

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

2026 Background AM - Remedial Measures  
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)	65	715	240	590	565	50	155	350	445	190	1310	325
Future Volume (vph)	65	715	240	590	565	50	155	350	445	190	1310	325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	115.0		40.0	130.0		70.0	100.0		65.0	250.0		80.0
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (m)	100.0			100.0			80.0			100.0		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2633	4433	1179	3400	4084	1455	2148	3167	1524	1752	3438	950
Flt Permitted	0.950			0.950			0.950			0.536		
Satd. Flow (perm)	2633	4433	1179	3400	4084	1455	2148	3167	1524	989	3438	950
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			190			142			445			216
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)	65	715	240	590	565	50	155	350	445	190	1310	325
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	715	240	590	565	50	155	350	445	190	1310	325
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	9.0	20.0	20.0

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Premier Gateway Phase 1B Employment Area

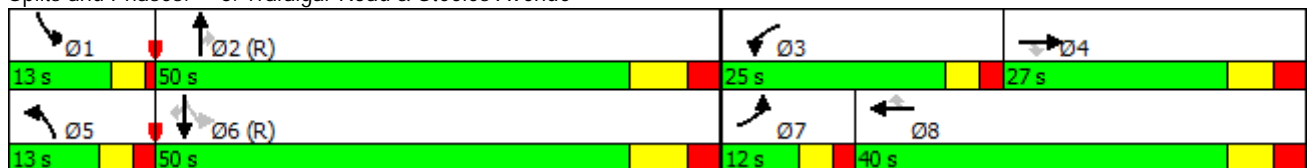


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.0	27.0	27.0	13.0	27.0	27.0	13.0	28.0	28.0	13.0	28.0	28.0
Total Split (s)	12.0	27.0	27.0	25.0	40.0	40.0	13.0	50.0	50.0	13.0	50.0	50.0
Total Split (%)	10.4%	23.5%	23.5%	21.7%	34.8%	34.8%	11.3%	43.5%	43.5%	11.3%	43.5%	43.5%
Maximum Green (s)	7.0	20.0	20.0	20.0	33.0	33.0	8.0	42.0	42.0	9.0	42.0	42.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	8.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	4.0	3.0	3.0	4.0	0.2	0.2	3.0	0.2	0.2
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	7.0	20.0	20.0	20.0	35.4	35.4	8.0	42.0	42.0	55.0	42.0	42.0
Actuated g/C Ratio	0.06	0.17	0.17	0.17	0.31	0.31	0.07	0.37	0.37	0.48	0.37	0.37
v/c Ratio	0.41	0.93	0.66	1.00	0.45	0.09	1.04	0.30	0.53	0.36	1.04	0.67
Control Delay	60.0	66.2	20.8	84.5	34.1	0.3	137.1	27.0	4.9	17.7	73.8	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	66.2	20.8	84.5	34.1	0.3	137.1	27.0	4.9	17.7	73.8	17.9
LOS	E	E	C	F	C	A	F	C	A	B	E	B
Approach Delay		55.1			57.4			34.6			58.0	
Approach LOS		E			E			C			E	

Intersection Summary

Area Type:	Other
Cycle Length:	115
Actuated Cycle Length:	115
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.04
Intersection Signal Delay:	52.8
Intersection LOS:	D
Intersection Capacity Utilization:	97.2%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 6: Trafalgar Road & Steeles Avenue



Queues  
6: Trafalgar Road & Steeles Avenue

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	65	715	240	590	565	50	155	350	445	190	1310	325
v/c Ratio	0.41	0.93	0.66	1.00	0.45	0.09	1.04	0.30	0.53	0.36	1.04	0.67
Control Delay	60.0	66.2	20.8	84.5	34.1	0.3	137.1	27.0	4.9	17.7	73.8	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	66.2	20.8	84.5	34.1	0.3	137.1	27.0	4.9	17.7	73.8	17.9
Queue Length 50th (m)	7.7	61.7	10.3	72.8	40.5	0.0	~20.4	30.8	0.0	23.7	~177.2	20.3
Queue Length 95th (m)	15.3	#86.7	39.7	#111.2	52.8	0.0	#42.8	43.3	21.7	37.9	#221.1	57.6
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		80.0
Base Capacity (vph)	160	770	362	591	1256	545	149	1156	839	532	1255	484
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.93	0.66	1.00	0.45	0.09	1.04	0.30	0.53	0.36	1.04	0.67

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 2026 Background AM - Remedial Measures 6: Trafalgar Road & Steeles Avenue

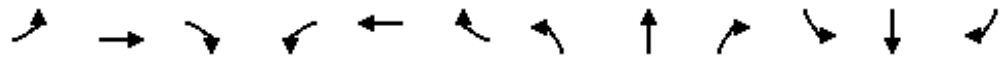
Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	715	240	590	565	50	155	350	445	190	1310	325
Future Volume (vph)	65	715	240	590	565	50	155	350	445	190	1310	325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	8.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2633	4433	1179	3400	4084	1455	2148	3167	1524	1752	3438	950
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.54	1.00	1.00
Satd. Flow (perm)	2633	4433	1179	3400	4084	1455	2148	3167	1524	989	3438	950
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	65	715	240	590	565	50	155	350	445	190	1310	325
RTOR Reduction (vph)	0	0	155	0	0	35	0	0	286	0	0	139
Lane Group Flow (vph)	65	715	85	590	565	15	155	350	159	190	1310	186
Heavy Vehicles (%)	33%	17%	37%	3%	27%	11%	63%	14%	6%	3%	5%	70%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2	6		6
Actuated Green, G (s)	5.6	21.0	21.0	20.0	35.4	35.4	8.0	41.0	41.0	50.0	41.0	41.0
Effective Green, g (s)	5.6	21.0	21.0	20.0	35.4	35.4	8.0	41.0	41.0	50.0	41.0	41.0
Actuated g/C Ratio	0.05	0.18	0.18	0.17	0.31	0.31	0.07	0.36	0.36	0.43	0.36	0.36
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0	3.0	4.0	3.0	3.0	4.0	0.2	0.2	3.0	0.2	0.2
Lane Grp Cap (vph)	128	809	215	591	1257	447	149	1129	543	489	1225	338
v/s Ratio Prot	0.02	c0.16		c0.17	0.14		c0.07	0.11		0.03	c0.38	
v/s Ratio Perm			0.07			0.01			0.10	0.14		0.20
v/c Ratio	0.51	0.88	0.39	1.00	0.45	0.03	1.04	0.31	0.29	0.39	1.07	0.55
Uniform Delay, d1	53.4	45.8	41.4	47.5	32.0	27.8	53.5	26.8	26.6	20.6	37.0	29.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	11.3	1.2	36.4	0.3	0.0	84.8	0.7	1.4	0.5	46.4	6.3
Delay (s)	56.5	57.1	42.6	83.8	32.2	27.9	138.3	27.5	27.9	21.1	83.4	35.9
Level of Service	E	E	D	F	C	C	F	C	C	C	F	D
Approach Delay (s)		53.6			57.3			45.8			68.5	
Approach LOS		D			E			D			E	

## Intersection Summary

HCM 2000 Control Delay	58.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	115.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	1190	20	40	745	30	5	5	15	235	10	465
Future Volume (vph)	100	1190	20	40	745	30	5	5	15	235	10	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		55.0	30.0		30.0	0.0		0.0	85.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	55.0			90.0			7.5			45.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frnt			0.850			0.850		0.887			0.853	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	4673	1404	1752	4287	1482	2633	1536	0	1787	1605	0
Flt Permitted	0.296			0.185			0.950			0.744		
Satd. Flow (perm)	536	4673	1404	341	4287	1482	2633	1536	0	1400	1605	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218			218		15			465	
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)	100	1190	20	40	745	30	5	5	15	235	10	465
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	1190	20	40	745	30	5	20	0	235	475	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Perm	NA	
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases	4		4	8		8				6		
Detector Phase	7	4	4	3	8	8	5	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	10.0	10.0		10.0	10.0	

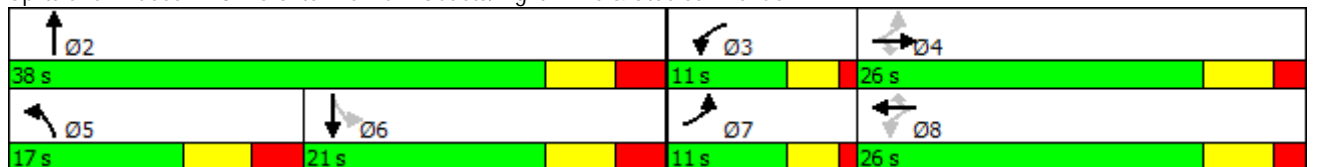


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.0	26.0	26.0	11.0	26.0	26.0	17.0	17.0		17.0	17.0	
Total Split (s)	11.0	26.0	26.0	11.0	26.0	26.0	17.0	38.0		21.0	21.0	
Total Split (%)	14.7%	34.7%	34.7%	14.7%	34.7%	34.7%	22.7%	50.7%		28.0%	28.0%	
Maximum Green (s)	7.0	20.0	20.0	7.0	20.0	20.0	10.0	31.0		14.0	14.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	7.0	7.0		7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2	0.2	4.0	4.0		3.0	3.0	
Recall Mode	None	Max	Max	None	Max	Max	None	None		Max	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0				
Flash Dont Walk (s)		17.0	17.0		17.0	17.0		21.0				
Pedestrian Calls (#/hr)		0	0		0	0		0				
Act Effct Green (s)	33.5	29.0	29.0	31.9	24.5	24.5	10.2	17.0		14.3	14.3	
Actuated g/C Ratio	0.53	0.46	0.46	0.50	0.39	0.39	0.16	0.27		0.23	0.23	
v/c Ratio	0.24	0.56	0.03	0.12	0.45	0.04	0.01	0.05		0.74	0.66	
Control Delay	9.6	16.2	0.1	9.0	17.1	0.1	26.6	10.2		42.8	8.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	9.6	16.2	0.1	9.0	17.1	0.1	26.6	10.2		42.8	8.3	
LOS	A	B	A	A	B	A	C	B		D	A	
Approach Delay		15.5			16.1			13.5			19.7	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	75
Actuated Cycle Length:	63.2
Natural Cycle:	75
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	16.7
Intersection LOS:	B
Intersection Capacity Utilization:	72.3%
ICU Level of Service:	C
Analysis Period (min):	15

