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2026-02-11
Project: 250772

Kristie Oughtred
W.E. Oughtred & Associates Inc.
2140 Winston Park Drive, Suite 26
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RE: SCOPED TRANSPORTATION IMPACT STUDY, 7265 NO.5 SIDE ROAD, MILTON, ON

Paradigm Transportation Solutions Limited (Paradigm) initially prepared a Transportation Impact Assessment[1] (TIA) In October 2021, for the 7265 5 Side Road property in the Town of Milton, and subsequent trip generated a letter addendum in October 2024[2]. The site is currently operating as a truck sales and rental building.

It is understood that the Applicant is proposing to convert the property into a truck terminal. No modifications to the building, access, or on-site parking supply are being proposed. In response to the change in land use, the Town of Milton and Halton Region have requested that a scoped TIA be submitted. To address the condition, Paradigm has prepared this TIA to support the proposed conversion to a truck terminal.

Scope of Work

The study scope was developed in consultation with the Town of Milton and Halton Region in December 2025 and has served as the basis for this update. **Appendix A** contains the pre-study consultation material.

Figure 1 illustrates the location of the subject site and its study area. This letter includes the following:

- Summarized existing volumes at the study area intersections
  - James Snow Parkway & No.5 Side Road (signalized);
  - No.5 Side Road & Site Access (unsignalized);

[1] "7260 No.5 Side Road Transportation Impact Assessment (4th Submission)", Milton ON, Paradigm, October 2021.
[2] 7265 No. 5 Side Road, Town of Milton – Trip Generation Letter Addendum. October 2024.

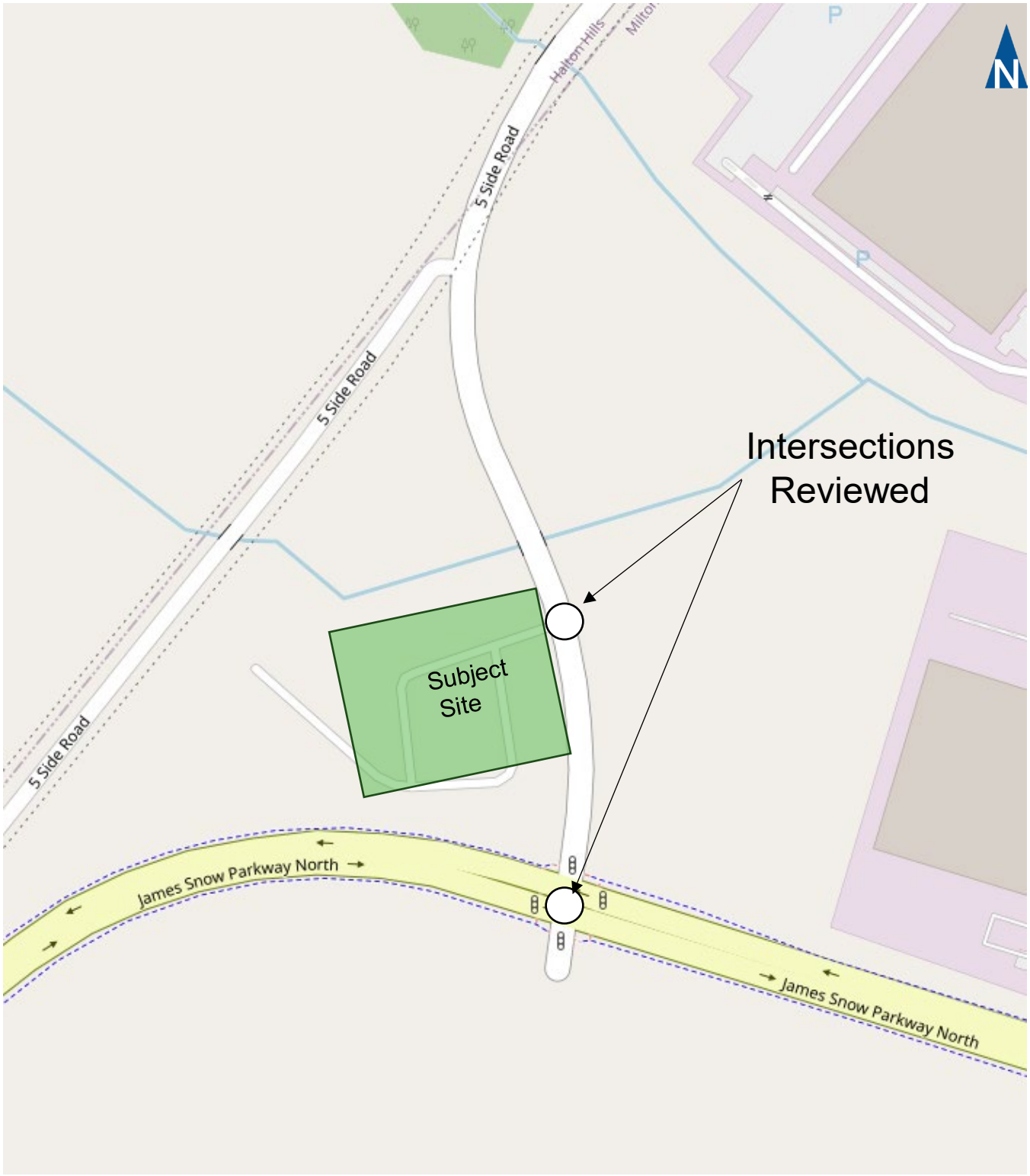
- Forecasts of weekday AM and PM peak-hour vehicle traffic volumes generated by the proposed development are based on data from the Institute of Transportation Engineers (ITE) Trip Generation Manual (12th Edition).
- Trip distribution based on current travel patterns.
- Document the findings and conclusions regarding the proposed development and its anticipated impact on the study area intersections.

