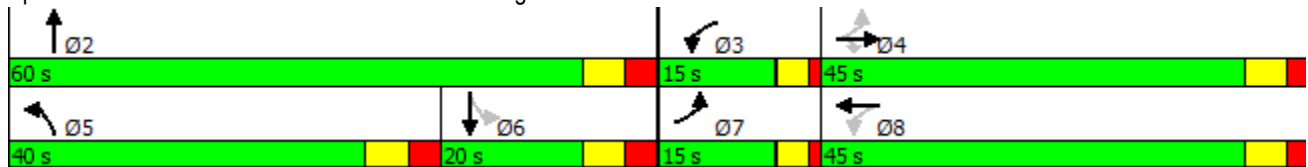


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.0	26.0	26.0	11.0	26.0		17.0	17.0		17.0	17.0	
Total Split (s)	15.0	45.0	45.0	15.0	45.0		40.0	60.0		20.0	20.0	
Total Split (%)	12.5%	37.5%	37.5%	12.5%	37.5%		33.3%	50.0%		16.7%	16.7%	
Maximum Green (s)	11.0	39.0	39.0	11.0	39.0		33.0	53.0		13.0	13.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		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	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0		7.0	7.0		7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2		4.0	4.0		3.0	3.0	
Recall Mode	None	Max	Max	None	Max		None	None		Max	Max	
Walk Time (s)		7.0	7.0		7.0			7.0				
Flash Dont Walk (s)		17.0	17.0		17.0			21.0				
Pedestrian Calls (#/hr)		0	0		0			0				
Act Effct Green (s)	49.3	44.4	44.4	47.0	39.6		10.1	16.0		13.2	13.2	
Actuated g/C Ratio	0.64	0.57	0.57	0.61	0.51		0.13	0.21		0.17	0.17	
v/c Ratio	0.12	0.47	0.02	0.07	0.31		0.01	0.03		0.74	0.63	
Control Delay	6.6	12.8	0.0	6.7	13.4		34.3	14.8		53.2	10.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.6	12.8	0.0	6.7	13.4		34.3	14.8		53.2	10.1	
LOS	A	B	A	A	B		C	B		D	B	
Approach Delay		12.2			13.0			19.7			24.4	
Approach LOS		B			B			B			C	

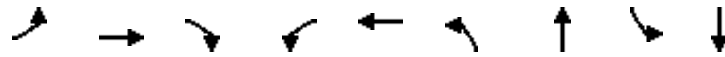
Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	77.6
Natural Cycle:	75
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	15.7
Intersection LOS:	B
Intersection Capacity Utilization:	66.1%
ICU Level of Service:	C
Analysis Period (min):	15

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



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



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	74	867	13	29	464	3	9	177	359
v/c Ratio	0.12	0.47	0.02	0.07	0.31	0.01	0.03	0.74	0.63
Control Delay	6.6	12.8	0.0	6.7	13.4	34.3	14.8	53.2	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	12.8	0.0	6.7	13.4	34.3	14.8	53.2	10.1
Queue Length 50th (m)	3.1	27.7	0.0	1.2	19.7	0.2	0.1	25.7	0.6
Queue Length 95th (m)	12.3	87.1	0.0	6.2	45.0	1.7	3.6	#74.7	28.1
Internal Link Dist (m)		176.7			846.8		194.1		3062.4
Turn Bay Length (m)	105.0		55.0	30.0				20.0	
Base Capacity (vph)	649	1860	861	518	1519	1136	1025	240	566
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	0.11	0.47	0.02	0.06	0.31	0.00	0.01	0.74	0.63

Intersection Summary






















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

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

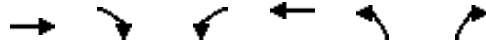
Existing AM

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)	74	867	13	29	442	22	3	1	8	177	5	354
Future Volume (vph)	74	867	13	29	442	22	3	1	8	177	5	354
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		7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.87		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1719	3252	1404	1752	2976		2633	1476		1787	1603	
Flt Permitted	0.44	1.00	1.00	0.29	1.00		0.95	1.00		0.75	1.00	
Satd. Flow (perm)	795	3252	1404	532	2976		2633	1476		1414	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)	74	867	13	29	442	22	3	1	8	177	5	354
RTOR Reduction (vph)	0	0	6	0	2	0	0	6	0	0	300	0
Lane Group Flow (vph)	74	867	7	29	462	0	3	3	0	177	59	0
Heavy Vehicles (%)	5%	11%	15%	3%	21%	9%	33%	0%	13%	1%	0%	1%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Perm	NA	
Protected Phases	7	4		3	8		5	2				6
Permitted Phases	4		4	8						6		
Actuated Green, G (s)	50.2	44.4	44.4	43.8	41.2		1.6	21.8		13.2	13.2	
Effective Green, g (s)	50.2	44.4	44.4	43.8	41.2		1.6	21.8		13.2	13.2	
Actuated g/C Ratio	0.59	0.52	0.52	0.51	0.48		0.02	0.25		0.15	0.15	
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2		4.0	4.0		3.0	3.0	
Lane Grp Cap (vph)	527	1682	726	308	1429		49	375		217	246	
v/s Ratio Prot	c0.01	c0.27		0.00	0.16		c0.00	0.00				0.04
v/s Ratio Perm	0.07		0.00	0.05						c0.13		
v/c Ratio	0.14	0.52	0.01	0.09	0.32		0.06	0.01		0.82	0.24	
Uniform Delay, d1	7.8	13.6	10.0	10.6	13.7		41.4	23.9		35.1	31.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.1	0.0	0.1	0.6		0.7	0.0		27.6	2.3	
Delay (s)	8.0	14.8	10.1	10.7	14.3		42.1	23.9		62.7	34.2	
Level of Service	A	B	B	B	B		D	C		E	C	
Approach Delay (s)		14.2			14.1			28.5				43.6
Approach LOS		B			B			C				D
Intersection Summary												
HCM 2000 Control Delay			22.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			85.8			Sum of lost time (s)			24.0			
Intersection Capacity Utilization			66.1%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

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

Existing AM
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Volume (vph)	1053	1	1	493	1	0
Future Volume (vph)	1053	1	1	493	1	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						
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3282	0	1805	3034	1805	1900
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3282	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)	1053	1	1	493	1	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1054	0	1	493	1	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	39.1%
Analysis Period (min)	15
	ICU Level of Service A

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

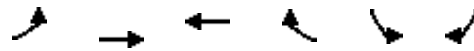
Existing AM
 Premier Gateway Phase 1B Employment Area



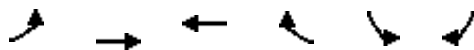
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Traffic Volume (veh/h)	1053	1	1	493	1	0	
Future Volume (Veh/h)	1053	1	1	493	1	0	
Sign Control	Free		Free		Stop		
Grade	0%		0%		0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly flow rate (vph)	1053	1	1	493	1	0	
Pedestrians							
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			1054		1302	527	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol			1054		1302	527	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)							
tF (s)			2.2		3.5	3.3	
p0 queue free %			100		99	100	
cM capacity (veh/h)			668		155	501	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	702	352	1	246	246	1	0
Volume Left	0	0	1	0	0	1	0
Volume Right	0	1	0	0	0	0	0
cSH	1700	1700	668	1700	1700	155	1700
Volume to Capacity	0.41	0.21	0.00	0.14	0.14	0.01	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Control Delay (s)	0.0	0.0	10.4	0.0	0.0	28.4	0.0
Lane LOS			B			D	A
Approach Delay (s)	0.0		0.0		28.4		
Approach LOS							D
Intersection Summary							
Average Delay			0.0				
Intersection Capacity Utilization			39.1%		ICU Level of Service		A
Analysis Period (min)			15				

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

Existing AM
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↗↗	↖	↖	↖
Traffic Volume (vph)	75	1001	445	213	568	73
Future Volume (vph)	75	1001	445	213	568	73
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	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1556	3312	3059	1509	1770	1324
Flt Permitted	0.408				0.950	
Satd. Flow (perm)	668	3312	3059	1509	1770	1324
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				213		73
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)	75	1001	445	213	568	73
Shared Lane Traffic (%)						
Lane Group Flow (vph)	75	1001	445	213	568	73
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
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	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	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

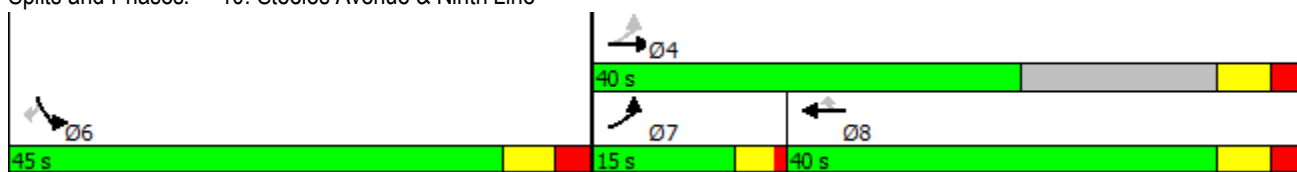


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Split (s)	11.0	27.0	27.0	27.0	17.0	17.0
Total Split (s)	15.0	40.0	40.0	40.0	45.0	45.0
Total Split (%)	15.0%	40.0%	40.0%	40.0%	45.0%	45.0%
Maximum Green (s)	11.0	33.0	33.0	33.0	38.0	38.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0	3.0	3.0	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 Effct Green (s)	46.4	43.3	33.1	33.1	38.1	38.1
Actuated g/C Ratio	0.49	0.45	0.35	0.35	0.40	0.40
v/c Ratio	0.19	0.67	0.42	0.32	0.80	0.13
Control Delay	14.1	22.8	26.2	4.9	37.0	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.1	22.8	26.2	4.9	37.0	5.6
LOS	B	C	C	A	D	A
Approach Delay		22.2	19.3		33.4	
Approach LOS		C	B		C	

Intersection Summary

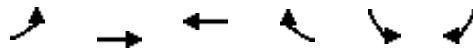
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	95.5
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	24.4
Intersection LOS:	C
Intersection Capacity Utilization:	70.8%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 10: Steeles Avenue & Ninth Line



Queues
10: Steeles Avenue & Ninth Line

Existing AM
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	75	1001	445	213	568	73
v/c Ratio	0.19	0.67	0.42	0.32	0.80	0.13
Control Delay	14.1	22.8	26.2	4.9	37.0	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.1	22.8	26.2	4.9	37.0	5.6
Queue Length 50th (m)	7.5	77.2	35.6	0.0	99.5	0.0
Queue Length 95th (m)	15.2	98.8	51.9	15.8	#165.1	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)	426	1669	1060	662	706	572
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	0.18	0.60	0.42	0.32	0.80	0.13