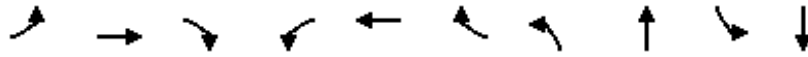
Splits and Phases: 8: Toronto Premium Outlets/Eighth Line & Steeles Avenue



Queues

2026 Background AM - Remedial Measures

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	100	1190	20	40	745	30	5	20	235	475
v/c Ratio	0.24	0.56	0.03	0.12	0.45	0.04	0.01	0.05	0.74	0.66
Control Delay	9.6	16.2	0.1	9.0	17.1	0.1	26.6	10.2	42.8	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	16.2	0.1	9.0	17.1	0.1	26.6	10.2	42.8	8.3
Queue Length 50th (m)	4.5	27.3	0.0	1.7	23.5	0.0	0.3	0.5	26.3	1.0
Queue Length 95th (m)	17.1	81.0	0.0	8.4	48.2	0.0	1.9	4.6	#80.4	29.1
Internal Link Dist (m)		176.7			846.8			194.1		3062.4
Turn Bay Length (m)	105.0		55.0	30.0		30.0			85.0	
Base Capacity (vph)	417	2140	761	331	1659	707	424	775	316	722
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	0.24	0.56	0.03	0.12	0.45	0.04	0.01	0.03	0.74	0.66

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis 2026 Background AM - Remedial Measures  
 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)	100	1190	20	40	745	30	5	5	15	235	10	465
Future Volume (vph)	100	1190	20	40	745	30	5	5	15	235	10	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0	6.0	4.0	6.0	6.0	7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1719	4673	1404	1752	4287	1482	2633	1536		1787	1605	
Flt Permitted	0.30	1.00	1.00	0.18	1.00	1.00	0.95	1.00		0.74	1.00	
Satd. Flow (perm)	535	4673	1404	341	4287	1482	2633	1536		1400	1605	
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)	100	1190	20	40	745	30	5	5	15	235	10	465
RTOR Reduction (vph)	0	0	12	0	0	19	0	10	0	0	372	0
Lane Group Flow (vph)	100	1190	8	40	745	11	5	10	0	235	103	0
Heavy Vehicles (%)	5%	11%	15%	3%	21%	9%	33%	0%	13%	1%	0%	1%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Perm	NA	
Protected Phases	7	4		3	8		5	2				6
Permitted Phases	4		4	8		8				6		
Actuated Green, G (s)	34.4	29.0	29.0	28.6	26.1	26.1	1.6	22.9		14.3	14.3	
Effective Green, g (s)	34.4	29.0	29.0	28.6	26.1	26.1	1.6	22.9		14.3	14.3	
Actuated g/C Ratio	0.48	0.41	0.41	0.40	0.37	0.37	0.02	0.32		0.20	0.20	
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2	0.2	4.0	4.0		3.0	3.0	
Lane Grp Cap (vph)	347	1897	570	185	1567	541	59	492		280	321	
v/s Ratio Prot	c0.02	c0.25		0.01	0.17		c0.00	0.01				0.06
v/s Ratio Perm	0.12		0.01	0.08		0.01				c0.17		
v/c Ratio	0.29	0.63	0.01	0.22	0.48	0.02	0.08	0.02		0.84	0.32	
Uniform Delay, d1	10.4	16.9	12.7	13.3	17.4	14.5	34.2	16.6		27.4	24.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	1.6	0.0	0.6	1.0	0.1	0.8	0.0		25.0	2.6	
Delay (s)	10.8	18.5	12.7	13.9	18.4	14.5	35.0	16.6		52.4	27.0	
Level of Service	B	B	B	B	B	B	D	B		D	C	
Approach Delay (s)		17.8			18.1			20.3			35.4	
Approach LOS		B			B			C			D	

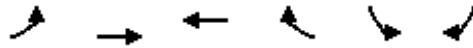
Intersection Summary

HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	71.4	Sum of lost time (s)	24.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



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

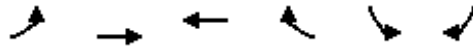
2026 Background AM - Remedial Measures  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	100	1365	750	280	750	100
Future Volume (vph)	100	1365	750	280	750	100
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	0.91	0.95	1.00	0.97	1.00
Fr <sub>t</sub>				0.850		0.850
Fl <sub>t</sub> Protected	0.950				0.950	
Satd. Flow (prot)	1556	4759	3059	1509	3433	1324
Fl <sub>t</sub> Permitted	0.248				0.950	
Satd. Flow (perm)	406	4759	3059	1509	3433	1324
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				280		100
Link Speed (k/h)		70	70		70	
Link Distance (m)		525.4	169.8		3120.2	
Travel Time (s)		27.0	8.7		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)	100	1365	750	280	750	100
Shared Lane Traffic (%)						
Lane Group Flow (vph)	100	1365	750	280	750	100
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		7.2	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (m)	2.0	10.0	10.0	2.0	2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6	2.0	2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	7.0	20.0	20.0	20.0	10.0	10.0

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

2026 Background AM - Remedial Measures  
Premier Gateway Phase 1B Employment Area

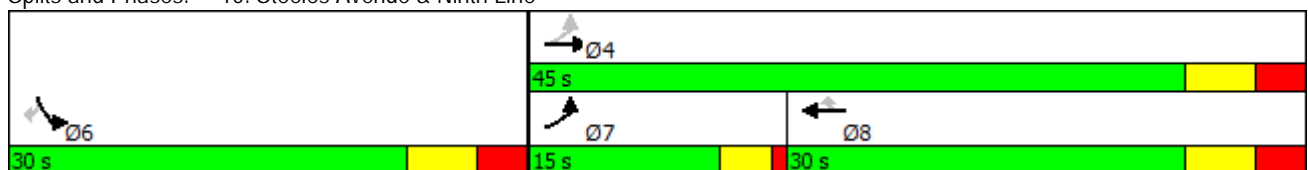


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Split (s)	11.0	27.0	27.0	27.0	17.0	17.0
Total Split (s)	15.0	45.0	30.0	30.0	30.0	30.0
Total Split (%)	20.0%	60.0%	40.0%	40.0%	40.0%	40.0%
Maximum Green (s)	11.0	38.0	23.0	23.0	23.0	23.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	0.2	0.2	0.2	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	Max
Act Effect Green (s)	41.0	38.0	28.1	28.1	23.0	23.0
Actuated g/C Ratio	0.55	0.51	0.37	0.37	0.31	0.31
v/c Ratio	0.29	0.57	0.66	0.38	0.71	0.21
Control Delay	10.6	14.0	24.1	4.3	27.6	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	14.0	24.1	4.3	27.6	5.8
LOS	B	B	C	A	C	A
Approach Delay	13.7		18.8		25.0	
Approach LOS	B		B		C	

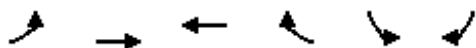
Intersection Summary

Area Type:	Other
Cycle Length:	75
Actuated Cycle Length:	75
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	18.1
Intersection LOS:	B
Intersection Capacity Utilization:	63.0%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 10: Steeles Avenue & Ninth Line



Queues  
10: Steeles Avenue & Ninth Line

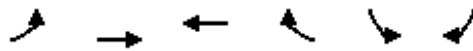


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	100	1365	750	280	750	100
v/c Ratio	0.29	0.57	0.66	0.38	0.71	0.21
Control Delay	10.6	14.0	24.1	4.3	27.6	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	14.0	24.1	4.3	27.6	5.8
Queue Length 50th (m)	6.7	48.2	49.7	0.0	50.5	0.0
Queue Length 95th (m)	13.8	61.2	73.5	16.0	69.7	10.2
Internal Link Dist (m)		501.4	145.8		3096.2	
Turn Bay Length (m)	65.0			75.0	90.0	
Base Capacity (vph)	390	2411	1144	739	1052	475
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	0.26	0.57	0.66	0.38	0.71	0.21
<b>Intersection Summary</b>						