Development Proposal

The subject site is located in the northwest corner of James Snow Parkway and 5 Side Road; municipal address 7265 5 Side Road in the Town of Milton. The development currently operates as a truck sales and rental establishment with 20,074 square feet. Vehicle access is provided to No.5 Side Road located approximately 135 metres (curb radii to curb radii) north of the James Snow Parkway and No. 5 Side Road intersection.

The proposal includes converting the property into a truck terminal. No modifications to the building, access, or on-site parking supply are being proposed.

Figure 2 illustrates the site plan.



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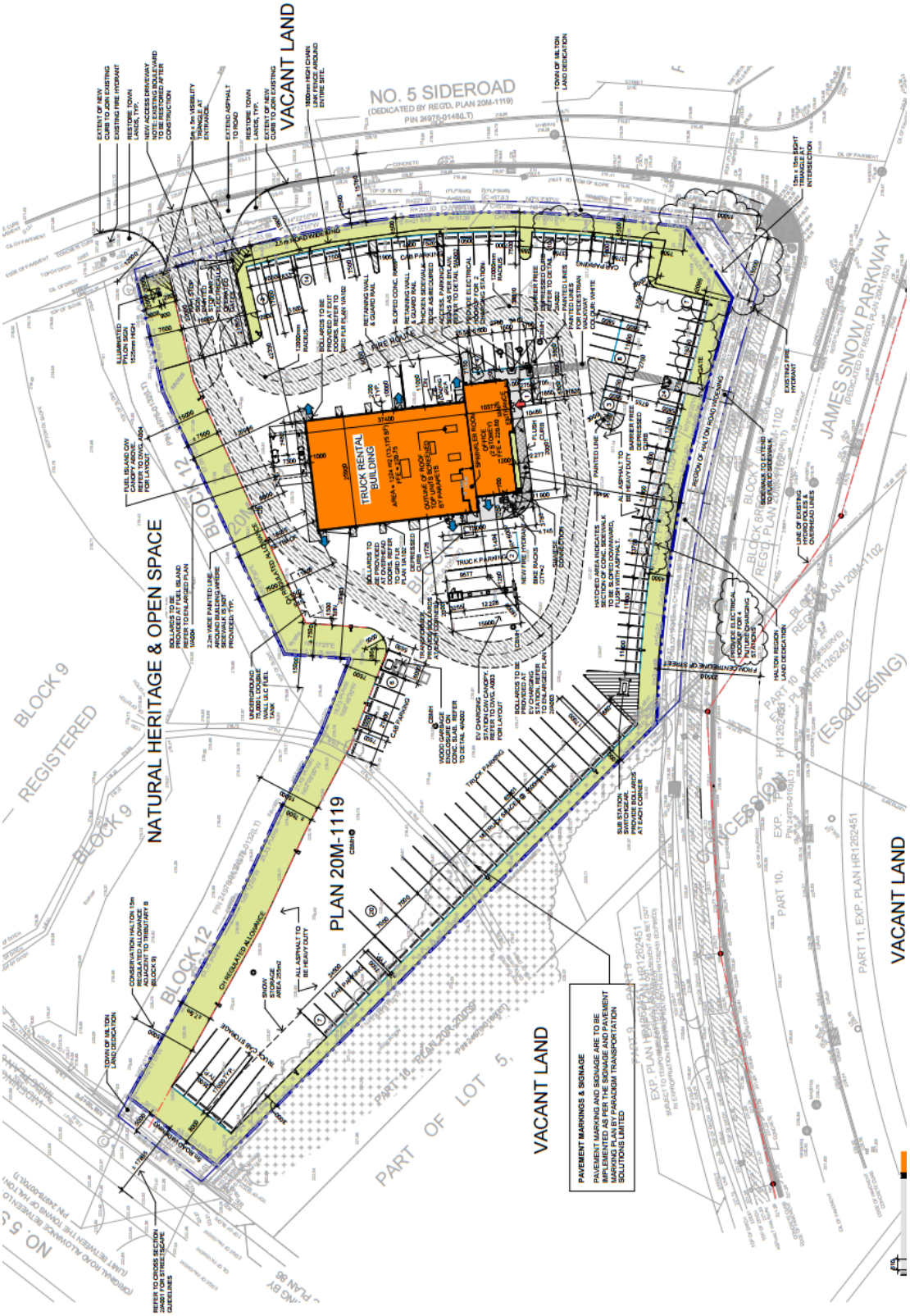
Site Location