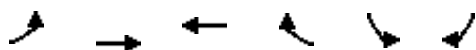
Intersection Summary

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

Existing AM
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↕↕	↕↕	↘	↙	↘
Traffic Volume (vph)	75	1001	445	213	568	73
Future Volume (vph)	75	1001	445	213	568	73
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	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1556	3312	3059	1509	1770	1324
Flt Permitted	0.41	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	669	3312	3059	1509	1770	1324
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	75	1001	445	213	568	73
RTOR Reduction (vph)	0	0	0	140	0	44
Lane Group Flow (vph)	75	1001	445	73	568	29
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)	44.2	44.2	33.1	33.1	38.1	38.1
Effective Green, g (s)	44.2	44.2	33.1	33.1	38.1	38.1
Actuated g/C Ratio	0.46	0.46	0.34	0.34	0.40	0.40
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)	372	1520	1051	518	700	523
v/s Ratio Prot	0.01	c0.30	0.15		c0.32	
v/s Ratio Perm	0.08			0.05		0.02
v/c Ratio	0.20	0.66	0.42	0.14	0.81	0.06
Uniform Delay, d1	15.0	20.2	24.3	21.8	25.9	18.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	2.3	1.3	0.6	9.9	0.2
Delay (s)	15.3	22.4	25.5	22.4	35.8	18.2
Level of Service	B	C	C	C	D	B
Approach Delay (s)		22.0	24.5		33.8	
Approach LOS		C	C		C	
Intersection Summary						
HCM 2000 Control Delay			25.9		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.77			
Actuated Cycle Length (s)			96.3		Sum of lost time (s)	18.0
Intersection Capacity Utilization			70.8%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

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

Existing AM
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	6	2	292	1088	19
Future Volume (vph)	12	6	2	292	1088	19
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	0.955				0.998	
Flt Protected	0.968					
Satd. Flow (prot)	1436	0	0	1635	1807	0
Flt Permitted	0.968					
Satd. Flow (perm)	1436	0	0	1635	1807	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)	12	6	2	292	1088	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	294	1107	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	68.4%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

11: Trafalgar Rd & Hornby Rd

















Existing AM
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	6	2	292	1088	19
Future Volume (Veh/h)	12	6	2	292	1088	19
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)	12	6	2	292	1088	19
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	1394	1098	1088			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1394	1098	1088			
tC, single (s)	6.6	6.4	4.6			
tC, 2 stage (s)						
tF (s)	3.7	3.5	2.7			
p0 queue free %	91	98	100			
cM capacity (veh/h)	139	242	492			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	18	294	1107			
Volume Left	12	2	0			
Volume Right	6	0	19			
cSH	162	492	1700			
Volume to Capacity	0.11	0.00	0.65			
Queue Length 95th (m)	2.9	0.1	0.0			
Control Delay (s)	30.1	0.1	0.0			
Lane LOS	D	A				
Approach Delay (s)	30.1	0.1	0.0			
Approach LOS	D					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			68.4%	ICU Level of Service	C	
Analysis Period (min)			15			

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

















Existing 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	563	11	22	160	3	4	20	19	36	46	25
Future Volume (vph)	10	563	11	22	160	3	4	20	19	36	46	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
Frt		0.997			0.998			0.940			0.968	
Flt Protected		0.999			0.994			0.995			0.983	
Satd. Flow (prot)	0	1850	0	0	1786	0	0	1531	0	0	1726	0
Flt Permitted		0.999			0.994			0.995			0.983	
Satd. Flow (perm)	0	1850	0	0	1786	0	0	1531	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)	10	563	11	22	160	3	4	20	19	36	46	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	584	0	0	185	0	0	43	0	0	107	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	51.4%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

12: Fifth Line & 5 Side Road

Existing 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	563	11	22	160	3	4	20	19	36	46	25
Future Volume (Veh/h)	10	563	11	22	160	3	4	20	19	36	46	25
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	563	11	22	160	3	4	20	19	36	46	25
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	163			574			842	796	568	823	800	162
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	163			574			842	796	568	823	800	162
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			98			98	93	96	86	85	97
cM capacity (veh/h)	1368			961			218	291	507	254	307	889
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	584	185	43	107								
Volume Left	10	22	4	36								
Volume Right	11	3	19	25								
cSH	1368	961	345	334								
Volume to Capacity	0.01	0.02	0.12	0.32								
Queue Length 95th (m)	0.2	0.6	3.4	10.8								
Control Delay (s)	0.2	1.2	16.9	20.8								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.2	1.2	16.9	20.8								
Approach LOS			C	C								
Intersection Summary												
Average Delay			3.6									
Intersection Capacity Utilization			51.4%		ICU Level of Service				A			
Analysis Period (min)			15									

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

Existing 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)	7	595	1	8	171	3	1	9	30	20	17	16
Future Volume (vph)	7	595	1	8	171	3	1	9	30	20	17	16
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 _t					0.998			0.899			0.959	
Fl _t Protected		0.999			0.998			0.999			0.981	
Satd. Flow (prot)	0	1841	0	0	1798	0	0	1513	0	0	1722	0
Fl _t Permitted		0.999			0.998			0.999			0.981	
Satd. Flow (perm)	0	1841	0	0	1798	0	0	1513	0	0	1722	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)	7	595	1	8	171	3	1	9	30	20	17	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	603	0	0	182	0	0	40	0	0	53	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	50.1%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

13: Sixth Line & 5 Side Road























Existing 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)	7	595	1	8	171	3	1	9	30	20	17	16
Future Volume (Veh/h)	7	595	1	8	171	3	1	9	30	20	17	16
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)	7	595	1	8	171	3	1	9	30	20	17	16
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	174			596			822	800	596	832	798	172
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	174			596			822	800	596	832	798	172
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			100	97	94	92	95	98
cM capacity (veh/h)	1333			990			275	316	477	253	317	876
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	603	182	40	53								
Volume Left	7	8	1	20								
Volume Right	1	3	30	16								
cSH	1333	990	421	351								
Volume to Capacity	0.01	0.01	0.09	0.15								
Queue Length 95th (m)	0.1	0.2	2.5	4.2								
Control Delay (s)	0.2	0.5	14.4	17.1								
Lane LOS	A	A	B	C								
Approach Delay (s)	0.2	0.5	14.4	17.1								
Approach LOS			B	C								
Intersection Summary												
Average Delay			1.9									
Intersection Capacity Utilization			50.1%	ICU Level of Service	A							
Analysis Period (min)			15									

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

Existing 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)	34	349	238	56	94	8	16	298	31	27	888	32
Future Volume (vph)	34	349	238	56	94	8	16	298	31	27	888	32
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		0.0
Storage Lanes	1		1	1		0	1		0	1		0
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	0.95
Frt			0.850		0.988			0.986			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	1863	1568	1687	1773	0	1444	2861	0	1480	3337	0
Flt Permitted	0.691			0.304			0.259			0.539		
Satd. Flow (perm)	1204	1863	1568	540	1773	0	394	2861	0	839	3337	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			203		4			15			5	
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)	34	349	238	56	94	8	16	298	31	27	888	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	349	238	56	102	0	16	329	0	27	920	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	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	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	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	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	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	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0		7.0	25.0		7.0	25.0	

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

Existing 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	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		11.0	55.0		11.0	55.0	
Total Split (%)	34.7%	34.7%	34.7%	34.7%	34.7%		10.9%	54.5%		10.9%	54.5%	
Maximum Green (s)	28.6	28.6	28.6	28.6	28.6		7.0	49.0		7.0	49.0	
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		3.0	4.6		3.0	4.6	
All-Red Time (s)	1.8	1.8	1.8	1.8	1.8		1.0	1.4		1.0	1.4	
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)	6.4	6.4	6.4	6.4	6.4		4.0	6.0		4.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							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	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)	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	
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	
Act Effct Green (s)	23.6	23.6	23.6	23.6	23.6		55.6	49.7		56.3	51.7	
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26		0.61	0.54		0.61	0.56	
v/c Ratio	0.11	0.73	0.43	0.41	0.22		0.05	0.21		0.05	0.49	
Control Delay	27.8	41.5	9.0	39.2	27.7		7.9	12.7		7.8	14.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.8	41.5	9.0	39.2	27.7		7.9	12.7		7.8	14.9	
LOS	C	D	A	D	C		A	B		A	B	
Approach Delay		28.3			31.8			12.4			14.7	
Approach LOS		C			C			B			B	

Intersection Summary

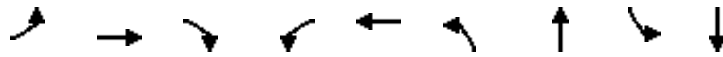
Area Type:	Other
Cycle Length:	101
Actuated Cycle Length:	91.9
Natural Cycle:	85
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	19.7
Intersection LOS:	B
Intersection Capacity Utilization:	72.1%
ICU Level of Service:	C
Analysis Period (min):	15

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



Queues
14: Trafalgar Rd & 5 Side Road

Existing AM
Premier Gateway Phase 1B Employment Area
























Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	34	349	238	56	102	16	329	27	920
v/c Ratio	0.11	0.73	0.43	0.41	0.22	0.05	0.21	0.05	0.49
Control Delay	27.8	41.5	9.0	39.2	27.7	7.9	12.7	7.8	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	41.5	9.0	39.2	27.7	7.9	12.7	7.8	14.9
Queue Length 50th (m)	5.2	63.3	5.3	9.2	15.3	1.1	18.2	1.9	49.0
Queue Length 95th (m)	13.0	95.1	24.7	21.8	29.0	3.8	28.1	5.4	87.4
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	
Base Capacity (vph)	379	587	633	170	562	319	1553	563	1880
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	0.09	0.59	0.38	0.33	0.18	0.05	0.21	0.05	0.49
Intersection Summary									