# HCM Signalized Intersection Capacity Analysis 2026 Background AM - Remedial Measures

## 10: Steeles Avenue & Ninth Line

Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	100	1365	750	280	750	100
Future Volume (vph)	100	1365	750	280	750	100
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	0.91	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1556	4759	3059	1509	3433	1324
Flt Permitted	0.25	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	406	4759	3059	1509	3433	1324
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	100	1365	750	280	750	100
RTOR Reduction (vph)	0	0	0	176	0	70
Lane Group Flow (vph)	100	1365	750	104	750	30
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)	38.8	38.8	28.1	28.1	23.0	23.0
Effective Green, g (s)	38.8	38.8	28.1	28.1	23.0	23.0
Actuated g/C Ratio	0.51	0.51	0.37	0.37	0.30	0.30
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)	309	2436	1134	559	1041	401
v/s Ratio Prot	0.03	c0.29	c0.25		c0.22	
v/s Ratio Perm	0.14			0.07		0.02
v/c Ratio	0.32	0.56	0.66	0.19	0.72	0.08
Uniform Delay, d1	10.5	12.7	19.9	16.1	23.5	18.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.9	3.0	0.7	4.3	0.4
Delay (s)	11.1	13.6	22.9	16.9	27.8	19.2
Level of Service	B	B	C	B	C	B
Approach Delay (s)		13.4	21.3		26.8	
Approach LOS		B	C		C	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			19.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.69			
Actuated Cycle Length (s)			75.8		Sum of lost time (s)	18.0
Intersection Capacity Utilization			63.0%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

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

2026 Background AM - Remedial Measures  
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)	45	460	315	75	125	15	25	420	45	35	1480	45
Future Volume (vph)	45	460	315	75	125	15	25	420	45	35	1480	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		40.0	40.0		0.0	40.0		0.0	50.0		20.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	80.0			80.0			100.0			100.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Fr't			0.850		0.984			0.985				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3539	1568	1687	3300	0	1444	2858	0	1480	3374	1292
Flt Permitted	0.663			0.290			0.088			0.463		
Satd. Flow (perm)	1156	3539	1568	515	3300	0	134	2858	0	721	3374	1292
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			174		11			17				120
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		223.8			665.2			264.1			262.0	
Travel Time (s)		13.4			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)	45	460	315	75	125	15	25	420	45	35	1480	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	460	315	75	140	0	25	465	0	35	1480	45
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	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	7	4	4	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0		7.0	25.0		7.0	25.0	25.0

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

2026 Background AM - Remedial Measures  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	9.0	22.0	22.0	9.0	22.0		11.0	32.0		11.0	32.0	32.0
Total Split (s)	9.0	23.0	23.0	9.0	23.0		11.0	57.0		11.0	57.0	57.0
Total Split (%)	9.0%	23.0%	23.0%	9.0%	23.0%		11.0%	57.0%		11.0%	57.0%	57.0%
Maximum Green (s)	5.0	17.0	17.0	5.0	17.0		7.0	51.0		7.0	51.0	51.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	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)	4.0	6.0	6.0	4.0	6.0		4.0	6.0		4.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		3.0	5.0		3.0	5.0	5.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	Max
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	7.0
Flash Dont Walk (s)		25.0	25.0		25.0			20.0			20.0	20.0
Pedestrian Calls (#/hr)		0	0		0			0			0	0
Act Effct Green (s)	22.6	16.7	16.7	23.4	18.6		57.4	51.5		58.2	53.6	53.6
Actuated g/C Ratio	0.24	0.18	0.18	0.25	0.20		0.61	0.55		0.62	0.57	0.57
v/c Ratio	0.15	0.73	0.75	0.39	0.21		0.14	0.29		0.07	0.77	0.06
Control Delay	27.6	45.1	29.5	33.5	32.1		8.4	12.7		7.1	20.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	27.6	45.1	29.5	33.5	32.1		8.4	12.7		7.1	20.3	0.1
LOS	C	D	C	C	C		A	B		A	C	A
Approach Delay		38.1			32.6			12.5			19.4	
Approach LOS		D			C			B			B	

Intersection Summary

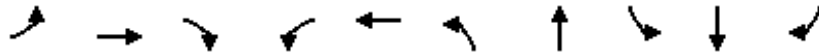
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	93.4
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	24.2
Intersection LOS:	C
Intersection Capacity Utilization:	77.9%
ICU Level of Service:	D
Analysis Period (min):	15

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

Ø1	Ø2	Ø3	Ø4
11 s	57 s	9 s	23 s
Ø5	Ø6	Ø7	Ø8
11 s	57 s	9 s	23 s

Queues  
14: Trafalgar Rd & 5 Side Road

2026 Background AM - Remedial Measures  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	45	460	315	75	140	25	465	35	1480	45
v/c Ratio	0.15	0.73	0.75	0.39	0.21	0.14	0.29	0.07	0.77	0.06
Control Delay	27.6	45.1	29.5	33.5	32.1	8.4	12.7	7.1	20.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	45.1	29.5	33.5	32.1	8.4	12.7	7.1	20.3	0.1
Queue Length 50th (m)	6.8	47.6	27.3	11.5	12.1	1.7	26.7	2.4	98.7	0.0
Queue Length 95th (m)	15.6	#66.2	#68.7	23.1	21.2	4.7	37.7	6.0	167.1	0.0
Internal Link Dist (m)		199.8			641.2		240.1		238.0	
Turn Bay Length (m)	40.0		40.0	40.0		40.0		50.0		20.0
Base Capacity (vph)	306	650	429	192	682	181	1583	506	1934	791
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	0.15	0.71	0.73	0.39	0.21	0.14	0.29	0.07	0.77	0.06

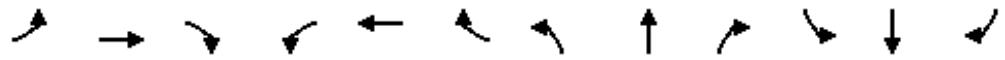
Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis 2026 Background AM - Remedial Measures

## 14: Trafalgar Rd & 5 Side Road

Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	460	315	75	125	15	25	420	45	35	1480	45
Future Volume (vph)	45	460	315	75	125	15	25	420	45	35	1480	45
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		4.0	6.0		4.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1656	3539	1568	1687	3300		1444	2859		1480	3374	1292
Flt Permitted	0.66	1.00	1.00	0.29	1.00		0.09	1.00		0.46	1.00	1.00
Satd. Flow (perm)	1156	3539	1568	514	3300		134	2859		721	3374	1292
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	45	460	315	75	125	15	25	420	45	35	1480	45
RTOR Reduction (vph)	0	0	143	0	9	0	0	8	0	0	0	20
Lane Group Flow (vph)	45	460	172	75	131	0	25	457	0	35	1480	25
Heavy Vehicles (%)	9%	2%	3%	7%	1%	63%	25%	25%	19%	22%	7%	25%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6
Actuated Green, G (s)	20.3	17.5	17.5	22.5	18.6		54.9	52.3		57.5	53.6	53.6
Effective Green, g (s)	20.3	17.5	17.5	22.5	18.6		54.9	52.3		57.5	53.6	53.6
Actuated g/C Ratio	0.21	0.18	0.18	0.23	0.19		0.56	0.54		0.59	0.55	0.55
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		3.0	5.0		3.0	5.0	5.0
Lane Grp Cap (vph)	254	634	281	165	628		110	1532		455	1852	709
v/s Ratio Prot	0.01	c0.13		c0.02	0.04		c0.01	0.16		0.00	c0.44	
v/s Ratio Perm	0.03		0.11	0.09			0.12			0.04		0.02
v/c Ratio	0.18	0.73	0.61	0.45	0.21		0.23	0.30		0.08	0.80	0.03
Uniform Delay, d1	31.5	37.8	36.9	30.6	33.3		13.4	12.5		8.5	17.7	10.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	5.0	5.6	2.0	0.3		1.1	0.5		0.1	3.7	0.1
Delay (s)	31.8	42.8	42.5	32.5	33.6		14.5	13.0		8.5	21.4	10.2
Level of Service	C	D	D	C	C		B	B		A	C	B
Approach Delay (s)		42.1			33.3			13.1			20.8	
Approach LOS		D			C			B			C	

### Intersection Summary

HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	97.6	Sum of lost time (s)	20.0
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



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

2026 Background AM - Remedial Measures  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	25	475	10	40	155	20	5	115	30	85	650	90
Future Volume (vph)	25	475	10	40	155	20	5	115	30	85	650	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.997			0.986			0.973			0.985	
Fl <sub>t</sub> Protected		0.998			0.991			0.998			0.995	
Satd. Flow (prot)	0	3495	0	0	3385	0	0	1817	0	0	1860	0
Fl <sub>t</sub> Permitted		0.927			0.713			0.979			0.950	
Satd. Flow (perm)	0	3246	0	0	2435	0	0	1782	0	0	1776	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			12			30			15	
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)	25	475	10	40	155	20	5	115	30	85	650	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	510	0	0	215	0	0	150	0	0	825	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)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		56.0	56.0		56.0	56.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		70.0%	70.0%		70.0%	70.0%	

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

2026 Background AM - Remedial Measures  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	18.0	18.0		18.0	18.0		50.0	50.0		50.0	50.0	
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)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		16.7			16.7			50.0			50.0	
Actuated g/C Ratio		0.21			0.21			0.64			0.64	
v/c Ratio		0.74			0.41			0.13			0.73	
Control Delay		36.1			27.7			5.1			14.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		36.1			27.7			5.1			14.6	
LOS		D			C			A			B	
Approach Delay		36.1			27.7			5.1			14.6	
Approach LOS		D			C			A			B	