250772
7265 No.5 Side Road, Milton TIS Update

Figure 1



paradigm
TRANSPORTATION SOLUTIONS LIMITED

Site Plan

250772
7265 No.5 Side Road, Milton TIS Update

Figure 2

Roadway Characteristics & Volumes

The following is noted about the study area roadways[3]:

- **James Snow Parkway** is a major arterial roadway with a four-lane urban cross section. The roadway is under the Halton Region's jurisdiction. The posted speed limit is 60 km/h. A multi-use trail is also provided along both sides of James Snow Parkway. Stopping is prohibited on both sides of the roadway throughout the study area. The intersection with No. 5 Side Road is signalized.
- **No. 5 Side Road** is a minor arterial roadway with a two-lane urban cross section. The roadway is under the Town of Milton's jurisdiction. The posted speed limit is 50 km/h. Stopping is prohibited on both sides of the roadway throughout the study area.

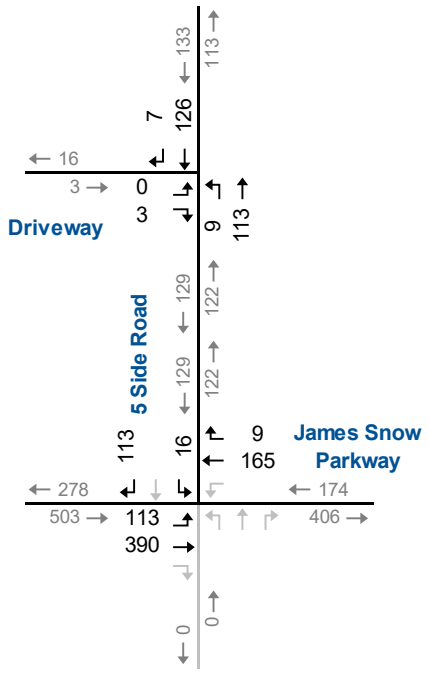
Turning movement counts are used to quantify the movement of vehicles. The counts are usually taken during peak periods to complete the level of service analysis. Existing traffic data at an intersection or road section forms the foundation for analysis.

Paradigm has used a traffic count completed in October 2024 at the existing access to No. 5 Side Road to establish volumes at that access. Halton Region provided Paradigm with an April 2025 traffic count at James Snow Parkway and No. 5 Side Road. This count does not include any traffic movements to or from the south leg of Mount Pleasant Way. As a result, the intersection has been modelled as a three-leg intersection under the existing base-year scenario; however, it is modelled as a four-legged intersection under the future scenarios. Traffic signal timings have also been obtained from Halton Region and used in the analysis.

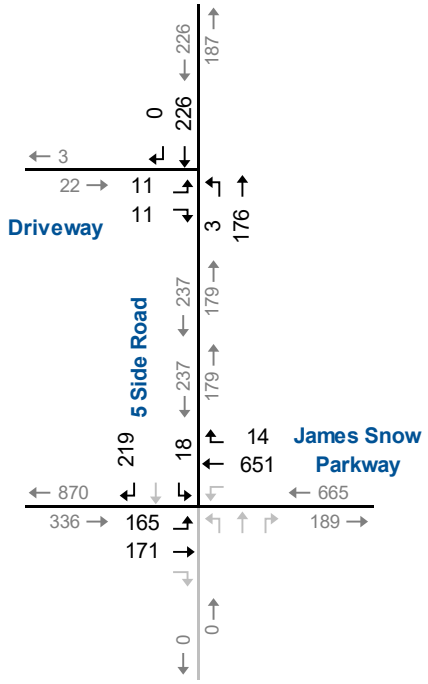
Figure 3 illustrates weekday peak-hour traffic at the study area intersections. **Appendix B** contains the traffic data.