HCM Signalized Intersection Capacity Analysis

14: Trafalgar Rd & 5 Side Road

Existing 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)	34	349	238	56	94	8	16	298	31	27	888	32
Future Volume (vph)	34	349	238	56	94	8	16	298	31	27	888	32
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	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1656	1863	1568	1687	1774		1444	2860		1480	3337	
Flt Permitted	0.69	1.00	1.00	0.30	1.00		0.26	1.00		0.54	1.00	
Satd. Flow (perm)	1205	1863	1568	540	1774		394	2860		840	3337	
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)	34	349	238	56	94	8	16	298	31	27	888	32
RTOR Reduction (vph)	0	0	152	0	3	0	0	7	0	0	2	0
Lane Group Flow (vph)	34	349	86	56	99	0	16	322	0	27	918	0
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	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	23.6	23.6	23.6	23.6	23.6		52.9	50.4		55.5	51.7	
Effective Green, g (s)	23.6	23.6	23.6	23.6	23.6		52.9	50.4		55.5	51.7	
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25		0.56	0.54		0.59	0.55	
Clearance Time (s)	6.4	6.4	6.4	6.4	6.4		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	301	466	392	135	444		249	1530		520	1831	
v/s Ratio Prot		c0.19			0.06		0.00	0.11		c0.00	c0.28	
v/s Ratio Perm	0.03		0.05	0.10			0.03			0.03		
v/c Ratio	0.11	0.75	0.22	0.41	0.22		0.06	0.21		0.05	0.50	
Uniform Delay, d1	27.2	32.6	28.0	29.5	28.0		9.5	11.5		8.1	13.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	7.8	0.6	4.3	0.5		0.1	0.3		0.0	1.0	
Delay (s)	27.6	40.3	28.6	33.8	28.6		9.6	11.8		8.1	14.2	
Level of Service	C	D	C	C	C		A	B		A	B	
Approach Delay (s)		35.1			30.4			11.7			14.0	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			21.2				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			94.2				Sum of lost time (s)			16.4		
Intersection Capacity Utilization			72.1%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

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

Existing AM
Premier Gateway Phase 1B Employment Area



















Lane Group												
Lane Configurations	↕		↕		↕			↕		↕		
Traffic Volume (vph)	16	360	7	30	115	12	1	86	23	65	493	67
Future Volume (vph)	16	360	7	30	115	12	1	86	23	65	493	67
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 _t	0.998				0.990			0.972		0.986		
Fl _t Protected	0.998				0.991					0.995		
Satd. Flow (prot)	0	1843	0	0	1790	0	0	1817	0	0	1862	0
Fl _t Permitted	0.998				0.991					0.995		
Satd. Flow (perm)	0	1843	0	0	1790	0	0	1817	0	0	1862	0
Link Speed (k/h)	60				60			70		70		
Link Distance (m)	643.4				668.7			3086.4		454.5		
Travel Time (s)	38.6				40.1			158.7		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)	16	360	7	30	115	12	1	86	23	65	493	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	383	0	0	157	0	0	110	0	0	625	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			Stop		Stop		

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	68.3%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 15: Eighth Line & 5 Side Road

Existing AM
 Premier Gateway Phase 1B Employment Area

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	16	360	7	30	115	12	1	86	23	65	493	67
Future Volume (vph)	16	360	7	30	115	12	1	86	23	65	493	67
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)	16	360	7	30	115	12	1	86	23	65	493	67
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	383	157	110	625								
Volume Left (vph)	16	30	1	65								
Volume Right (vph)	7	12	23	67								
Hadj (s)	0.04	0.06	-0.10	-0.04								
Departure Headway (s)	6.5	7.1	7.0	6.0								
Degree Utilization, x	0.70	0.31	0.21	1.04								
Capacity (veh/h)	535	479	464	598								
Control Delay (s)	23.1	13.3	11.9	71.2								
Approach Delay (s)	23.1	13.3	11.9	71.2								
Approach LOS	C	B	B	F								
Intersection Summary												
Delay			44.5									
Level of Service			E									
Intersection Capacity Utilization			68.3%	ICU Level of Service	C							
Analysis Period (min)			15									

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

Existing 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)	21	446	26	2	112	12	9	303	20	263	647	26
Future Volume (vph)	21	446	26	2	112	12	9	303	20	263	647	26
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 _t		0.993			0.987			0.992			0.996	
Fl _t Protected		0.998			0.999			0.999			0.986	
Satd. Flow (prot)	0	1804	0	0	1841	0	0	1681	0	0	1790	0
Fl _t Permitted		0.985			0.993			0.974			0.789	
Satd. Flow (perm)	0	1781	0	0	1830	0	0	1639	0	0	1432	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			7			6			3	
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)	21	446	26	2	112	12	9	303	20	263	647	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	493	0	0	126	0	0	332	0	0	936	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
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)	7.0	7.0		7.0	7.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		26.0	26.0		26.0	26.0	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	

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

Existing AM
Premier Gateway Phase 1B Employment Area

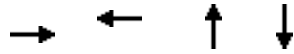
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	29.0	29.0		29.0	29.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.5	3.5		3.5	3.5		5.5	5.5		5.5	5.5	
Recall Mode	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	
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)		24.8			24.8			39.3			39.3	
Actuated g/C Ratio		0.33			0.33			0.52			0.52	
v/c Ratio		0.85			0.21			0.39			1.26	
Control Delay		38.4			17.9			13.6			151.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		38.4			17.9			13.6			151.7	
LOS		D			B			B			F	
Approach Delay		38.4			17.9			13.6			151.7	
Approach LOS		D			B			B			F	

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	76.1
Natural Cycle:	120
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.26
Intersection Signal Delay:	88.9
Intersection LOS:	F
Intersection Capacity Utilization:	119.7%
ICU Level of Service:	H
Analysis Period (min):	15

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





Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	493	126	332	936
v/c Ratio	0.85	0.21	0.39	1.26
Control Delay	38.4	17.9	13.6	151.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	38.4	17.9	13.6	151.7
Queue Length 50th (m)	67.5	12.7	29.7	~190.8
Queue Length 95th (m)	#109.7	24.8	52.0	#273.1
Internal Link Dist (m)	556.9	434.3	3096.2	305.9
Turn Bay Length (m)				
Base Capacity (vph)	683	703	849	740
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	0.72	0.18	0.39	1.26

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

















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

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

16: Ninth Line & 5 Side Road

Existing 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)	21	446	26	2	112	12	9	303	20	263	647	26
Future Volume (vph)	21	446	26	2	112	12	9	303	20	263	647	26
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	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.99			1.00	
Flt Protected		1.00			1.00			1.00			0.99	
Satd. Flow (prot)		1804			1841			1680			1790	
Flt Permitted		0.98			0.99			0.97			0.79	
Satd. Flow (perm)		1780			1830			1638			1433	
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)	21	446	26	2	112	12	9	303	20	263	647	26
RTOR Reduction (vph)	0	3	0	0	5	0	0	3	0	0	1	0
Lane Group Flow (vph)	0	490	0	0	121	0	0	329	0	0	935	0
Heavy Vehicles (%)	10%	4%	6%	0%	2%	0%	40%	12%	0%	0%	6%	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)		24.8			24.8			39.3			39.3	
Effective Green, g (s)		24.8			24.8			39.3			39.3	
Actuated g/C Ratio		0.33			0.33			0.52			0.52	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.5			3.5			5.5			5.5	
Lane Grp Cap (vph)		580			596			845			740	
v/s Ratio Prot												
v/s Ratio Perm		c0.28			0.07			0.20			c0.65	
v/c Ratio		0.85			0.20			0.39			1.26	
Uniform Delay, d1		23.9			18.5			11.1			18.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		11.2			0.2			1.4			129.0	
Delay (s)		35.0			18.7			12.5			147.4	
Level of Service		D			B			B			F	
Approach Delay (s)		35.0			18.7			12.5			147.4	
Approach LOS		D			B			B			F	
Intersection Summary												
HCM 2000 Control Delay			85.7				HCM 2000 Level of Service		F			
HCM 2000 Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			76.1				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			119.7%				ICU Level of Service		H			
Analysis Period (min)			15									
c Critical Lane Group												

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

Existing 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)	47	447	3	2	921	11	43	7	23	42	3	101
Future Volume (vph)	47	447	3	2	921	11	43	7	23	42	3	101
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			0.885				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	3085	1214	1203	3299	0	1687	1488	0	1583	1429	1568
Flt Permitted	0.305			0.493			0.756			0.738		
Satd. Flow (perm)	547	3085	1214	624	3299	0	1342	1488	0	1230	1429	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41		3			23				101
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)	47	447	3	2	921	11	43	7	23	42	3	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	447	3	2	932	0	43	30	0	42	3	101
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

Existing 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)	60.0	60.0	60.0	60.0	60.0		20.0	20.0		20.0	20.0	20.0
Total Split (%)	75.0%	75.0%	75.0%	75.0%	75.0%		25.0%	25.0%		25.0%	25.0%	25.0%
Maximum Green (s)	52.0	52.0	52.0	52.0	52.0		14.0	14.0		14.0	14.0	14.0
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)	58.4	58.4	58.4	58.4	58.4		10.3	10.3		10.3	10.3	10.3
Actuated g/C Ratio	0.75	0.75	0.75	0.75	0.75		0.13	0.13		0.13	0.13	0.13
v/c Ratio	0.11	0.19	0.00	0.00	0.38		0.24	0.14		0.26	0.02	0.34
Control Delay	5.1	4.3	0.0	4.0	5.2		33.6	16.7		34.3	28.7	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	5.1	4.3	0.0	4.0	5.2		33.6	16.7		34.3	28.7	10.4
LOS	A	A	A	A	A		C	B		C	C	B
Approach Delay		4.3			5.2			26.7			17.7	
Approach LOS		A			A			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 77.7
 Natural Cycle: 50
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.38
 Intersection Signal Delay: 7.0
 Intersection Capacity Utilization 68.3%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

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

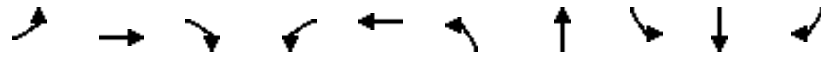


Queues

1: Brownridge Road/Fifth Line & Steeles Avenue

Existing PM

Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	47	447	3	2	932	43	30	42	3	101
v/c Ratio	0.11	0.19	0.00	0.00	0.38	0.24	0.14	0.26	0.02	0.34
Control Delay	5.1	4.3	0.0	4.0	5.2	33.6	16.7	34.3	28.7	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.1	4.3	0.0	4.0	5.2	33.6	16.7	34.3	28.7	10.4
Queue Length 50th (m)	2.1	11.0	0.0	0.1	27.3	5.9	1.0	5.8	0.4	0.0
Queue Length 95th (m)	6.1	17.4	0.0	0.7	39.8	15.2	8.2	15.2	2.7	13.0
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)	411	2316	922	468	2478	242	287	221	257	365
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	0.11	0.19	0.00	0.00	0.38	0.18	0.10	0.19	0.01	0.28