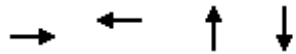
Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	78.7
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	21.9
Intersection LOS:	C
Intersection Capacity Utilization	103.5%
ICU Level of Service	G
Analysis Period (min)	15

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



Queues  
15: Eighth Line & 5 Side Road



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	510	215	150	825
v/c Ratio	0.74	0.41	0.13	0.73
Control Delay	36.1	27.7	5.1	14.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	36.1	27.7	5.1	14.6
Queue Length 50th (m)	39.4	14.5	6.7	78.5
Queue Length 95th (m)	56.4	24.7	13.9	128.2
Internal Link Dist (m)	619.4	644.7	3062.4	430.5
Turn Bay Length (m)				
Base Capacity (vph)	743	566	1143	1133
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	0.69	0.38	0.13	0.73
<b>Intersection Summary</b>				

# HCM Signalized Intersection Capacity Analysis 2026 Background AM - Remedial Measures

## 15: Eighth Line & 5 Side Road

Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Volume (vph)	25	475	10	40	155	20	5	115	30	85	650	90
Future Volume (vph)	25	475	10	40	155	20	5	115	30	85	650	90
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		0.95			0.95			1.00			1.00	
Frt		1.00			0.99			0.97			0.99	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		3494			3384			1817			1860	
Flt Permitted		0.93			0.71			0.98			0.95	
Satd. Flow (perm)		3246			2436			1782			1777	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	475	10	40	155	20	5	115	30	85	650	90
RTOR Reduction (vph)	0	2	0	0	9	0	0	11	0	0	5	0
Lane Group Flow (vph)	0	508		0	206		0	139		0	820	
Heavy Vehicles (%)	13%	2%	14%	7%	3%	8%	0%	1%	4%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		16.7			16.7			50.0			50.0	
Effective Green, g (s)		16.7			16.7			50.0			50.0	
Actuated g/C Ratio		0.21			0.21			0.64			0.64	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		688			516			1132			1128	
v/s Ratio Prot												
v/s Ratio Perm		c0.16			0.08			0.08			c0.46	
v/c Ratio		0.74			0.40			0.12			0.73	
Uniform Delay, d1		29.0			26.7			5.7			9.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.2			0.5			0.2			4.1	
Delay (s)		33.1			27.2			5.9			13.8	
Level of Service		C			C			A			B	
Approach Delay (s)		33.1			27.2			5.9			13.8	
Approach LOS		C			C			A			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay		20.6			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.73										
Actuated Cycle Length (s)		78.7			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		103.5%			ICU Level of Service			G				
Analysis Period (min)		15										
c Critical Lane Group												

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

2026 Background AM - Remedial Measures  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	590	35	5	150	20	15	400	30	345	850	35
Future Volume (vph)	30	590	35	5	150	20	15	400	30	345	850	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	40.0		40.0	40.0		0.0	40.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.992				0.850		0.990			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1641	3440	0	1805	3539	1615	1289	3215	0	1805	3388	0
Flt Permitted	0.657			0.330			0.321			0.398		
Satd. Flow (perm)	1135	3440	0	627	3539	1615	436	3215	0	756	3388	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				127		12			10	
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)	30	590	35	5	150	20	15	400	30	345	850	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	625	0	5	150	20	15	430	0	345	885	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		1	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0	15.0	15.0	15.0		7.0	20.0	

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

2026 Background AM - Remedial Measures  
Premier Gateway Phase 1B Employment Area

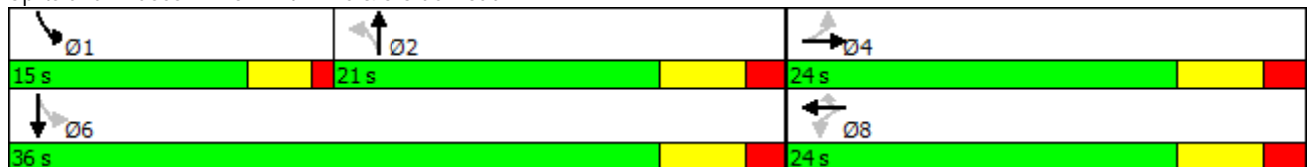


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	24.0	24.0		24.0	24.0	24.0	21.0	21.0		11.0	26.0	
Total Split (s)	24.0	24.0		24.0	24.0	24.0	21.0	21.0		15.0	36.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%	40.0%	35.0%	35.0%		25.0%	60.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0	18.0	15.0	15.0		11.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0	6.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.5	3.5		3.5	3.5	3.5	5.5	5.5		3.0	5.5	
Recall Mode	None	None		None	None	None	Max	Max		None	Max	
Walk Time (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0			7.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0			0	
Act Effct Green (s)	16.5	16.5		16.5	16.5	16.5	15.9	15.9		32.0	30.0	
Actuated g/C Ratio	0.28	0.28		0.28	0.28	0.28	0.27	0.27		0.55	0.51	
v/c Ratio	0.09	0.64		0.03	0.15	0.04	0.13	0.49		0.58	0.51	
Control Delay	16.2	21.5		15.6	16.1	0.1	20.7	20.2		12.1	10.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	16.2	21.5		15.6	16.1	0.1	20.7	20.2		12.1	10.8	
LOS	B	C		B	B	A	C	C		B	B	
Approach Delay		21.3			14.2			20.3			11.1	
Approach LOS		C			B			C			B	

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 58.5  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.64  
 Intersection Signal Delay: 15.6  
 Intersection LOS: B  
 Intersection Capacity Utilization 77.0%  
 ICU Level of Service D  
 Analysis Period (min) 15

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



Queues  
16: Ninth Line & 5 Side Road

2026 Background AM - Remedial Measures  
Premier Gateway Phase 1B Employment Area

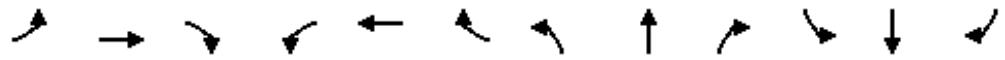


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	30	625	5	150	20	15	430	345	885
v/c Ratio	0.09	0.64	0.03	0.15	0.04	0.13	0.49	0.58	0.51
Control Delay	16.2	21.5	15.6	16.1	0.1	20.7	20.2	12.1	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.2	21.5	15.6	16.1	0.1	20.7	20.2	12.1	10.8
Queue Length 50th (m)	2.5	31.5	0.4	6.5	0.0	1.3	21.2	19.7	31.3
Queue Length 95th (m)	7.8	47.0	2.5	12.5	0.0	5.8	34.6	36.2	47.6
Internal Link Dist (m)		556.9		434.3			3096.2		305.9
Turn Bay Length (m)	40.0		40.0		40.0	40.0		40.0	
Base Capacity (vph)	349	1065	193	1088	584	118	881	610	1742
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	0.03	0.14	0.03	0.13	0.49	0.57	0.51
<b>Intersection Summary</b>									

# HCM Signalized Intersection Capacity Analysis 2026 Background AM - Remedial Measures

## 16: Ninth Line & 5 Side Road

Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	
Traffic Volume (vph)	30	590	35	5	150	20	15	400	30	345	850	35
Future Volume (vph)	30	590	35	5	150	20	15	400	30	345	850	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1641	3438		1805	3539	1615	1289	3214		1805	3388	
Flt Permitted	0.66	1.00		0.33	1.00	1.00	0.32	1.00		0.40	1.00	
Satd. Flow (perm)	1135	3438		626	3539	1615	436	3214		755	3388	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	590	35	5	150	20	15	400	30	345	850	35
RTOR Reduction (vph)	0	7	0	0	0	14	0	9	0	0	5	0
Lane Group Flow (vph)	30	618	0	5	150	6	15	421	0	345	880	0
Heavy Vehicles (%)	10%	4%	6%	0%	2%	0%	40%	12%	0%	0%	6%	4%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	16.5	16.5		16.5	16.5	16.5	15.9	15.9		30.0	30.0	
Effective Green, g (s)	16.5	16.5		16.5	16.5	16.5	15.9	15.9		30.0	30.0	
Actuated g/C Ratio	0.28	0.28		0.28	0.28	0.28	0.27	0.27		0.51	0.51	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.5	3.5	3.5	5.5	5.5		3.0	5.5	
Lane Grp Cap (vph)	320	969		176	998	455	118	873		568	1737	
v/s Ratio Prot		c0.18			0.04			0.13		c0.10	0.26	
v/s Ratio Perm	0.03			0.01		0.00	0.03			c0.21		
v/c Ratio	0.09	0.64		0.03	0.15	0.01	0.13	0.48		0.61	0.51	
Uniform Delay, d1	15.5	18.4		15.2	15.7	15.1	16.1	17.9		8.8	9.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	1.5		0.1	0.1	0.0	2.2	1.9		1.8	1.1	
Delay (s)	15.6	19.8		15.3	15.8	15.1	18.3	19.8		10.7	10.4	
Level of Service	B	B		B	B	B	B	B		B	B	
Approach Delay (s)		19.6			15.7			19.7			10.5	
Approach LOS		B			B			B			B	

### Intersection Summary

HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	58.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