[3] Niagara Region Official Plan, Schedule 'J1' Transportation Infrastructure, 2022

Weekday AM Peak Hour



Weekday PM Peak Hour



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Existing Traffic Volumes

Trip Generation and Assignment

Trip generation for the proposed development was estimated by using the trip generation rates provided by ITE's Trip Generation 12th Edition[4]. The following land-use codes have been used.

- **Land Use Code (LUC) 030 – Intermodal Truck Terminal -** An intermodal truck terminal is a facility where goods are transferred between trucks, between trucks and railroads, or between trucks and ports**.**

The trip generation estimates are based upon peak trips corresponding to the AM and PM peak hours of adjacent street traffic. To remain conservative, no trip reductions were applied to reflect increased pedestrian/cycling activity.

A total of 39 AM and 37 PM new-vehicle trips are forecast to be generated by the proposed development, based on average rates. **Table 1** summarizes the trip generation estimates for the weekday peak hours. Based on the existing traffic count as the existing site access, the proposed use is expected to generate an additional 20 trips during the weekday AM peak hour and 12 trips during the weekday PM peak hour.

TABLE 1: ESTIMATED TRIP GENERATION

Land Use Code	GFA	AM Peak Hour				PM Peak Hour			
		Rate	In	Out	Total	Rate	In	Out	Total
030 - Intermodal Truck Terminal (1,000 sq. ft. GFA)	20,074	1.97	19	20	**39**	1.87	19	18	**37**
Total	**20,074**	**-**	**19**	**20**	**39**	**-**	**19**	**18**	**37**

Truck Movements

To determine the forecasted number of truck trips associated with the proposed development, a review of the existing data collected at the site access to No. 5 Sideroad has been conducted. This approach reflects observed operating conditions and captures actual truck activity currently generated by the site. During the weekday AM peak hour, outbound and inbound movements have been observed to have 0% truck traffic. During the weekday PM peak hour, outbound truck traffic is observed at 5%, while inbound truck traffic is observed at 33%.

While existing traffic data collected at the site access to No. 5 Sideroad provide a useful reference point, the observed truck volumes are lower than would typically be expected for a fully operational truck terminal. For the purposes of this assessment, a conservative truck trip-generation assumption has been applied, assuming that 60 percent of site-generated trips are truck trips, consistent with the assumptions in the original October 2021 study. This approach reflects the proposed use of the site as a truck terminal, where the predominant vehicle activity

[4] Trip Generation 12th Edition, Institute of Transportation Engineers, Washington D.C., 2025

is heavy commercial vehicles and passenger vehicle activity is ancillary. This equates to 23 and 22 truck trips during the weekday AM and PM peak hours.

Distribution Assignment

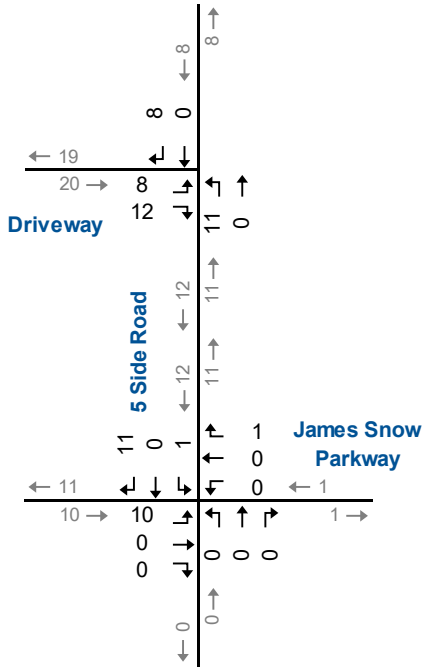
The directional distribution of traffic approaching and departing the development is a function of several variables: population densities, employment locations, existing travel patterns, and the efficiency of the site's roadways. The estimated distribution was developed using current travel patterns at the existing access and the area roadways.

Table 2 summarizes the estimated trip distribution for site-generated traffic volumes. **Figure 4** illustrates the weekday peak hour site-generated traffic volumes.

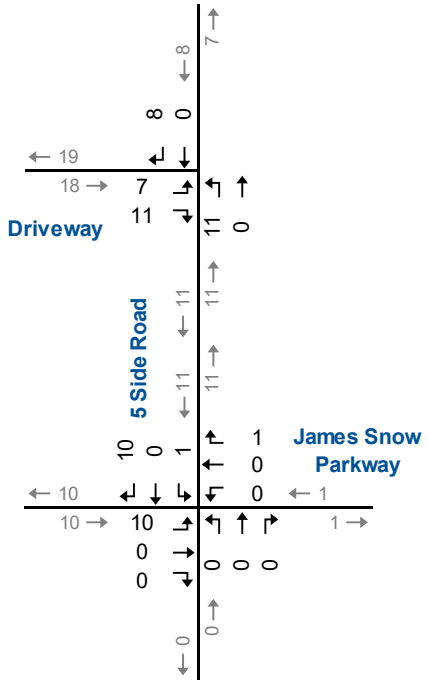
TABLE 2: ESTIMATED TRIP DISTRIBUTION

Origin/Destination	Percentage
East via James Snow Parkway	5%
West via James Snow Parkway	54%
North via No. 5 Side Road	41%
Total	**100%**