Intersection Summary

HCM Signalized Intersection Capacity Analysis

1: Brownridge Road/Fifth Line & Steeles Avenue

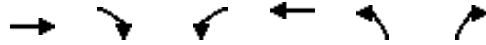
Existing PM
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	47	447	3	2	921	11	43	7	23	42	3	101
Future Volume (vph)	47	447	3	2	921	11	43	7	23	42	3	101
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	3300		1687	1488		1583	1429	1568
Flt Permitted	0.30	1.00	1.00	0.49	1.00		0.76	1.00		0.74	1.00	1.00
Satd. Flow (perm)	547	3085	1214	625	3300		1342	1488		1229	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)	47	447	3	2	921	11	43	7	23	42	3	101
RTOR Reduction (vph)	0	0	1	0	1	0	0	21	0	0	0	91
Lane Group Flow (vph)	47	447	2	2	931	0	43	9	0	42	3	10
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)	56.7	56.7	56.7	56.7	56.7		8.2	8.2		8.2	8.2	8.2
Effective Green, g (s)	56.7	56.7	56.7	56.7	56.7		8.2	8.2		8.2	8.2	8.2
Actuated g/C Ratio	0.72	0.72	0.72	0.72	0.72		0.10	0.10		0.10	0.10	0.10
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)	393	2216	872	449	2371		139	154		127	148	162
v/s Ratio Prot		0.14			c0.28			0.01				0.00
v/s Ratio Perm	0.09		0.00	0.00			0.03			c0.03		0.01
v/c Ratio	0.12	0.20	0.00	0.00	0.39		0.31	0.06		0.33	0.02	0.06
Uniform Delay, d1	3.4	3.7	3.1	3.1	4.4		32.7	31.9		32.8	31.7	31.9
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	0.6	0.2	0.0	0.0	0.5		1.3	0.2		1.5	0.1	0.2
Delay (s)	4.0	3.9	3.1	3.2	4.8		34.0	32.0		34.3	31.8	32.1
Level of Service	A	A	A	A	A		C	C		C	C	C
Approach Delay (s)		3.9			4.8			33.2			32.7	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			8.3				HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio			0.38									
Actuated Cycle Length (s)			78.9				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

Existing PM
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖	↗
Traffic Volume (vph)	527	1	2	940	14	6
Future Volume (vph)	527	1	2	940	14	6
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			0.456		0.950	
Satd. Flow (perm)	3085	1615	578	3312	1687	1380
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1				6
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)	527	1	2	940	14	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	527	1	2	940	14	6
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

Existing PM
Premier Gateway Phase 1B Employment Area

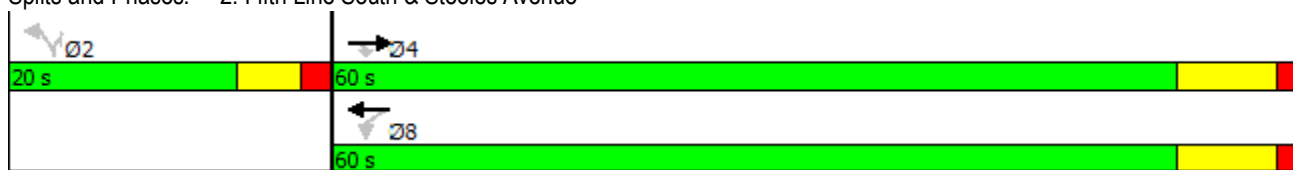


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	33.0	33.0	33.0	33.0	16.0	16.0
Total Split (s)	60.0	60.0	60.0	60.0	20.0	20.0
Total Split (%)	75.0%	75.0%	75.0%	75.0%	25.0%	25.0%
Maximum Green (s)	52.0	52.0	52.0	52.0	14.0	14.0
Yellow Time (s)	6.0	6.0	6.0	6.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	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)	72.8	72.8	72.8	72.8	10.1	10.1
Actuated g/C Ratio	0.89	0.89	0.89	0.89	0.12	0.12
v/c Ratio	0.19	0.00	0.00	0.32	0.07	0.03
Control Delay	2.2	2.0	3.0	2.6	36.1	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.2	2.0	3.0	2.6	36.1	22.5
LOS	A	A	A	A	D	C
Approach Delay	2.2			2.6	32.0	
Approach LOS	A			A	C	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 81.4
 Natural Cycle: 50
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.32
 Intersection Signal Delay: 2.8
 Intersection Capacity Utilization 55.0%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

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



Queues
2: Fifth Line South & Steeles Avenue

Existing PM
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	527	1	2	940	14	6
v/c Ratio	0.19	0.00	0.00	0.32	0.07	0.03
Control Delay	2.2	2.0	3.0	2.6	36.1	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.2	2.0	3.0	2.6	36.1	22.5
Queue Length 50th (m)	0.0	0.0	0.0	0.0	1.9	0.0
Queue Length 95th (m)	18.7	0.4	0.6	36.2	8.2	3.7
Internal Link Dist (m)	679.6			455.7	532.9	
Turn Bay Length (m)		30.0	60.0		15.0	
Base Capacity (vph)	2759	1445	517	2962	292	244
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	0.19	0.00	0.00	0.32	0.05	0.02
Intersection Summary						

HCM Signalized Intersection Capacity Analysis

2: Fifth Line South & Steeles Avenue

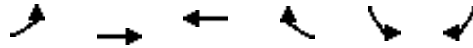
Existing PM
Premier Gateway Phase 1B Employment Area



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖	↗
Traffic Volume (vph)	527	1	2	940	14	6
Future Volume (vph)	527	1	2	940	14	6
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
Flt	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	0.46	1.00	0.95	1.00
Satd. Flow (perm)	3085	1615	578	3312	1687	1380
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	527	1	2	940	14	6
RTOR Reduction (vph)	0	0	0	0	0	6
Lane Group Flow (vph)	527	1	2	940	14	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)	67.6	67.6	67.6	67.6	3.6	3.6
Effective Green, g (s)	67.6	67.6	67.6	67.6	3.6	3.6
Actuated g/C Ratio	0.79	0.79	0.79	0.79	0.04	0.04
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)	2447	1281	458	2627	71	58
v/s Ratio Prot	0.17			c0.28		
v/s Ratio Perm		0.00	0.00		c0.01	0.00
v/c Ratio	0.22	0.00	0.00	0.36	0.20	0.00
Uniform Delay, d1	2.2	1.8	1.8	2.5	39.4	39.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.0	0.0	0.4	1.4	0.0
Delay (s)	2.4	1.8	1.8	2.9	40.8	39.1
Level of Service	A	A	A	A	D	D
Approach Delay (s)	2.4			2.9	40.3	
Approach LOS	A			A	D	
Intersection Summary						
HCM 2000 Control Delay			3.2		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.35			
Actuated Cycle Length (s)			85.2		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

Existing PM
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	44	753	972	18	5	31
Future Volume (vph)	44	753	972	18	5	31
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
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	2983	3282	1524	1805	1615
Flt 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)	44	753	972	18	5	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	44	753	972	18	5	31
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	

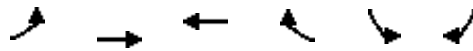
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	43.5%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

3: Steeles Avenue & Sixth Line

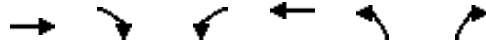
Existing PM
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↵	↑↑	↑↑	↵	↵	↵		
Traffic Volume (veh/h)	44	753	972	18	5	31		
Future Volume (Veh/h)	44	753	972	18	5	31		
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)	44	753	972	18	5	31		
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	990				1436	486		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	990				1436	486		
tC, single (s)	4.1				6.8	6.9		
tC, 2 stage (s)								
tF (s)	2.2				3.5	3.3		
p0 queue free %	94				96	94		
cM capacity (veh/h)	694				119	533		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	SB 2
Volume Total	44	376	376	486	486	18	5	31
Volume Left	44	0	0	0	0	0	5	0
Volume Right	0	0	0	0	0	18	0	31
cSH	694	1700	1700	1700	1700	1700	119	533
Volume to Capacity	0.06	0.22	0.22	0.29	0.29	0.01	0.04	0.06
Queue Length 95th (m)	1.6	0.0	0.0	0.0	0.0	0.0	1.0	1.5
Control Delay (s)	10.5	0.0	0.0	0.0	0.0	0.0	36.7	12.2
Lane LOS	B						E	B
Approach Delay (s)	0.6			0.0			15.6	
Approach LOS							C	
Intersection Summary								
Average Delay			0.6					
Intersection Capacity Utilization			43.5%		ICU Level of Service			A
Analysis Period (min)			15					

Lanes, Volumes, Timings
4: Sixth Line South & Steeles Avenue

Existing PM
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖	↗
Traffic Volume (vph)	397	10	38	898	20	73
Future Volume (vph)	397	10	38	898	20	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		30.0	60.0		30.0	0.0
Storage Lanes		1	1		1	1
Taper Length (m)			100.0		7.5	
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)	2959	1615	1805	3282	1805	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	2959	1615	1805	3282	1805	1615
Link Speed (k/h)	80			80	50	
Link Distance (m)	905.3			497.0	169.8	
Travel Time (s)	40.7			22.4	12.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	22%	0%	0%	10%	0%	0%
Adj. Flow (vph)	397	10	38	898	20	73
Shared Lane Traffic (%)						
Lane Group Flow (vph)	397	10	38	898	20	73
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	34.8%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
4: Sixth Line South & Steeles Avenue

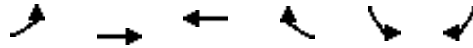
Existing PM
Premier Gateway Phase 1B Employment Area



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↗	↖	↑↑	↖	↗		
Traffic Volume (veh/h)	397	10	38	898	20	73		
Future Volume (Veh/h)	397	10	38	898	20	73		
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)	397	10	38	898	20	73		
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			407		922	198		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol			407		922	198		
tC, single (s)			4.1		6.8	6.9		
tC, 2 stage (s)								
tF (s)			2.2		3.5	3.3		
p0 queue free %			97		92	91		
cM capacity (veh/h)			1163		264	816		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	198	198	10	38	449	449	20	73
Volume Left	0	0	0	38	0	0	20	0
Volume Right	0	0	10	0	0	0	0	73
cSH	1700	1700	1700	1163	1700	1700	264	816
Volume to Capacity	0.12	0.12	0.01	0.03	0.26	0.26	0.08	0.09
Queue Length 95th (m)	0.0	0.0	0.0	0.8	0.0	0.0	2.0	2.4
Control Delay (s)	0.0	0.0	0.0	8.2	0.0	0.0	19.7	9.8
Lane LOS			A			C		A
Approach Delay (s)	0.0		0.3			12.0		
Approach LOS							B	
Intersection Summary								
Average Delay			1.0					
Intersection Capacity Utilization			34.8%			ICU Level of Service		A
Analysis Period (min)			15					