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

2026 Background PM - Remedial Measures  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	330	690	145	750	1090	200	205	800	710	50	370	70
Future Volume (vph)	330	690	145	750	1090	200	205	800	710	50	370	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	115.0		40.0	130.0		70.0	100.0		65.0	250.0		80.0
Storage Lanes	2		1	2		1	2		1	1		1
Taper Length (m)	100.0			100.0			80.0			100.0		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2653	4510	1262	3433	4759	1583	3099	3505	1568	1805	3471	1129
Flt Permitted	0.950			0.950			0.950			0.237		
Satd. Flow (perm)	2653	4510	1262	3433	4759	1583	3099	3505	1568	450	3471	1129
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			238			188			597			228
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)	330	690	145	750	1090	200	205	800	710	50	370	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	330	690	145	750	1090	200	205	800	710	50	370	70
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	7.0	20.0	20.0

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

2026 Background PM - Remedial Measures  
Premier Gateway Phase 1B Employment Area

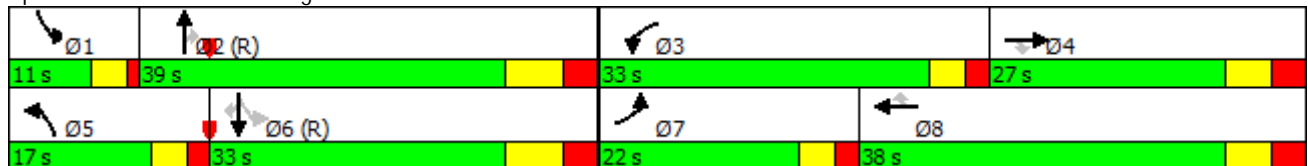


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.0	27.0	27.0	13.0	27.0	27.0	13.0	28.0	28.0	11.0	28.0	28.0
Total Split (s)	22.0	27.0	27.0	33.0	38.0	38.0	17.0	39.0	39.0	11.0	33.0	33.0
Total Split (%)	20.0%	24.5%	24.5%	30.0%	34.5%	34.5%	15.5%	35.5%	35.5%	10.0%	30.0%	30.0%
Maximum Green (s)	17.0	20.0	20.0	28.0	31.0	31.0	12.0	31.0	31.0	7.0	25.0	25.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	2.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	8.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	4.0	3.0	3.0	4.0	0.2	0.2	3.0	0.2	0.2
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	16.4	20.0	20.0	27.2	30.8	30.8	11.6	34.0	34.0	37.2	26.2	26.2
Actuated g/C Ratio	0.15	0.18	0.18	0.25	0.28	0.28	0.11	0.31	0.31	0.34	0.24	0.24
v/c Ratio	0.84	0.84	0.34	0.88	0.82	0.35	0.63	0.74	0.79	0.21	0.45	0.16
Control Delay	64.3	54.1	2.2	47.1	46.6	12.6	56.2	40.0	14.0	22.0	38.2	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.3	54.1	2.2	47.1	46.6	12.6	56.2	40.0	14.0	22.0	38.2	0.8
LOS	E	D	A	D	D	B	E	D	B	C	D	A
Approach Delay		50.5			43.4			31.2			31.2	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	110
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle:	85
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.88
Intersection Signal Delay:	40.0
Intersection LOS:	D
Intersection Capacity Utilization	86.0%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 6: Trafalgar Road & Steeles Avenue



Queues  
6: Trafalgar Road & Steeles Avenue

2026 Background PM - Remedial Measures  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	330	690	145	750	1090	200	205	800	710	50	370	70
v/c Ratio	0.84	0.84	0.34	0.88	0.82	0.35	0.63	0.74	0.79	0.21	0.45	0.16
Control Delay	64.3	54.1	2.2	47.1	46.6	12.6	56.2	40.0	14.0	22.0	38.2	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.3	54.1	2.2	47.1	46.6	12.6	56.2	40.0	14.0	22.0	38.2	0.8
Queue Length 50th (m)	37.5	55.6	0.0	86.0	88.5	5.8	23.1	88.4	19.8	6.6	38.2	0.0
Queue Length 95th (m)	#59.7	#74.7	0.0	#115.2	105.1	29.9	35.8	112.7	79.4	14.4	53.4	0.0
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		80.0
Base Capacity (vph)	410	820	424	873	1341	581	338	1081	896	238	825	442
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.84	0.34	0.86	0.81	0.34	0.61	0.74	0.79	0.21	0.45	0.16

Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis 2026 Background PM - Remedial Measures 6: Trafalgar Road & 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)	330	690	145	750	1090	200	205	800	710	50	370	70
Future Volume (vph)	330	690	145	750	1090	200	205	800	710	50	370	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	8.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Fr <sub>t</sub>	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fl <sub>t</sub> Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2653	4510	1262	3433	4759	1583	3099	3505	1568	1805	3471	1129
Fl <sub>t</sub> Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)	2653	4510	1262	3433	4759	1583	3099	3505	1568	450	3471	1129
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	330	690	145	750	1090	200	205	800	710	50	370	70
RTOR Reduction (vph)	0	0	119	0	0	135	0	0	417	0	0	53
Lane Group Flow (vph)	330	690	26	750	1090	65	205	800	293	50	370	17
Heavy Vehicles (%)	32%	15%	28%	2%	9%	2%	13%	3%	3%	0%	4%	43%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2	6		6
Actuated Green, G (s)	16.4	20.0	20.0	27.2	30.8	30.8	11.6	33.2	33.2	31.8	26.2	26.2
Effective Green, g (s)	16.4	20.0	20.0	27.2	30.8	30.8	11.6	33.2	33.2	31.8	26.2	26.2
Actuated g/C Ratio	0.15	0.18	0.18	0.25	0.28	0.28	0.11	0.30	0.30	0.29	0.24	0.24
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	8.0	8.0	4.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0	3.0	4.0	3.0	3.0	4.0	0.2	0.2	3.0	0.2	0.2
Lane Grp Cap (vph)	395	820	229	848	1332	443	326	1057	473	199	826	268
v/s Ratio Prot	0.12	0.15		c0.22	c0.23		c0.07	c0.23		0.01	0.11	
v/s Ratio Perm			0.02			0.04			0.19	0.06		0.01
v/c Ratio	0.84	0.84	0.12	0.88	0.82	0.15	0.63	0.76	0.62	0.25	0.45	0.06
Uniform Delay, d <sub>1</sub>	45.5	43.5	37.6	39.9	37.0	29.7	47.1	34.7	33.0	28.9	35.7	32.4
Progression Factor	1.00	1.00	1.00	0.90	1.13	2.03	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d <sub>2</sub>	14.1	7.8	0.2	9.4	3.3	0.1	4.3	5.1	6.0	0.7	1.8	0.4
Delay (s)	59.6	51.3	37.8	45.2	45.0	60.5	51.4	39.8	39.0	29.6	37.5	32.8
Level of Service	E	D	D	D	D	E	D	D	D	C	D	C
Approach Delay (s)		52.0			46.6			40.9			36.0	
Approach LOS		D			D			D			D	

## Intersection Summary

HCM 2000 Control Delay	45.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings

2026 Background PM - Remedial Measures

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)	285	1065	20	150	1655	150	70	35	130	45	25	80
Future Volume (vph)	285	1065	20	150	1655	150	70	35	130	45	25	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		55.0	30.0		30.0	0.0		0.0	70.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	55.0			90.0			7.5			45.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850			0.850		0.882			0.886	
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	4631	1615	1770	4848	1599	3367	1650	0	1752	1658	0
Fl <sub>t</sub> Permitted	0.089			0.239			0.950			0.653		
Satd. Flow (perm)	169	4631	1615	445	4848	1599	3367	1650	0	1205	1658	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			207		130				80
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)	285	1065	20	150	1655	150	70	35	130	45	25	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	285	1065	20	150	1655	150	70	165	0	45	105	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Perm	NA	
Protected Phases	7	4		3	8		5	2				6
Permitted Phases	4		4	8		8				6		
Detector Phase	7	4	4	3	8	8	5	2		6		6
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	10.0	10.0		10.0	10.0	

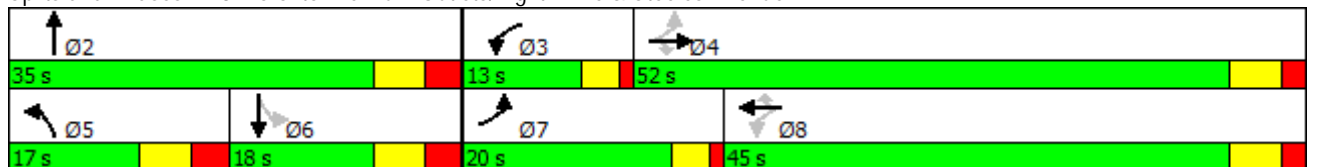


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.0	26.0	26.0	11.0	26.0	26.0	17.0	17.0		17.0	17.0	
Total Split (s)	20.0	52.0	52.0	13.0	45.0	45.0	17.0	35.0		18.0	18.0	
Total Split (%)	20.0%	52.0%	52.0%	13.0%	45.0%	45.0%	17.0%	35.0%		18.0%	18.0%	
Maximum Green (s)	16.0	46.0	46.0	9.0	39.0	39.0	10.0	28.0		11.0	11.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	7.0	7.0		7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2	0.2	4.0	4.0		3.0	3.0	
Recall Mode	None	Max	Max	None	Max	Max	None	None		Max	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0				
Flash Dont Walk (s)		17.0	17.0		17.0	17.0		21.0				
Pedestrian Calls (#/hr)		0	0		0	0		0				
Act Effct Green (s)	60.1	46.3	46.3	51.3	40.9	40.9	10.1	24.2		11.1	11.1	
Actuated g/C Ratio	0.63	0.48	0.48	0.53	0.43	0.43	0.11	0.25		0.12	0.12	
v/c Ratio	0.84	0.48	0.02	0.42	0.80	0.19	0.20	0.32		0.33	0.40	
Control Delay	44.1	18.5	0.1	12.9	29.5	1.5	42.9	10.0		48.2	19.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	44.1	18.5	0.1	12.9	29.5	1.5	42.9	10.0		48.2	19.6	
LOS	D	B	A	B	C	A	D	A		D	B	
Approach Delay		23.6			26.0			19.8			28.1	
Approach LOS		C			C			B			C	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	96
Natural Cycle:	80
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	24.8
Intersection LOS:	C
Intersection Capacity Utilization:	85.9%
ICU Level of Service:	E
Analysis Period (min):	15