Weekday AM Peak Hour



Weekday PM Peak Hour



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Site Generated Traffic Volumes

Future Traffic Volumes

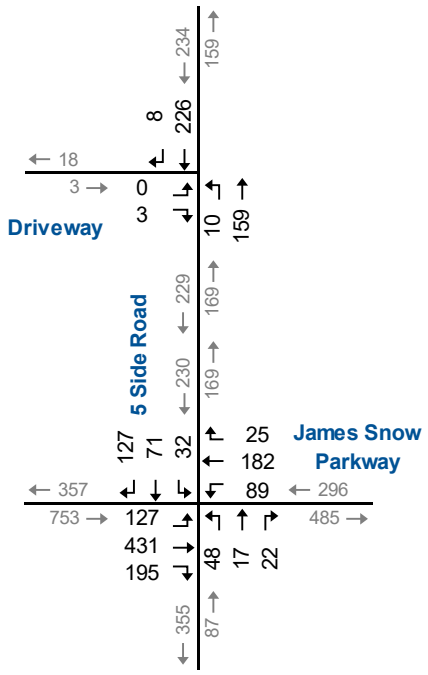
A horizon of five years after the year of study (2030) has been assessed. The likely future volumes near the subject site are estimated to consist of the following:

- Future Background Traffic
  - Increased non-site traffic (generalized background traffic growth). A 2% per annum growth rate was applied to existing traffic volumes.
  - Background development traffic associated with the outstanding build-out of the Broccolini & Emery subdivision to the south, the future courier facility at 7450 No. 5 Sideroad and the future commercial building at 0 James Snow Parkway (between the subject property and Tremaine Road). **Appendix C** includes the projects for the background developments as taken from their respective traffic studies[5][6].
- Future Total Traffic
  - Future Background Traffic;
  - Removal of existing traffic generated by the current use on site (truck rental and sales). **Appendix D** illustrates the traffic movements subtracted from the roadway network.
  - Traffic generated by the subject site.

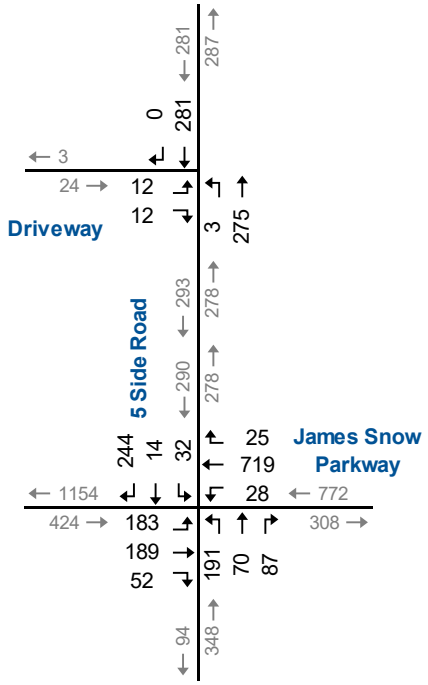
Figures 5 and 6 illustrate the future background and total traffic volumes, respectively.

[5] Broccolini Real Estate Group Ontario Inc. & E. Manson Investments Limited & 9475974 Canada Ltd., Mount Pleasant Way Traffic Impact Study, Prepared by GHD.
[6] Riepma Consultants Inc., 7450 No. 5 Sideroad Traffic Impact Study, Prepared by GHD.