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

Existing PM
Premier Gateway Phase 1B Employment Area



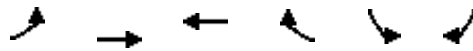
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	477	901	14	3	50
Future Volume (vph)	30	477	901	14	3	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0			30.0	30.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Fr _t				0.850		0.850
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1805	3034	3282	1615	1357	1615
Fl _t 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	879.8		1223.8	
Travel Time (s)		29.8	52.8		73.4	
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)	30	477	901	14	3	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	30	477	901	14	3	50
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	34.9%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
5: Steeles Avenue & Hornby Road

























Existing PM
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	30	477	901	14	3	50		
Future Volume (Veh/h)	30	477	901	14	3	50		
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)	30	477	901	14	3	50		
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	915				1200	450		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	915				1200	450		
tC, single (s)	4.1				7.5	6.9		
tC, 2 stage (s)								
tF (s)	2.2				3.8	3.3		
p0 queue free %	96				98	91		
cM capacity (veh/h)	754				133	562		
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1	SB 2
Volume Total	30	238	238	450	450	14	3	50
Volume Left	30	0	0	0	0	0	3	0
Volume Right	0	0	0	0	0	14	0	50
cSH	754	1700	1700	1700	1700	1700	133	562
Volume to Capacity	0.04	0.14	0.14	0.27	0.27	0.01	0.02	0.09
Queue Length 95th (m)	1.0	0.0	0.0	0.0	0.0	0.0	0.6	2.3
Control Delay (s)	10.0	0.0	0.0	0.0	0.0	0.0	32.7	12.0
Lane LOS	A						D	B
Approach Delay (s)	0.6			0.0			13.2	
Approach LOS							B	
Intersection Summary								
Average Delay			0.7					
Intersection Capacity Utilization			34.9%		ICU Level of Service		A	
Analysis Period (min)			15					

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

Existing 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)	25	346	108	570	746	150	155	608	539	38	280	14
Future Volume (vph)	25	346	108	570	746	150	155	608	539	38	280	14
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		0.0
Storage Lanes	1		1	2		1	2		1	1		0
Taper Length (m)	100.0			100.0			80.0			100.0		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	0.95
Frt			0.850			0.850			0.850		0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1367	3139	1262	3433	3312	1583	3099	3505	1568	1805	3386	0
Flt Permitted	0.290			0.950			0.950			0.422		
Satd. Flow (perm)	417	3139	1262	3433	3312	1583	3099	3505	1568	802	3386	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			122			150			513			4
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		879.8			311.3			332.0			289.5	
Travel Time (s)		52.8			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)	25	346	108	570	746	150	155	608	539	38	280	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	346	108	570	746	150	155	608	539	38	294	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			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	
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	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8			2	6		
Detector Phase	7	4	4	3	8	8	5	2	2	1	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	

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

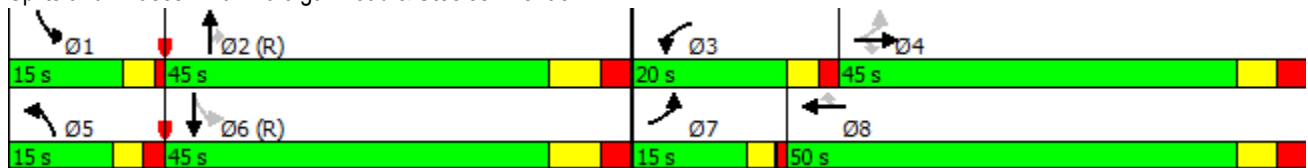
Existing PM
Premier Gateway Phase 1B Employment Area

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.0	40.0	40.0	13.0	27.0	27.0	13.0	28.0	28.0	11.0	28.0	
Total Split (s)	15.0	45.0	45.0	20.0	50.0	50.0	15.0	45.0	45.0	15.0	45.0	
Total Split (%)	12.0%	36.0%	36.0%	16.0%	40.0%	40.0%	12.0%	36.0%	36.0%	12.0%	36.0%	
Maximum Green (s)	11.0	38.0	38.0	15.0	43.0	43.0	10.0	37.0	37.0	11.0	37.0	
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	
All-Red Time (s)	1.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	1.0	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	
Total Lost Time (s)	4.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		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	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	36.6	26.0	26.0	15.0	38.8	38.8	12.0	57.0	57.0	58.4	47.0	
Actuated g/C Ratio	0.29	0.21	0.21	0.12	0.31	0.31	0.10	0.46	0.46	0.47	0.38	
v/c Ratio	0.14	0.53	0.30	1.39	0.73	0.25	0.52	0.38	0.54	0.09	0.23	
Control Delay	23.5	46.3	6.8	229.2	43.2	5.8	60.0	25.4	5.4	16.3	28.5	
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	23.5	46.3	6.8	229.2	43.2	5.8	60.0	25.4	5.4	16.3	28.5	
LOS	C	D	A	F	D	A	E	C	A	B	C	
Approach Delay		36.2			111.7			21.3			27.1	
Approach LOS		D			F			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	125
Actuated Cycle Length:	125
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.39
Intersection Signal Delay:	60.9
Intersection LOS:	E
Intersection Capacity Utilization	77.1%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 6: Trafalgar Road & Steeles Avenue



Queues
6: Trafalgar Road & Steeles Avenue

Existing PM
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	25	346	108	570	746	150	155	608	539	38	294
v/c Ratio	0.14	0.53	0.30	1.39	0.73	0.25	0.52	0.38	0.54	0.09	0.23
Control Delay	23.5	46.3	6.8	229.2	43.2	5.8	60.0	25.4	5.4	16.3	28.5
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	23.5	46.3	6.8	229.2	43.2	5.8	60.0	25.4	5.4	16.3	28.5
Queue Length 50th (m)	4.0	42.5	0.0	~100.9	95.2	0.0	19.8	56.3	3.9	4.4	26.7
Queue Length 95th (m)	8.9	53.0	11.4	#137.8	109.8	14.9	31.3	83.8	34.4	11.5	43.2
Internal Link Dist (m)		855.8			287.3			308.0			265.5
Turn Bay Length (m)	115.0		40.0	130.0		70.0	100.0		65.0	250.0	
Base Capacity (vph)	217	954	468	411	1139	642	301	1599	994	486	1276
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.36	0.23	1.39	0.65	0.23	0.51	0.38	0.54	0.08	0.23

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

























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

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

6: Trafalgar Road & Steeles Avenue

Existing 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)	25	346	108	570	746	150	155	608	539	38	280	14
Future Volume (vph)	25	346	108	570	746	150	155	608	539	38	280	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1367	3139	1262	3433	3312	1583	3099	3505	1568	1805	3386	
Flt Permitted	0.29	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.42	1.00	
Satd. Flow (perm)	418	3139	1262	3433	3312	1583	3099	3505	1568	801	3386	
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	346	108	570	746	150	155	608	539	38	280	14
RTOR Reduction (vph)	0	0	84	0	0	103	0	0	292	0	3	0
Lane Group Flow (vph)	25	346	24	570	746	47	155	608	247	38	291	0
Heavy Vehicles (%)	32%	15%	28%	2%	9%	2%	13%	3%	3%	0%	4%	43%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8			2	6		
Actuated Green, G (s)	32.4	27.6	27.6	15.0	38.8	38.8	12.0	53.8	53.8	50.0	45.4	
Effective Green, g (s)	32.4	27.6	27.6	15.0	38.8	38.8	12.0	53.8	53.8	50.0	45.4	
Actuated g/C Ratio	0.26	0.22	0.22	0.12	0.31	0.31	0.10	0.43	0.43	0.40	0.36	
Clearance Time (s)	4.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	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	
Lane Grp Cap (vph)	144	693	278	411	1028	491	297	1508	674	357	1229	
v/s Ratio Prot	0.01	0.11		c0.17	c0.23		c0.05	c0.17		0.00	0.09	
v/s Ratio Perm	0.04		0.02			0.03			0.16	0.04		
v/c Ratio	0.17	0.50	0.09	1.39	0.73	0.09	0.52	0.40	0.37	0.11	0.24	
Uniform Delay, d1	35.1	42.6	38.7	55.0	38.4	30.6	53.8	24.5	24.1	23.0	27.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	0.6	0.1	188.6	2.6	0.1	2.1	0.8	1.5	0.1	0.5	
Delay (s)	35.7	43.2	38.8	243.6	40.9	30.7	55.9	25.3	25.6	23.1	28.2	
Level of Service	D	D	D	F	D	C	E	C	C	C	C	
Approach Delay (s)		41.8			118.7			29.1			27.6	
Approach LOS		D			F			C			C	
Intersection Summary												
HCM 2000 Control Delay			67.4			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			125.0	Sum of lost time (s)				25.0				
Intersection Capacity Utilization			77.1%	ICU Level of Service			D					
Analysis Period (min)			15									
c Critical Lane Group												

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

Existing PM
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖↗	↗
Traffic Volume (vph)	868	35	21	1188	290	67
Future Volume (vph)	868	35	21	1188	290	67
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			0.235		0.950	
Satd. Flow (perm)	3312	1482	446	3406	3467	1599
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		35				67
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)	868	35	21	1188	290	67
Shared Lane Traffic (%)						
Lane Group Flow (vph)	868	35	21	1188	290	67
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

Existing PM
Premier Gateway Phase 1B Employment Area

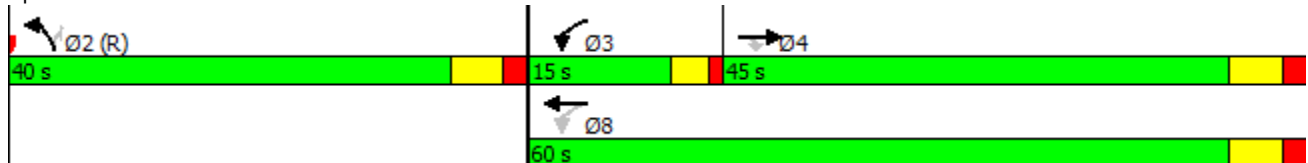


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Minimum Split (s)	26.0	26.0	10.0	26.0	17.0	17.0
Total Split (s)	45.0	45.0	15.0	60.0	40.0	40.0
Total Split (%)	45.0%	45.0%	15.0%	60.0%	40.0%	40.0%
Maximum Green (s)	39.0	39.0	11.0	54.0	34.0	34.0
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	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)	49.8	49.8	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	0.53	0.05	0.06	0.65	0.25	0.11
Control Delay	19.5	5.9	10.2	18.3	24.5	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	5.9	10.2	18.3	24.5	6.4
LOS	B	A	B	B	C	A
Approach Delay	19.0			18.2	21.1	
Approach LOS	B			B	C	