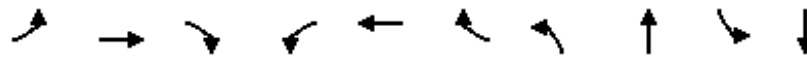
Splits and Phases: 8: Toronto Premium Outlets/Eighth Line & Steeles Avenue



Queues

2026 Background PM - Remedial Measures

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

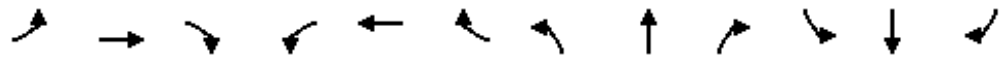


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	285	1065	20	150	1655	150	70	165	45	105
v/c Ratio	0.84	0.48	0.02	0.42	0.80	0.19	0.20	0.32	0.33	0.40
Control Delay	44.1	18.5	0.1	12.9	29.5	1.5	42.9	10.0	48.2	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	18.5	0.1	12.9	29.5	1.5	42.9	10.0	48.2	19.6
Queue Length 50th (m)	38.6	54.0	0.0	12.1	112.5	0.0	6.9	5.3	8.6	4.7
Queue Length 95th (m)	#79.4	66.7	0.0	20.8	134.0	4.6	13.8	21.2	20.1	20.7
Internal Link Dist (m)		176.7			846.8			194.1		3062.4
Turn Bay Length (m)	105.0		55.0	30.0		30.0			70.0	
Base Capacity (vph)	381	2234	864	365	2064	799	352	576	138	262
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	0.75	0.48	0.02	0.41	0.80	0.19	0.20	0.29	0.33	0.40

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis 2026 Background PM - Remedial Measures  
 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)	285	1065	20	150	1655	150	70	35	130	45	25	80
Future Volume (vph)	285	1065	20	150	1655	150	70	35	130	45	25	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0	6.0	4.0	6.0	6.0	7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.88		1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	4631	1615	1770	4848	1599	3367	1649		1752	1658	
Flt Permitted	0.09	1.00	1.00	0.24	1.00	1.00	0.95	1.00		0.65	1.00	
Satd. Flow (perm)	169	4631	1615	445	4848	1599	3367	1649		1204	1658	
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)	285	1065	20	150	1655	150	70	35	130	45	25	80
RTOR Reduction (vph)	0	0	11	0	0	87	0	96	0	0	71	0
Lane Group Flow (vph)	285	1065	9	150	1655	63	70	69	0	45	34	0
Heavy Vehicles (%)	0%	12%	0%	2%	7%	1%	4%	0%	2%	3%	0%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Perm	NA	
Protected Phases	7	4		3	8		5	2				6
Permitted Phases	4		4	8		8				6		
Actuated Green, G (s)	58.7	46.3	46.3	49.3	40.9	40.9	7.7	25.8		11.1	11.1	
Effective Green, g (s)	58.7	46.3	46.3	49.3	40.9	40.9	7.7	25.8		11.1	11.1	
Actuated g/C Ratio	0.60	0.47	0.47	0.51	0.42	0.42	0.08	0.26		0.11	0.11	
Clearance Time (s)	4.0	6.0	6.0	4.0	6.0	6.0	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2	0.2	4.0	4.0		3.0	3.0	
Lane Grp Cap (vph)	333	2199	766	339	2033	670	265	436		137	188	
v/s Ratio Prot	c0.12	0.23		0.04	0.34		c0.02	0.04				0.02
v/s Ratio Perm	c0.39		0.01	0.19		0.04				c0.04		
v/c Ratio	0.86	0.48	0.01	0.44	0.81	0.09	0.26	0.16		0.33	0.18	
Uniform Delay, d1	26.0	17.5	13.5	13.1	24.9	17.1	42.2	27.5		39.8	39.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	18.9	0.8	0.0	0.9	3.7	0.3	0.7	0.2		6.3	2.1	
Delay (s)	44.8	18.2	13.6	14.0	28.7	17.4	43.0	27.8		46.1	41.2	
Level of Service	D	B	B	B	C	B	D	C		D	D	
Approach Delay (s)		23.7			26.7			32.3			42.7	
Approach LOS		C			C			C			D	

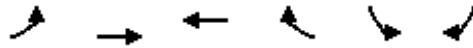
**Intersection Summary**

HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	97.5	Sum of lost time (s)	24.0
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



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

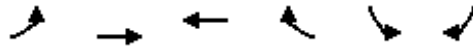
2026 Background PM - Remedial Measures  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	135	1110	1840	920	350	90
Future Volume (vph)	135	1110	1840	920	350	90
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	0.91	0.91	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	4673	4893	1615	3367	1524
Flt Permitted	0.076				0.950	
Satd. Flow (perm)	138	4673	4893	1615	3367	1524
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				829		90
Link Speed (k/h)		70	70		70	
Link Distance (m)		525.4	196.7		3120.2	
Travel Time (s)		27.0	10.1		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)	135	1110	1840	920	350	90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	135	1110	1840	920	350	90
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		7.2	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (m)	2.0	10.0	10.0	2.0	2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6	2.0	2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	7.0	20.0	20.0	20.0	10.0	10.0

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

2026 Background PM - Remedial Measures  
Premier Gateway Phase 1B Employment Area

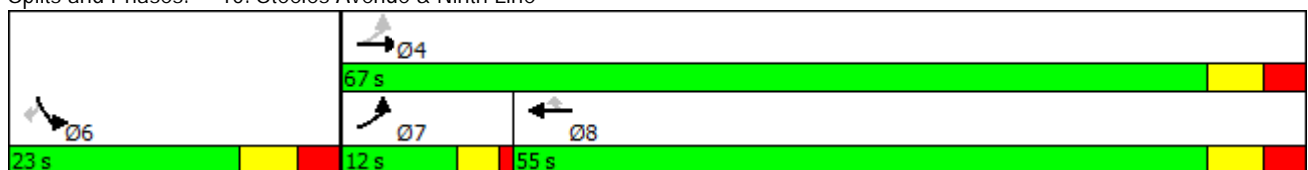


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Split (s)	11.0	27.0	27.0	27.0	17.0	17.0
Total Split (s)	12.0	67.0	55.0	55.0	23.0	23.0
Total Split (%)	13.3%	74.4%	61.1%	61.1%	25.6%	25.6%
Maximum Green (s)	8.0	60.0	48.0	48.0	16.0	16.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag		Lag	
Lead-Lag Optimize?	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	0.2	0.2	0.2	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	Max
Act Effect Green (s)	63.0	60.0	48.4	48.4	16.0	16.0
Actuated g/C Ratio	0.70	0.67	0.54	0.54	0.18	0.18
v/c Ratio	0.59	0.36	0.70	0.74	0.59	0.26
Control Delay	22.0	6.9	17.2	5.9	38.5	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	6.9	17.2	5.9	38.5	9.5
LOS	C	A	B	A	D	A
Approach Delay	8.6		13.5		32.5	
Approach LOS	A		B		C	

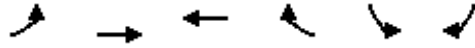
Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	14.0
Intersection LOS:	B
Intersection Capacity Utilization:	73.6%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 10: Steeles Avenue & Ninth Line



Queues  
10: Steeles Avenue & Ninth Line

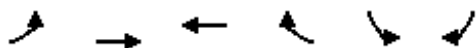


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	135	1110	1840	920	350	90
v/c Ratio	0.59	0.36	0.70	0.74	0.59	0.26
Control Delay	22.0	6.9	17.2	5.9	38.5	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	6.9	17.2	5.9	38.5	9.5
Queue Length 50th (m)	6.9	28.4	86.0	7.7	30.4	0.0
Queue Length 95th (m)	25.4	35.6	104.0	37.7	44.7	12.8
Internal Link Dist (m)		501.4	172.7		3096.2	
Turn Bay Length (m)	65.0			75.0	90.0	
Base Capacity (vph)	237	3115	2633	1251	598	344
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.36	0.70	0.74	0.59	0.26
<b>Intersection Summary</b>						