Weekday AM Peak Hour



Weekday PM Peak Hour



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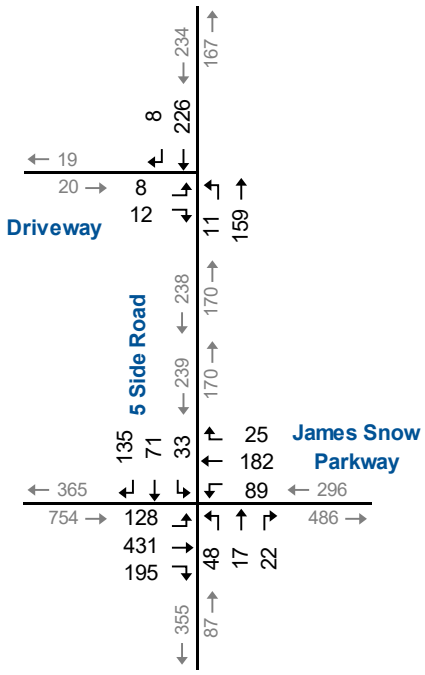
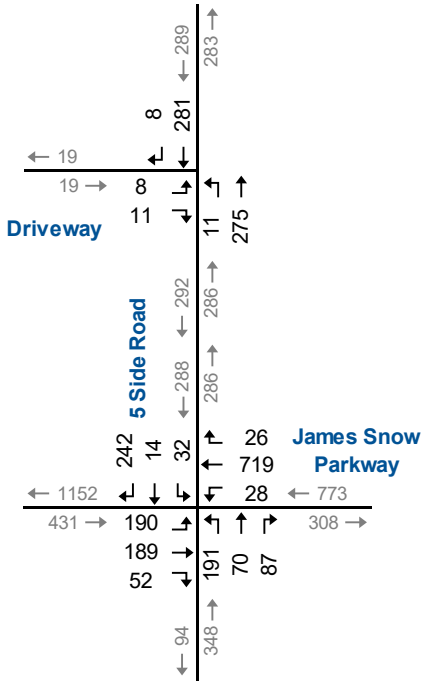
2030 Background Traffic Volumes

Weekday AM Peak Hour



Weekday PM Peak Hour



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2030 Total Traffic Volumes

Traffic Operations

An operational analysis was completed for the existing base year volumes and the future volumes under the 2030 Background and Total horizon (with and without the proposed development). The evaluation criteria used to analyze the unsignalized intersections are based on the 2000 Highway Capacity Manual (HCM) 2000[7] utilizing Synchro 12 software. **Appendix E** contains the supporting detailed Synchro 12 output.

Level of service (LOS) denotes the different operating conditions on a given roadway segment under various traffic volume loads. It is a qualitative measure that indexes the operational qualities of a roadway segment or an intersection, with designations ranging from LOS A to F, where LOS A represents the best operating conditions and LOS F the worst. **Table 3** summarizes the operational analysis; the following is noted:

- At the signalized intersection of James Snow Parkway and No. 5 Side Road, individual movements currently operate at LOS C or better during weekday AM and PM peak hours under the 2025 Base year conditions. Under the 2030 horizon, with additional growth in background and development traffic, the intersection will operate at similar levels of service: LOS C or better during the weekday AM peak hour. However, during the weekday PM peak hour, the northbound approach is projected to operate at LOS E with a v/c ratio of 0.95. Operationally, between the background and total scenarios, delay and capacity are identical.

- At the unsignalized intersection of No. 5 Side Road and the Site Access, individual movements operate at LOS B or better during weekday AM and PM peak hours under the 2025 Base year conditions. By the 2030 horizon, with additional growth in background and development traffic, the intersection will operate at similar levels of service, though the stop-controlled eastbound left-turn movement will degrade slightly to LOS C. Overall, the site driveway is forecast to continue operating with minimal delay, with v/c ratios well within capacity during the AM and PM peak hours.

[7] Transportation Research Board, Highway Capacity Manual, Washington, D.C. 2003.