Intersection Summary

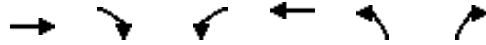
Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 18.9
 Intersection LOS: B
 Intersection Capacity Utilization 51.2%
 ICU Level of Service A
 Analysis Period (min) 15

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



Queues
7: Toronto Premier Outlets & Steeles Avenue

Existing PM
Premier Gateway Phase 1B Employment Area



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	868	35	21	1188	290	67
v/c Ratio	0.53	0.05	0.06	0.65	0.25	0.11
Control Delay	19.5	5.9	10.2	18.3	24.5	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	5.9	10.2	18.3	24.5	6.4
Queue Length 50th (m)	55.1	0.0	1.8	85.3	21.7	0.0
Queue Length 95th (m)	90.6	5.7	5.2	108.0	32.1	9.2
Internal Link Dist (m)	287.3			176.7	95.1	
Turn Bay Length (m)		130.0	45.0			40.0
Base Capacity (vph)	1648	755	399	1839	1178	587
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	0.53	0.05	0.05	0.65	0.25	0.11
Intersection Summary						

HCM Signalized Intersection Capacity Analysis
7: Toronto Premier Outlets & Steeles Avenue

Existing PM
Premier Gateway Phase 1B Employment Area



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↘	↑↑	↘↗	↗
Traffic Volume (vph)	868	35	21	1188	290	67
Future Volume (vph)	868	35	21	1188	290	67
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
Flt	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	0.24	1.00	0.95	1.00
Satd. Flow (perm)	3312	1482	447	3406	3467	1599
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	868	35	21	1188	290	67
RTOR Reduction (vph)	0	18	0	0	0	46
Lane Group Flow (vph)	868	17	21	1188	290	21
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)	49.8	49.8	56.4	56.4	31.6	31.6
Effective Green, g (s)	49.8	49.8	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)	1649	738	287	1920	1095	505
v/s Ratio Prot	0.26		0.00	c0.35	c0.08	
v/s Ratio Perm		0.01	0.04			0.01
v/c Ratio	0.53	0.02	0.07	0.62	0.26	0.04
Uniform Delay, d1	17.1	12.8	10.8	14.6	25.5	23.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.1	0.1	1.5	0.6	0.2
Delay (s)	18.3	12.8	10.9	16.1	26.1	23.9
Level of Service	B	B	B	B	C	C
Approach Delay (s)	18.1			16.0	25.7	
Approach LOS	B			B	C	
Intersection Summary						
HCM 2000 Control Delay			18.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.51			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	16.0
Intersection Capacity Utilization			51.2%		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)	217	632	15	114	1175	113	52	27	99	33	19	58
Future Volume (vph)	217	632	15	114	1175	113	52	27	99	33	19	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		55.0	30.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	1		1	1		0	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	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.987			0.882			0.887	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3223	1615	1770	3346	0	3367	1650	0	1752	1660	0
Flt Permitted	0.096			0.374			0.950			0.676		
Satd. Flow (perm)	182	3223	1615	697	3346	0	3367	1650	0	1247	1660	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		9			99				58
Link Speed (k/h)		60			60			50				70
Link Distance (m)		200.7			870.8			218.1				3086.4
Travel Time (s)		12.0			52.2			15.7				158.7
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)	217	632	15	114	1175	113	52	27	99	33	19	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	217	632	15	114	1288	0	52	126	0	33	77	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	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	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	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	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	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	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Perm	NA	
Protected Phases	7	4		3	8		5	2				6
Permitted Phases	4		4	8						6		
Detector Phase	7	4	4	3	8		5	2		6		6
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0		10.0	10.0		10.0	10.0	

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

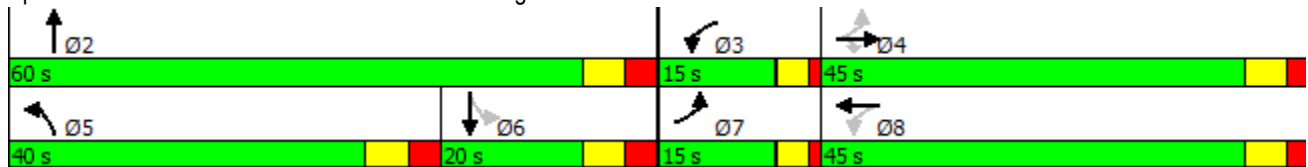


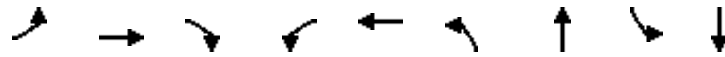
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.0	26.0	26.0	11.0	26.0		17.0	17.0		17.0	17.0	
Total Split (s)	15.0	45.0	45.0	15.0	45.0		40.0	60.0		20.0	20.0	
Total Split (%)	12.5%	37.5%	37.5%	12.5%	37.5%		33.3%	50.0%		16.7%	16.7%	
Maximum Green (s)	11.0	39.0	39.0	11.0	39.0		33.0	53.0		13.0	13.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		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	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0		7.0	7.0		7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2		4.0	4.0		3.0	3.0	
Recall Mode	None	Max	Max	None	Max		None	None		Max	Max	
Walk Time (s)		7.0	7.0		7.0			7.0				
Flash Dont Walk (s)		17.0	17.0		17.0			21.0				
Pedestrian Calls (#/hr)		0	0		0			0				
Act Effct Green (s)	54.9	41.8	41.8	49.7	39.2		10.1	26.2		13.1	13.1	
Actuated g/C Ratio	0.59	0.45	0.45	0.53	0.42		0.11	0.28		0.14	0.14	
v/c Ratio	0.73	0.44	0.02	0.24	0.92		0.14	0.24		0.19	0.27	
Control Delay	34.2	20.2	0.1	10.7	38.1		40.8	9.1		40.5	17.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	34.2	20.2	0.1	10.7	38.1		40.8	9.1		40.5	17.9	
LOS	C	C	A	B	D		D	A		D	B	
Approach Delay		23.4			35.9			18.4			24.6	
Approach LOS		C			D			B			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	93.6
Natural Cycle:	80
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	29.9
Intersection LOS:	C
Intersection Capacity Utilization:	84.8%
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	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	217	632	15	114	1288	52	126	33	77
v/c Ratio	0.73	0.44	0.02	0.24	0.92	0.14	0.24	0.19	0.27
Control Delay	34.2	20.2	0.1	10.7	38.1	40.8	9.1	40.5	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	20.2	0.1	10.7	38.1	40.8	9.1	40.5	17.9
Queue Length 50th (m)	23.8	45.3	0.0	9.5	126.4	4.8	3.7	5.9	3.3
Queue Length 95th (m)	#61.2	63.6	0.0	17.5	#175.7	10.7	16.8	15.2	16.7
Internal Link Dist (m)		176.7			846.8		194.1		3062.4
Turn Bay Length (m)	105.0		55.0	30.0				20.0	
Base Capacity (vph)	298	1440	797	516	1407	1194	982	174	281
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	0.73	0.44	0.02	0.22	0.92	0.04	0.13	0.19	0.27

Intersection Summary

























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

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

Existing 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)	217	632	15	114	1175	113	52	27	99	33	19	58
Future Volume (vph)	217	632	15	114	1175	113	52	27	99	33	19	58
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		7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.88		1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3223	1615	1770	3346		3367	1650		1752	1660	
Flt Permitted	0.10	1.00	1.00	0.37	1.00		0.95	1.00		0.68	1.00	
Satd. Flow (perm)	182	3223	1615	698	3346		3367	1650		1247	1660	
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)	217	632	15	114	1175	113	52	27	99	33	19	58
RTOR Reduction (vph)	0	0	8	0	5	0	0	70	0	0	50	0
Lane Group Flow (vph)	217	632	7	114	1283	0	52	56	0	33	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		Prot	NA		Perm	NA	
Protected Phases	7	4		3	8		5	2				6
Permitted Phases	4		4	8						6		
Actuated Green, G (s)	52.8	41.8	41.8	47.8	39.3		7.7	27.8		13.1	13.1	
Effective Green, g (s)	52.8	41.8	41.8	47.8	39.3		7.7	27.8		13.1	13.1	
Actuated g/C Ratio	0.56	0.44	0.44	0.50	0.41		0.08	0.29		0.14	0.14	
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2		4.0	4.0		3.0	3.0	
Lane Grp Cap (vph)	288	1416	709	446	1382		272	482		171	228	
v/s Ratio Prot	c0.09	0.20		0.02	c0.38		c0.02	0.03				0.02
v/s Ratio Perm	0.33		0.00	0.11						c0.03		
v/c Ratio	0.75	0.45	0.01	0.26	0.93		0.19	0.12		0.19	0.12	
Uniform Delay, d1	21.2	18.6	15.0	12.7	26.6		40.8	24.6		36.3	35.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.6	1.0	0.0	0.3	12.2		0.5	0.1		2.5	1.1	
Delay (s)	31.8	19.6	15.0	13.0	38.8		41.3	24.8		38.8	37.0	
Level of Service	C	B	B	B	D		D	C		D	D	
Approach Delay (s)		22.6			36.7			29.6			37.5	
Approach LOS		C			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			31.5			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			95.1			Sum of lost time (s)			24.0			
Intersection Capacity Utilization			84.8%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

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

Existing PM
Premier Gateway Phase 1B Employment Area

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (vph)	734	2	0	1411	1	5
Future Volume (vph)	734	2	0	1411	1	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
Flt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3279	0	1900	3406	1805	1346
Flt Permitted					0.950	
Satd. Flow (perm)	3279	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)	734	2	0	1411	1	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	736	0	0	1411	1	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	49.0%
Analysis Period (min)	15
	ICU Level of Service A

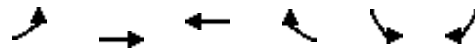
HCM Unsignalized Intersection Capacity Analysis
 9: Eighth Line South & Steeles Avenue

Existing PM
 Premier Gateway Phase 1B Employment Area

	→	↘	↙	←	↖	↗	
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↘	↑↑	↘	↗	
Traffic Volume (veh/h)	734	2	0	1411	1	5	
Future Volume (Veh/h)	734	2	0	1411	1	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)	734	2	0	1411	1	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			736		1440	368	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol			736		1440	368	
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		99	99	
cM capacity (veh/h)			879		126	580	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	489	247	0	706	706	1	5
Volume Left	0	0	0	0	0	1	0
Volume Right	0	2	0	0	0	0	5
cSH	1700	1700	1700	1700	1700	126	580
Volume to Capacity	0.29	0.15	0.00	0.41	0.41	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	33.8	11.3
Lane LOS						D	B
Approach Delay (s)	0.0		0.0			15.0	
Approach LOS						C	
Intersection Summary							
Average Delay			0.0				
Intersection Capacity Utilization			49.0%	ICU Level of Service		A	
Analysis Period (min)			15				