# HCM Signalized Intersection Capacity Analysis 2026 Background PM - Remedial Measures

## 10: Steeles Avenue & Ninth Line

Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	135	1110	1840	920	350	90
Future Volume (vph)	135	1110	1840	920	350	90
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	0.91	0.91	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1719	4673	4893	1615	3367	1524
Flt Permitted	0.08	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	138	4673	4893	1615	3367	1524
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	135	1110	1840	920	350	90
RTOR Reduction (vph)	0	0	0	383	0	74
Lane Group Flow (vph)	135	1110	1840	537	350	16
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)	60.0	60.0	48.4	48.4	16.0	16.0
Effective Green, g (s)	60.0	60.0	48.4	48.4	16.0	16.0
Actuated g/C Ratio	0.67	0.67	0.54	0.54	0.18	0.18
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)	225	3115	2631	868	598	270
v/s Ratio Prot	c0.05	0.24	c0.38		c0.10	
v/s Ratio Perm	0.35			0.33		0.01
v/c Ratio	0.60	0.36	0.70	0.62	0.59	0.06
Uniform Delay, d1	11.6	6.6	15.4	14.4	34.0	30.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	0.3	1.6	3.3	4.2	0.4
Delay (s)	15.9	6.9	17.0	17.7	38.1	31.2
Level of Service	B	A	B	B	D	C
Approach Delay (s)		7.9	17.2		36.7	
Approach LOS		A	B		D	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			16.5	HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.66			
Actuated Cycle Length (s)			90.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization			73.6%	ICU Level of Service	D	
Analysis Period (min)			15			
c Critical Lane Group						

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

2026 Background PM - Remedial Measures  
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)	65	190	50	55	445	50	115	1375	70	10	650	80
Future Volume (vph)	65	190	50	55	445	50	115	1375	70	10	650	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		40.0	40.0		0.0	40.0		0.0	50.0		20.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	80.0			80.0			100.0			100.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.985			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3539	1482	1805	3556	0	1770	3453	0	1583	3438	1509
Flt Permitted	0.344			0.632			0.342			0.115		
Satd. Flow (perm)	600	3539	1482	1201	3556	0	637	3453	0	192	3438	1509
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			76		13			6				76
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		173.0			665.2			264.1			262.0	
Travel Time (s)		10.4			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)	65	190	50	55	445	50	115	1375	70	10	650	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	190	50	55	495	0	115	1445	0	10	650	80
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	4	8	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0		7.0	25.0		7.0	25.0	25.0

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

2026 Background PM - Remedial Measures  
Premier Gateway Phase 1B Employment Area

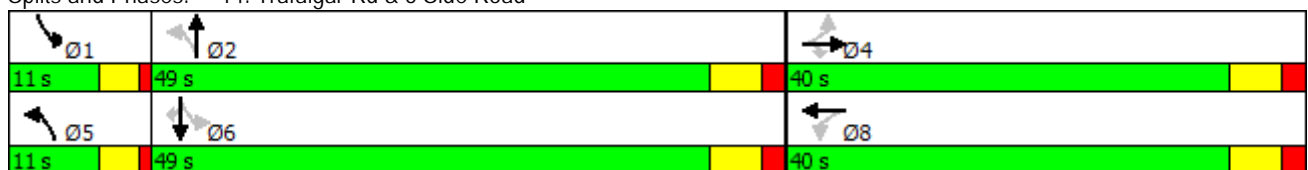


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	21.0	21.0	21.0	21.0	21.0		11.0	31.0		11.0	31.0	31.0
Total Split (s)	40.0	40.0	40.0	40.0	40.0		11.0	49.0		11.0	49.0	49.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	40.0%		11.0%	49.0%		11.0%	49.0%	49.0%
Maximum Green (s)	34.0	34.0	34.0	34.0	34.0		7.0	43.0		7.0	43.0	43.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		1.0	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)	6.0	6.0	6.0	6.0	6.0		4.0	6.0		4.0	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		3.0	5.0		3.0	5.0	5.0
Recall Mode	None	None	None	None	None		None	Max		None	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Dont Walk (s)	25.0	25.0	25.0	25.0	25.0			20.0			20.0	20.0
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	0
Act Effct Green (s)	19.8	19.8	19.8	19.8	19.8		53.1	49.8		50.8	43.4	43.4
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24		0.63	0.59		0.61	0.52	0.52
v/c Ratio	0.46	0.23	0.12	0.19	0.58		0.23	0.70		0.04	0.37	0.10
Control Delay	39.7	26.8	3.5	28.0	30.8		7.5	15.9		6.9	13.9	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	39.7	26.8	3.5	28.0	30.8		7.5	15.9		6.9	13.9	4.0
LOS	D	C	A	C	C		A	B		A	B	A
Approach Delay		25.8			30.5			15.3			12.8	
Approach LOS		C			C			B			B	

Intersection Summary

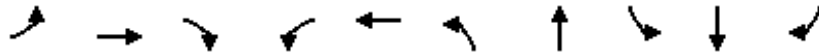
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	83.7
Natural Cycle:	65
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	18.4
Intersection LOS:	B
Intersection Capacity Utilization:	90.8%
ICU Level of Service:	E
Analysis Period (min):	15

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



Queues  
14: Trafalgar Rd & 5 Side Road

2026 Background PM - Remedial Measures  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	65	190	50	55	495	115	1445	10	650	80
v/c Ratio	0.46	0.23	0.12	0.19	0.58	0.23	0.70	0.04	0.37	0.10
Control Delay	39.7	26.8	3.5	28.0	30.8	7.5	15.9	6.9	13.9	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	26.8	3.5	28.0	30.8	7.5	15.9	6.9	13.9	4.0
Queue Length 50th (m)	9.7	14.1	0.0	7.7	39.2	6.4	72.8	0.5	33.9	0.3
Queue Length 95th (m)	22.8	22.9	4.8	17.5	54.8	15.2	#165.2	2.7	54.1	7.9
Internal Link Dist (m)		149.0			641.2		240.1		238.0	
Turn Bay Length (m)	40.0		40.0	40.0		40.0		50.0		20.0
Base Capacity (vph)	245	1449	651	492	1463	499	2057	233	1780	818
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	0.27	0.13	0.08	0.11	0.34	0.23	0.70	0.04	0.37	0.10

Intersection Summary

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

# HCM Signalized Intersection Capacity Analysis 2026 Background PM - Remedial Measures

## 14: Trafalgar Rd & 5 Side Road

Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	190	50	55	445	50	115	1375	70	10	650	80
Future Volume (vph)	65	190	50	55	445	50	115	1375	70	10	650	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		4.0	6.0		4.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1656	3539	1482	1805	3555		1770	3452		1583	3438	1509
Flt Permitted	0.34	1.00	1.00	0.63	1.00		0.34	1.00		0.11	1.00	1.00
Satd. Flow (perm)	599	3539	1482	1201	3555		638	3452		192	3438	1509
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	65	190	50	55	445	50	115	1375	70	10	650	80
RTOR Reduction (vph)	0	0	39	0	10	0	0	3	0	0	0	36
Lane Group Flow (vph)	65	190	11	55	485	0	115	1442	0	10	650	44
Heavy Vehicles (%)	9%	2%	9%	0%	0%	0%	2%	4%	0%	14%	5%	7%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		6
Actuated Green, G (s)	19.8	19.8	19.8	19.8	19.8		55.1	49.8		47.0	45.7	45.7
Effective Green, g (s)	19.8	19.8	19.8	19.8	19.8		55.1	49.8		47.0	45.7	45.7
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23		0.63	0.57		0.54	0.53	0.53
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0		3.0	5.0		3.0	5.0	5.0
Lane Grp Cap (vph)	136	806	337	273	810		474	1978		124	1808	793
v/s Ratio Prot		0.05			c0.14		c0.02	c0.42		0.00	0.19	
v/s Ratio Perm	0.11		0.01	0.05			0.14			0.04		0.03
v/c Ratio	0.48	0.24	0.03	0.20	0.60		0.24	0.73		0.08	0.36	0.06
Uniform Delay, d1	29.1	27.4	26.1	27.2	30.0		6.6	13.6		10.9	12.0	10.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.4	0.3	0.1	0.8	1.8		0.3	2.4		0.3	0.6	0.1
Delay (s)	34.5	27.7	26.2	27.9	31.8		6.9	16.0		11.2	12.6	10.2
Level of Service	C	C	C	C	C		A	B		B	B	B
Approach Delay (s)		28.9			31.4			15.3			12.3	
Approach LOS		C			C			B			B	

### Intersection Summary

HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	86.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



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

2026 Background PM - Remedial Measures  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	60	260	10	25	515	95	5	430	55	25	130	30
Future Volume (vph)	60	260	10	25	515	95	5	430	55	25	130	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.995			0.978			0.985			0.978	
Fl <sub>t</sub> Protected		0.991			0.998			0.999			0.993	
Satd. Flow (prot)	0	3451	0	0	3475	0	0	1843	0	0	1833	0
Fl <sub>t</sub> Permitted		0.686			0.931			0.998			0.923	
Satd. Flow (perm)	0	2389	0	0	3242	0	0	1841	0	0	1704	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			28			12			18	
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)	60	260	10	25	515	95	5	430	55	25	130	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	330	0	0	635	0	0	490	0	0	185	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)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	34.0	34.0		34.0	34.0		46.0	46.0		46.0	46.0	
Total Split (%)	42.5%	42.5%		42.5%	42.5%		57.5%	57.5%		57.5%	57.5%	