TABLE 3: TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	Horizon	MOE	Direction / Movement / Approach																Overall
					Eastbound				Westbound				Northbound				Southbound				
					Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	1 - James Snow Parkway at No. 5 Sideroad	TCS	2025 Base Year	LOS	A	A		A		A	A	A					C		C	C	A
				Delay	4	4		4		8	8	8					26		26	26	9
				V/C	0.16	0.21				0.13	0.01						0.08		0.08		0.20
				Q	9	17				16	2						6		13		
			2030 Background Traffic	LOS	A	A	A	A	B	B	A	B	C	C	C	C	C	C	C	C	B
				Delay	5	6	6	6	13	10	9	11	26	26	26	26	25	26	26	26	12
				V/C	0.20	0.33	0.33		0.27	0.16	0.02		0.38	0.38	0.38		0.16	0.42	0.08		0.38
				Q	13	31	31		20	20	0		20	20	20		11	29	13		
			2030 Total Traffic	LOS	A	A	A	A	B	B	A	B	C	C	C	C	C	C	C	C	B
				Delay	5	6	6	6	13	10	10	11	26	26	26	26	24	26	26	26	12
				V/C	0.20	0.33	0.33		0.28	0.16	0.02		0.39	0.39	0.39		0.16	0.43	0.00		0.38
				Q	13	31	31		20	20	0		20	20	20		11	29	0		
	2 - No. 5 Side Road at Access	TWSC	2025 Base Year	LOS	A		A	A					A	A		A		A	A	A	
				Delay	0		9	9					1	1		1		0	0	0	
				V/C	0		0						0	0				0.09	0.09		
				Q	0		0						0	0				0	0		
			2030 Background Traffic	LOS	A		A	A					A	A		A		A	A	A	
				Delay	0		10	10					1	1		1		0	0	0	
				V/C	0		0						0	0				0	0		
				Q	0		0						0	0				0	0		
			2030 Total Traffic	LOS	B		B	B					A	A		A		A	A	A	
				Delay	13		10	12					0	0		0		0	0	0	
				V/C	0		0						0	0				0	0		
				Q	1		0						0	0				0	0		
PM Peak Hour	1 - James Snow Parkway at No. 5 Sideroad	TCS	2025 Base Year	LOS	A	A		A		B	B	B					C		C	C	B
				Delay	6	5		5		13	10	13					24		24	24	13
				V/C	0.35	0.08				0.44	0.01						0.09		0.15		0.37
				Q	13	8				47	3						9		17		
			2030 Background Traffic	LOS	B	B	B	B	C	C	B	C	E	E	E	E	B	B	C	B	C
				Delay	16	12	12	14	20	28	20	28	61	61	61	61	19	20	24	19	29
				V/C	0.56	0.14	0.14		0.08	0.68	0.02		0.95	0.95	0.95		0.13	0.19	0.15		0.78
				Q	29	16	16		10	83	0		112	112	112		13	17	17		
			2030 Total Traffic	LOS	B	B	B	B	C	C	B	C	E	E	E	E	B	B	C	B	C
				Delay	16	12	12	14	21	28	20	28	61	61	61	61	19	20	24	19	29
				V/C	0.58	0.14	0.14		0.08	0.69	0.02		0.95	0.95	0.95		0.13	0.19	0.15		0.79
				Q	30	16	16		10	83	0		111	111	111		13	17	17		
	2 - No. 5 Side Road at Access	TWSC	2025 Base Year	LOS	B		A	B					A	A		A		A	A	A	
				Delay	11		10	11					0	0		0		0	0	0	
				V/C	0.02		0.02						0	0				0.14	0.14		
				Q	1		0						0	0				0	0		
			2030 Background Traffic	LOS	B		B	B					A	A		A		A	A	A	
				Delay	13		10	12					0	0		0		0	0	0	
				V/C	0		0						0	0				0	0		
				Q	1		0						0	0				0	0		
			2030 Total Traffic	LOS	C		B	B					A	A		A		A	A	A	
				Delay	16		12	14					0	0		0		0	0	0	
				V/C	0		0						0	0				0	0		
				Q	1		1						0	0				0	0		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds

Q - 95th Percentile Queue Length
Ex. - Existing Available Storage
Avail. - Available Storage

TCS - Traffic Control Signal
TWSC - Two-Way Stop Control
AWSC - All-Way Stop Control

RBT - Roundabout

Sensitivity Analysis

The northbound approach is expected to operate with a v/c ratio of 0.95 and LOS E under the 2030 Background and Total Horizons, respectively. To help manage traffic increases, signal timing optimization has been examined to assess whether modifications to the current timings can improve future operations. No changes to the existing lane configurations or cycle length are assumed.

A sensitivity analysis has been conducted to optimize splits. **Table 4** summarizes the capacity analyses for the intersection. The capacity analysis results are included in **Appendix F**. The signal timing adjustments reduce the critical movements to a volume-to-capacity (v/c) ratio of 0.91 and LOS D, indicating that all movements are expected to operate more efficiently under the revised timing plan.

TABLE 4: SENSITIVITY OF TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction / Movement / Approach																Overall
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	1 - James Snow Parkway at No. 5 Sideroad	TCS	LOS	A	A	A	**A**	B	B	A	**B**	C	C	C	**C**	C	C	C	**C**	**B**
			Delay	5	6	6	**6**	13	10	9	**11**	26	26	26	**26**	24	26	26	**26**	**12**
			V/C	0.20	0.34	0.34		0.28	0.16	0.02		0.37	0.37	0.37		0.16	0.42	0.08		
			Q	13	31	31		19	19	0		20	20	20		11	29	13		
	2 - No. 5 Side Road at Access	TWSC	LOS	B		B	**B**					A	A		**A**		A	A	**A**	
			Delay	14		11	**12**					1	1		**1**		0	0	**0**	
			V/C	0.02		0.02						0.01	0.01				0.15	0.15		
			Q	1		1						0	0				0	0		
PM Peak Hour	1 - James Snow Parkway at No. 5 Sideroad	TCS	LOS	B	B	B	**B**	B	C	B	**C**	D	D	D	**D**	B	B	C	**B**	**C**
			Delay	18	12	12	**15**	20	28	19	**27**	49	49	49	**49**	18	18	24	**18**	**27**
			V/C	0.63	0.14	0.14		0.09	0.69	0.02		0.91	0.91	0.91		0.13	0.19	0.15		
			Q	32	17	17		10	82	0		103	103	103		12	16	17		
	2 - No. 5 Side Road at Access	TWSC	LOS	C		B	**B**					A	A		**A**		A	A	**A**	
			Delay	16		12	**14**					0	0		**0**		0	0	**0**	
			V/C	0.03		0.02						0.00	0.00				0.18	0.18		
			Q	1		1						0	0				0	0		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds