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

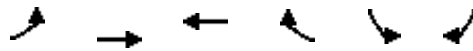
Existing PM
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↗↗	↗	↖	↖
Traffic Volume (vph)	100	664	1317	699	266	67
Future Volume (vph)	100	664	1317	699	266	67
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	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3252	3406	1615	1736	1524
Flt Permitted	0.108				0.950	
Satd. Flow (perm)	195	3252	3406	1615	1736	1524
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				562		67
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)	100	664	1317	699	266	67
Shared Lane Traffic (%)						
Lane Group Flow (vph)	100	664	1317	699	266	67
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
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	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	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

Existing PM
Premier Gateway Phase 1B Employment Area

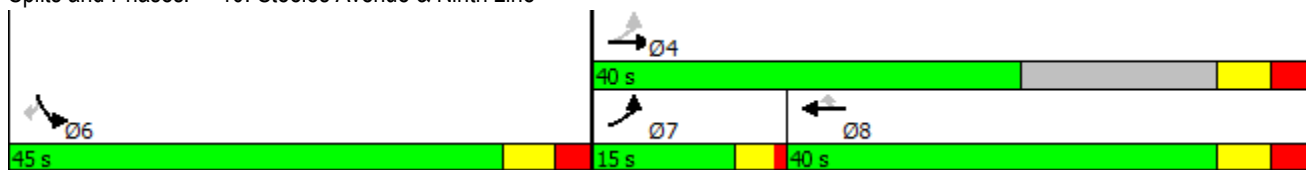


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Split (s)	11.0	27.0	27.0	27.0	17.0	17.0
Total Split (s)	15.0	40.0	40.0	40.0	45.0	45.0
Total Split (%)	15.0%	40.0%	40.0%	40.0%	45.0%	45.0%
Maximum Green (s)	11.0	33.0	33.0	33.0	38.0	38.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0	3.0	3.0	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 Effct Green (s)	46.8	43.8	33.1	33.1	38.2	38.2
Actuated g/C Ratio	0.49	0.46	0.34	0.34	0.40	0.40
v/c Ratio	0.42	0.45	1.12	0.76	0.39	0.10
Control Delay	18.4	18.7	97.6	12.1	23.7	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	18.7	97.6	12.1	23.7	5.7
LOS	B	B	F	B	C	A
Approach Delay		18.7	68.0		20.1	
Approach LOS		B	E		C	

Intersection Summary

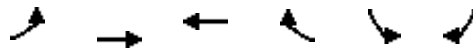
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	96
Natural Cycle:	65
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.12
Intersection Signal Delay:	50.7
Intersection LOS:	D
Intersection Capacity Utilization:	72.0%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 10: Steeles Avenue & Ninth Line



Queues
10: Steeles Avenue & Ninth Line

Existing PM
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	100	664	1317	699	266	67
v/c Ratio	0.42	0.45	1.12	0.76	0.39	0.10
Control Delay	18.4	18.7	97.6	12.1	23.7	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	18.7	97.6	12.1	23.7	5.7
Queue Length 50th (m)	10.2	44.9	~164.2	19.7	37.8	0.0
Queue Length 95th (m)	19.1	59.6	#212.5	72.1	61.4	8.6
Internal Link Dist (m)		501.4	704.8		3096.2	
Turn Bay Length (m)	65.0			75.0	90.0	
Base Capacity (vph)	270	1632	1175	925	690	645
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	0.37	0.41	1.12	0.76	0.39	0.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

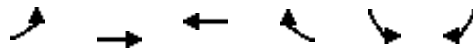
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

10: Steeles Avenue & Ninth Line

Existing PM
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↕↕	↕↕	↰	↰	↰
Traffic Volume (vph)	100	664	1317	699	266	67
Future Volume (vph)	100	664	1317	699	266	67
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	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1719	3252	3406	1615	1736	1524
Flt Permitted	0.11	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	195	3252	3406	1615	1736	1524
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	100	664	1317	699	266	67
RTOR Reduction (vph)	0	0	0	370	0	41
Lane Group Flow (vph)	100	664	1317	329	266	26
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)	44.6	44.6	33.1	33.1	38.1	38.1
Effective Green, g (s)	44.6	44.6	33.1	33.1	38.1	38.1
Actuated g/C Ratio	0.46	0.46	0.34	0.34	0.39	0.39
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)	208	1499	1165	552	683	600
v/s Ratio Prot	0.04	c0.20	c0.39		c0.15	
v/s Ratio Perm	0.18			0.20		0.02
v/c Ratio	0.48	0.44	1.13	0.60	0.39	0.04
Uniform Delay, d1	20.9	17.6	31.8	26.3	21.0	18.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	1.0	69.9	4.7	1.7	0.1
Delay (s)	22.6	18.6	101.7	31.0	22.6	18.2
Level of Service	C	B	F	C	C	B
Approach Delay (s)		19.1	77.2		21.8	
Approach LOS		B	E		C	
Intersection Summary						
HCM 2000 Control Delay			57.0		HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.71			
Actuated Cycle Length (s)			96.7		Sum of lost time (s)	18.0
Intersection Capacity Utilization			72.0%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

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

Existing PM
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	31	5	3	776	293	58
Future Volume (vph)	31	5	3	776	293	58
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	0.981				0.978	
Flt Protected	0.959					
Satd. Flow (prot)	1787	0	0	1863	1828	0
Flt Permitted	0.959					
Satd. Flow (perm)	1787	0	0	1863	1828	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)	31	5	3	776	293	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	779	351	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	53.2%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

11: Trafalgar Rd & Hornby Rd

Existing PM
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	5	3	776	293	58
Future Volume (Veh/h)	31	5	3	776	293	58
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)	31	5	3	776	293	58
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	1104	322	293			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1104	322	293			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	99	100			
cM capacity (veh/h)	235	724	1280			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	36	779	351			
Volume Left	31	3	0			
Volume Right	5	0	58			
cSH	259	1280	1700			
Volume to Capacity	0.14	0.00	0.21			
Queue Length 95th (m)	3.8	0.1	0.0			
Control Delay (s)	21.1	0.1	0.0			
Lane LOS	C	A				
Approach Delay (s)	21.1	0.1	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			53.2%	ICU Level of Service	A	
Analysis Period (min)			15			

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

Existing 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)	34	191	4	14	405	19	6	38	21	1	26	12
Future Volume (vph)	34	191	4	14	405	19	6	38	21	1	26	12
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		0.998			0.994			0.956			0.958	
Flt Protected		0.993			0.998			0.995			0.999	
Satd. Flow (prot)	0	1852	0	0	1834	0	0	1752	0	0	1728	0
Flt Permitted		0.993			0.998			0.995			0.999	
Satd. Flow (perm)	0	1852	0	0	1834	0	0	1752	0	0	1728	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)	34	191	4	14	405	19	6	38	21	1	26	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	229	0	0	438	0	0	65	0	0	39	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	39.1%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

















12: Fifth Line & 5 Side Road

Existing 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)	34	191	4	14	405	19	6	38	21	1	26	12
Future Volume (Veh/h)	34	191	4	14	405	19	6	38	21	1	26	12
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)	34	191	4	14	405	19	6	38	21	1	26	12
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	424			195			728	713	193	744	706	414
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	424			195			728	713	193	744	706	414
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 %	97			99			98	89	98	100	93	98
cM capacity (veh/h)	1146			1390			287	345	841	289	349	607
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	229	438	65	39								
Volume Left	34	14	6	1								
Volume Right	4	19	21	12								
cSH	1146	1390	417	399								
Volume to Capacity	0.03	0.01	0.16	0.10								
Queue Length 95th (m)	0.7	0.2	4.4	2.6								
Control Delay (s)	1.5	0.3	15.2	15.0								
Lane LOS	A	A	C	B								
Approach Delay (s)	1.5	0.3	15.2	15.0								
Approach LOS			C	B								
Intersection Summary												
Average Delay			2.7									
Intersection Capacity Utilization			39.1%		ICU Level of Service				A			
Analysis Period (min)			15									

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

Existing 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)	3	190	2	11	456	16	7	26	14	6	13	6
Future Volume (vph)	3	190	2	11	456	16	7	26	14	6	13	6
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 _t		0.999			0.996			0.960			0.968	
Fl _t Protected		0.999			0.999			0.993			0.988	
Satd. Flow (prot)	0	1838	0	0	1787	0	0	1724	0	0	1775	0
Fl _t Permitted		0.999			0.999			0.993			0.988	
Satd. Flow (perm)	0	1838	0	0	1787	0	0	1724	0	0	1775	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)	3	190	2	11	456	16	7	26	14	6	13	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	195	0	0	483	0	0	47	0	0	25	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	41.1%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

13: Sixth Line & 5 Side Road

Existing 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)	3	190	2	11	456	16	7	26	14	6	13	6
Future Volume (Veh/h)	3	190	2	11	456	16	7	26	14	6	13	6
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)	3	190	2	11	456	16	7	26	14	6	13	6
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	472			192			696	691	191	710	684	464
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	472			192			696	691	191	710	684	464
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 %	100			99			98	93	98	98	96	99
cM capacity (veh/h)	1030			1394			343	366	814	312	370	602
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	195	483	47	25								
Volume Left	3	11	7	6								
Volume Right	2	16	14	6								
cSH	1030	1394	433	388								
Volume to Capacity	0.00	0.01	0.11	0.06								
Queue Length 95th (m)	0.1	0.2	2.9	1.6								
Control Delay (s)	0.2	0.3	14.3	14.9								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.3	14.3	14.9								
Approach LOS			B	B								
Intersection Summary												
Average Delay			1.6									
Intersection Capacity Utilization			41.1%		ICU Level of Service				A			
Analysis Period (min)			15									

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

Existing 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)	47	144	35	39	338	35	86	821	51	7	455	58
Future Volume (vph)	47	144	35	39	338	35	86	821	51	7	455	58
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		0.0
Storage Lanes	1		1	1		0	1		0	1		0
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	0.95
Frt			0.850		0.986			0.991			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	1863	1482	1805	1873	0	1770	3448	0	1583	3372	0
Flt Permitted	0.251			0.665			0.412			0.299		
Satd. Flow (perm)	438	1863	1482	1264	1873	0	767	3448	0	498	3372	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			76		5			9			19	
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)	47	144	35	39	338	35	86	821	51	7	455	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	144	35	39	373	0	86	872	0	7	513	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	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	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	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	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	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	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0		7.0	25.0		7.0	25.0	