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

2026 Background PM - Remedial Measures  
Premier Gateway Phase 1B Employment Area

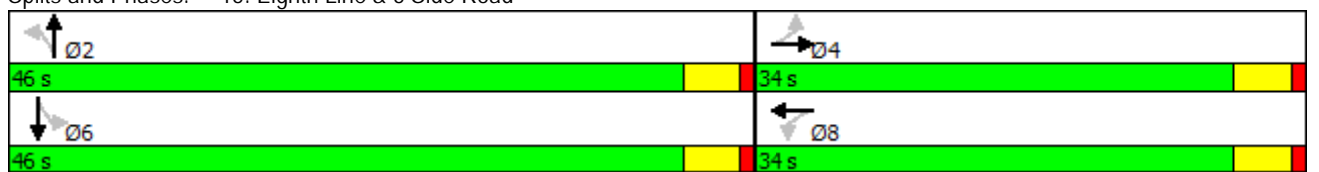


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	29.5	29.5		29.5	29.5		41.5	41.5		41.5	41.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.2			18.2			41.7			41.7	
Actuated g/C Ratio		0.26			0.26			0.61			0.61	
v/c Ratio		0.52			0.72			0.44			0.18	
Control Delay		24.2			27.0			9.5			6.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		24.2			27.0			9.5			6.8	
LOS		C			C			A			A	
Approach Delay		24.2			27.0			9.5			6.8	
Approach LOS		C			C			A			A	

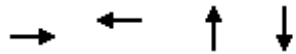
Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	68.9
Natural Cycle:	45
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	18.9
Intersection LOS:	B
Intersection Capacity Utilization:	65.3%
ICU Level of Service:	C
Analysis Period (min):	15

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



Queues  
15: Eighth Line & 5 Side Road



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	330	635	490	185
v/c Ratio	0.52	0.72	0.44	0.18
Control Delay	24.2	27.0	9.5	6.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.2	27.0	9.5	6.8
Queue Length 50th (m)	19.6	39.1	29.9	8.6
Queue Length 95th (m)	31.2	55.8	63.2	21.3
Internal Link Dist (m)	619.4	644.7	3062.4	430.5
Turn Bay Length (m)				
Base Capacity (vph)	1028	1409	1117	1037
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	0.32	0.45	0.44	0.18
<b>Intersection Summary</b>				

# HCM Signalized Intersection Capacity Analysis 2026 Background PM - Remedial Measures

## 15: Eighth Line & 5 Side Road

Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Volume (vph)	60	260	10	25	515	95	5	430	55	25	130	30
Future Volume (vph)	60	260	10	25	515	95	5	430	55	25	130	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		1.00			0.98			0.98			0.98	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		3452			3474			1844			1834	
Flt Permitted		0.69			0.93			1.00			0.92	
Satd. Flow (perm)		2392			3239			1841			1704	
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)	60	260	10	25	515	95	5	430	55	25	130	30
RTOR Reduction (vph)	0	3	0	0	21	0	0	5	0	0	7	0
Lane Group Flow (vph)	0	327	0	0	614	0	0	485	0	0	178	0
Heavy Vehicles (%)	5%	2%	22%	11%	1%	1%	0%	1%	5%	0%	0%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.2			18.2			41.7			41.7	
Effective Green, g (s)		18.2			18.2			41.7			41.7	
Actuated g/C Ratio		0.26			0.26			0.61			0.61	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		631			855			1114			1031	
v/s Ratio Prot												
v/s Ratio Perm		0.14			0.19			0.26			0.10	
v/c Ratio		0.52			0.72			0.44			0.17	
Uniform Delay, d1		21.6			23.0			7.3			6.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.7			2.9			1.2			0.4	
Delay (s)		22.3			25.9			8.5			6.4	
Level of Service		C			C			A			A	
Approach Delay (s)		22.3			25.9			8.5			6.4	
Approach LOS		C			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			17.8					HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			68.9					Sum of lost time (s)		9.0		
Intersection Capacity Utilization			65.3%					ICU Level of Service		C		
Analysis Period (min)			15									
c Critical Lane Group												

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

2026 Background PM - Remedial Measures  
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)	35	260	20	10	585	295	20	985	15	35	400	30
Future Volume (vph)	35	260	20	10	585	295	20	985	15	35	400	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	40.0		40.0	40.0		0.0	40.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.989				0.850		0.998			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3570	0	1805	3610	1615	1805	3601	0	1805	3541	0
Flt Permitted	0.321			0.580			0.502			0.239		
Satd. Flow (perm)	592	3570	0	1102	3610	1615	954	3601	0	454	3541	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				79		3			14	
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)	35	260	20	10	585	295	20	985	15	35	400	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	280	0	10	585	295	20	1000	0	35	430	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	20.0	20.0		20.0	20.0	

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

2026 Background PM - Remedial Measures  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	24.0	24.0		24.0	24.0	24.0	26.0	26.0		26.0	26.0	
Total Split (s)	34.0	34.0		34.0	34.0	34.0	46.0	46.0		46.0	46.0	
Total Split (%)	42.5%	42.5%		42.5%	42.5%	42.5%	57.5%	57.5%		57.5%	57.5%	
Maximum Green (s)	28.0	28.0		28.0	28.0	28.0	40.0	40.0		40.0	40.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.5	3.5		3.5	3.5	3.5	5.5	5.5		5.5	5.5	
Recall Mode	None	None		None	None	None	Max	Max		Max	Max	
Walk Time (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Flash Dont Walk (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	18.7	18.7		18.7	18.7	18.7	40.2	40.2		40.2	40.2	
Actuated g/C Ratio	0.26	0.26		0.26	0.26	0.26	0.57	0.57		0.57	0.57	
v/c Ratio	0.22	0.30		0.03	0.62	0.61	0.04	0.49		0.14	0.21	
Control Delay	23.5	20.3		18.5	25.6	21.9	8.9	11.0		10.7	8.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	23.5	20.3		18.5	25.6	21.9	8.9	11.0		10.7	8.5	
LOS	C	C		B	C	C	A	B		B	A	
Approach Delay		20.7			24.3			11.0			8.6	
Approach LOS		C			C			B			A	

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	71
Natural Cycle:	50
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.62
Intersection Signal Delay:	16.1
Intersection LOS:	B
Intersection Capacity Utilization:	66.8%
ICU Level of Service:	C
Analysis Period (min):	15

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



Queues  
16: Ninth Line & 5 Side Road

2026 Background PM - Remedial Measures  
Premier Gateway Phase 1B Employment Area



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	280	10	585	295	20	1000	35	430
v/c Ratio	0.22	0.30	0.03	0.62	0.61	0.04	0.49	0.14	0.21
Control Delay	23.5	20.3	18.5	25.6	21.9	8.9	11.0	10.7	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	20.3	18.5	25.6	21.9	8.9	11.0	10.7	8.5
Queue Length 50th (m)	3.8	15.6	1.1	37.5	25.8	1.1	39.4	2.1	13.5
Queue Length 95th (m)	11.0	24.7	4.4	52.5	48.8	5.0	70.4	8.3	26.6
Internal Link Dist (m)		556.9		434.3			3096.2		305.9
Turn Bay Length (m)	40.0		40.0		40.0	40.0		40.0	
Base Capacity (vph)	234	1422	436	1431	688	540	2041	257	2012
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	0.15	0.20	0.02	0.41	0.43	0.04	0.49	0.14	0.21
<b>Intersection Summary</b>									

# HCM Signalized Intersection Capacity Analysis 2026 Background PM - Remedial Measures

## 16: Ninth Line & 5 Side Road

Premier Gateway Phase 1B Employment Area



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷	↷	↶	↷		↶	↷	
Traffic Volume (vph)	35	260	20	10	585	295	20	985	15	35	400	30
Future Volume (vph)	35	260	20	10	585	295	20	985	15	35	400	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3571		1805	3610	1615	1805	3600		1805	3539	
Flt Permitted	0.32	1.00		0.58	1.00	1.00	0.50	1.00		0.24	1.00	
Satd. Flow (perm)	593	3571		1102	3610	1615	953	3600		454	3539	
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)	35	260	20	10	585	295	20	985	15	35	400	30
RTOR Reduction (vph)	0	8	0	0	0	58	0	1	0	0	6	0
Lane Group Flow (vph)	35	272	0	10	585	237	20	999	0	35	424	0
Heavy Vehicles (%)	3%	0%	0%	0%	0%	0%	0%	0%	3%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	18.7	18.7		18.7	18.7	18.7	40.2	40.2		40.2	40.2	
Effective Green, g (s)	18.7	18.7		18.7	18.7	18.7	40.2	40.2		40.2	40.2	
Actuated g/C Ratio	0.26	0.26		0.26	0.26	0.26	0.57	0.57		0.57	0.57	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.5	3.5		3.5	3.5	3.5	5.5	5.5		5.5	5.5	
Lane Grp Cap (vph)	156	941		290	952	425	540	2041		257	2006	
v/s Ratio Prot		0.08			c0.16			c0.28			0.12	
v/s Ratio Perm	0.06			0.01		0.15	0.02			0.08		
v/c Ratio	0.22	0.29		0.03	0.61	0.56	0.04	0.49		0.14	0.21	
Uniform Delay, d1	20.4	20.8		19.4	22.9	22.5	6.8	9.2		7.2	7.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.2		0.1	1.2	1.7	0.1	0.8		1.1	0.2	
Delay (s)	21.3	21.0		19.5	24.2	24.3	6.9	10.0		8.3	7.8	
Level of Service	C	C		B	C	C	A	B		A	A	
Approach Delay (s)		21.0			24.2			10.0			7.8	
Approach LOS		C			C			A			A	

### Intersection Summary

HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	70.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			