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

Existing 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	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		11.0	55.0		11.0	55.0	
Total Split (%)	34.7%	34.7%	34.7%	34.7%	34.7%		10.9%	54.5%		10.9%	54.5%	
Maximum Green (s)	28.6	28.6	28.6	28.6	28.6		7.0	49.0		7.0	49.0	
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		3.0	4.6		3.0	4.6	
All-Red Time (s)	1.8	1.8	1.8	1.8	1.8		1.0	1.4		1.0	1.4	
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)	6.4	6.4	6.4	6.4	6.4		4.0	6.0		4.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							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	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)	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	
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	
Act Effct Green (s)	24.0	24.0	24.0	24.0	24.0		59.2	55.8		56.9	49.5	
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25		0.63	0.59		0.60	0.52	
v/c Ratio	0.42	0.30	0.08	0.12	0.78		0.15	0.43		0.02	0.29	
Control Delay	43.0	30.6	0.9	28.4	44.8		8.2	12.4		7.7	13.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.0	30.6	0.9	28.4	44.8		8.2	12.4		7.7	13.9	
LOS	D	C	A	C	D		A	B		A	B	
Approach Delay		28.6			43.2			12.0			13.9	
Approach LOS		C			D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 101

Actuated Cycle Length: 94.4

Natural Cycle: 85

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 20.3

Intersection LOS: C

Intersection Capacity Utilization 81.6%

ICU Level of Service D

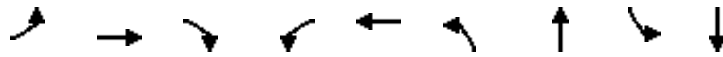
Analysis Period (min) 15

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



Queues
14: Trafalgar Rd & 5 Side Road

Existing PM
Premier Gateway Phase 1B Employment Area

























Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	47	144	35	39	373	86	872	7	513
v/c Ratio	0.42	0.30	0.08	0.12	0.78	0.15	0.43	0.02	0.29
Control Delay	43.0	30.6	0.9	28.4	44.8	8.2	12.4	7.7	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	30.6	0.9	28.4	44.8	8.2	12.4	7.7	13.9
Queue Length 50th (m)	7.8	23.0	0.0	6.0	67.7	6.1	43.4	0.5	29.3
Queue Length 95th (m)	19.9	39.9	1.2	14.3	101.6	12.8	80.0	2.2	42.9
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	
Base Capacity (vph)	134	569	506	386	576	555	2043	381	1776
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	0.35	0.25	0.07	0.10	0.65	0.15	0.43	0.02	0.29

Intersection Summary

HCM Signalized Intersection Capacity Analysis

14: Trafalgar Rd & 5 Side Road

Existing 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)	47	144	35	39	338	35	86	821	51	7	455	58
Future Volume (vph)	47	144	35	39	338	35	86	821	51	7	455	58
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	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1656	1863	1482	1805	1873		1770	3448		1583	3373	
Flt Permitted	0.25	1.00	1.00	0.67	1.00		0.41	1.00		0.30	1.00	
Satd. Flow (perm)	438	1863	1482	1264	1873		768	3448		499	3373	
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)	47	144	35	39	338	35	86	821	51	7	455	58
RTOR Reduction (vph)	0	0	26	0	4	0	0	4	0	0	9	0
Lane Group Flow (vph)	47	144	9	39	369	0	86	868	0	7	504	0
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	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	24.0	24.0	24.0	24.0	24.0		61.2	55.9		53.1	51.8	
Effective Green, g (s)	24.0	24.0	24.0	24.0	24.0		61.2	55.9		53.1	51.8	
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25		0.63	0.57		0.54	0.53	
Clearance Time (s)	6.4	6.4	6.4	6.4	6.4		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	107	458	364	310	460		537	1974		285	1790	
v/s Ratio Prot		0.08			c0.20		c0.01	c0.25		0.00	0.15	
v/s Ratio Perm	0.11		0.01	0.03			0.09			0.01		
v/c Ratio	0.44	0.31	0.02	0.13	0.80		0.16	0.44		0.02	0.28	
Uniform Delay, d1	31.1	30.1	27.9	28.6	34.6		7.3	11.9		10.3	12.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.9	0.8	0.1	0.4	11.0		0.1	0.7		0.0	0.4	
Delay (s)	37.0	30.9	28.0	29.0	45.6		7.5	12.6		10.3	13.0	
Level of Service	D	C	C	C	D		A	B		B	B	
Approach Delay (s)		31.7			44.0			12.2			13.0	
Approach LOS		C			D			B			B	
Intersection Summary												
HCM 2000 Control Delay			20.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			97.6			Sum of lost time (s)			16.4			
Intersection Capacity Utilization			81.6%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

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

Existing 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)	44	198	5	18	389	70	2	325	40	18	99	23
Future Volume (vph)	44	198	5	18	389	70	2	325	40	18	99	23
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			0.980			0.985			0.978	
Flt Protected		0.991			0.998						0.994	
Satd. Flow (prot)	0	1824	0	0	1833	0	0	1845	0	0	1835	0
Flt Permitted		0.991			0.998						0.994	
Satd. Flow (perm)	0	1824	0	0	1833	0	0	1845	0	0	1835	0
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		643.4			668.7			3086.4			454.5	
Travel Time (s)		38.6			40.1			158.7			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)	44	198	5	18	389	70	2	325	40	18	99	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	247	0	0	477	0	0	367	0	0	140	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			Stop			Stop	

















Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	56.9%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

15: Eighth Line & 5 Side Road

Existing PM
Premier Gateway Phase 1B Employment Area

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	44	198	5	18	389	70	2	325	40	18	99	23
Future Volume (vph)	44	198	5	18	389	70	2	325	40	18	99	23
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)	44	198	5	18	389	70	2	325	40	18	99	23
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	247	477	367	140								
Volume Left (vph)	44	18	2	18								
Volume Right (vph)	5	70	40	23								
Hadj (s)	0.07	-0.06	-0.04	-0.06								
Departure Headway (s)	6.9	6.2	6.6	7.3								
Degree Utilization, x	0.47	0.83	0.67	0.28								
Capacity (veh/h)	464	477	511	432								
Control Delay (s)	15.9	32.2	22.2	13.1								
Approach Delay (s)	15.9	32.2	22.2	13.1								
Approach LOS	C	D	C	B								
Intersection Summary												
Delay			23.8									
Level of Service			C									
Intersection Capacity Utilization			56.9%	ICU Level of Service	B							
Analysis Period (min)			15									

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

Existing 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)	25	197	14	6	444	223	12	750	9	27	305	20
Future Volume (vph)	25	197	14	6	444	223	12	750	9	27	305	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
Fr _t		0.992			0.955			0.998			0.992	
Fl _t Protected		0.995						0.999			0.996	
Satd. Flow (prot)	0	1869	0	0	1814	0	0	1894	0	0	1861	0
Fl _t Permitted		0.875			0.997			0.993			0.919	
Satd. Flow (perm)	0	1644	0	0	1809	0	0	1882	0	0	1717	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			35			1			5	
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)	25	197	14	6	444	223	12	750	9	27	305	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	236	0	0	673	0	0	771	0	0	352	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
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)	7.0	7.0		7.0	7.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		26.0	26.0		26.0	26.0	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	

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

Existing PM
Premier Gateway Phase 1B Employment Area

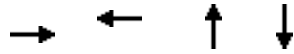
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	29.0	29.0		29.0	29.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.5	3.5		3.5	3.5		5.5	5.5		5.5	5.5	
Recall Mode	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	
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)		29.0			29.0			39.0			39.0	
Actuated g/C Ratio		0.36			0.36			0.49			0.49	
v/c Ratio		0.39			0.99			0.84			0.42	
Control Delay		21.1			59.2			28.3			14.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		21.1			59.2			28.3			14.9	
LOS		C			E			C			B	
Approach Delay		21.1			59.2			28.3			14.9	
Approach LOS		C			E			C			B	

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Natural Cycle:	80
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.99
Intersection Signal Delay:	35.4
Intersection LOS:	D
Intersection Capacity Utilization:	91.1%
ICU Level of Service:	F
Analysis Period (min):	15

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





Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	236	673	771	352
v/c Ratio	0.39	0.99	0.84	0.42
Control Delay	21.1	59.2	28.3	14.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	21.1	59.2	28.3	14.9
Queue Length 50th (m)	27.1	101.0	101.6	33.9
Queue Length 95th (m)	46.3	#174.8	#172.8	54.8
Internal Link Dist (m)	556.9	434.3	3096.2	305.9
Turn Bay Length (m)				
Base Capacity (vph)	598	678	917	839
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	0.39	0.99	0.84	0.42

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

Existing 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)	25	197	14	6	444	223	12	750	9	27	305	20
Future Volume (vph)	25	197	14	6	444	223	12	750	9	27	305	20
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	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.96			1.00			0.99	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1869			1814			1895			1862	
Flt Permitted		0.87			1.00			0.99			0.92	
Satd. Flow (perm)		1644			1810			1883			1719	
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	197	14	6	444	223	12	750	9	27	305	20
RTOR Reduction (vph)	0	3	0	0	22	0	0	1	0	0	3	0
Lane Group Flow (vph)	0	233	0	0	651	0	0	770	0	0	349	0
Heavy Vehicles (%)	3%	0%	0%	0%	0%	0%	0%	0%	3%	0%	1%	0%
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)		29.0			29.0			39.0			39.0	
Effective Green, g (s)		29.0			29.0			39.0			39.0	
Actuated g/C Ratio		0.36			0.36			0.49			0.49	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.5			3.5			5.5			5.5	
Lane Grp Cap (vph)		595			656			917			838	
v/s Ratio Prot												
v/s Ratio Perm		0.14			0.36			0.41			0.20	
v/c Ratio		0.39			0.99			0.84			0.42	
Uniform Delay, d1		19.0			25.4			17.8			13.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.5			33.0			9.2			1.5	
Delay (s)		19.5			58.4			27.0			14.7	
Level of Service		B			E			C			B	
Approach Delay (s)		19.5			58.4			27.0			14.7	
Approach LOS		B			E			C			B	
Intersection Summary												
HCM 2000 Control Delay		34.4			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.90										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		91.1%			ICU Level of Service			F				
Analysis Period (min)		15										
c Critical Lane Group												