Q - 95th Percentile Queue Length
Ex. - Existing Available Storage
Avail. - Available Storage

TCS - Traffic Control Signal
TWSC - Two-Way Stop Control
AWSC - All-Way Stop Control

RBT - Roundabout

Left-Turn Lane Warrant

The Ministry of Transportation's (MTO) *Design Supplement 2023 for the TAC Geometric Design Guide for Canadian Roads 2017*[8] provides guidance on the assessment and/or need for auxiliary left-turn lanes. The warrant nomograph to determine if a left-turn lane is needed is based on the following criteria:

- Design speed of the road (posted speed + 10 km/h and 20 km/h over);
- Advancing volume;
- Opposing volume; and
- Percent of advancing vehicles performing a left-turn maneuver.
- Truck traffic entering the site (expected to represent approximately 60% of trips associated with the truck rental agency) has been converted to a Passenger Equivalent Unit (PCU) by using a factor of 2.

The movements were analyzed using the nomographs for left-turn lanes on two-lane undivided highways at unsignalized intersections. **Appendix G** contains the MTO left-turn lane warrants nomographs for the study area intersections. **Table 5** summarizes the warrant analysis. The warrant analysis indicates a northbound left-turn lane is not warranted at the intersection of No. 5 Side Road and the Site Access.

TABLE 5: LEFT-TURN LANE WARRANT SUMMARY

	Site Access at No. 5 Sideroad			
Approach Direction	Northbound			
Design Speed	60 km/h		70 km/h	
Horizon	2030 Total		2030 Total	
Peak Hour	AM	PM	AM	PM
Advancing Volume	178	294	178	294
Opposing Volumes	234	289	234	289
Left Turning Traffic*	19	19	19	19
% of Left Turning Traffic	10.67%	6.46%	10.67%	6.46%
Figure Used*	9A-7 (10%)	9A-7 (5%)	9A-11 (10%)	9A-11 (5%)
Warranted	**No**	**No**	**No**	**No**
Storage Length Required	-	-	-	-

*Reflects a Passesnger Car Equivalent of 2.0

[8] Ontario Ministry of Transportation, *MTO Design Supplement for TAC Geometric Design Guide for Canadian Roads*, (St. Catherines: Ontario Ministry of Transportation, 2023).

Access and Circulation Review

The site circulation has been assessed using the following design vehicles:

- TAC WB-20 (Tractor Semi-Trailer); and
- TAC Heavy Single Unit (HSU).

The diagrams were produced using the site plan and AutoTURN swept path analysis software. Given that there are no changes to the site plan or design vehicles intended to utilize the site, the AutoTURN plots are the same plots completed in October 2021, which were previously accepted by the Town and Region. **Appendix H** contains reduced-scale vehicle turning movement diagrams for the site driveways and loading area.

The proposed geometry for the site driveway is sufficient to accommodate the intended design vehicles. It is expected that the outbound right-turn maneuver for the WB-20 will enter the northbound lane along No. 5 Side Road. Vehicles are expected to wait for a sufficient gap in traffic to perform the desired turning maneuver.

Both design vehicles can circulate the site without conflicting with the proposed building and other on-site objects (e.g. parking spaces, fuel pumps, etc.).

Conclusion

Based on the assessment carried out, the following summarizes the findings:

- The traffic analysis was completed using the most recent and appropriate available data. Turning movement counts collected in October 2024 at the existing site access to No. 5 Side Road were used to establish baseline access volumes, while an April 2025 traffic count and signal timing data provided by Halton Region were used to assess operations at the signalized intersection of James Snow Parkway and No. 5 Side Road. Because traffic movements to and from Mount Pleasant Way were not included in the Regional count, this intersection was conservatively modelled as a three-leg intersection under existing base-year conditions.
- The proposed development is forecast to generate a modest number of new vehicle trips, with approximately 39 trips in the weekday AM peak hour and 37 trips in the weekday PM peak hour, based on average trip-generation rates. When compared with observed volumes at the existing site access, this equates to an incremental increase of approximately 20 trips in the AM peak hour and 12 trips in the PM peak hour.
- Recognizing that observed truck volumes at the site access may currently underrepresent a fully operational truck terminal, a conservative assumption was applied, assuming that 60% of all site-generated traffic consists of truck movements. Under this assumption, approximately 23 and 22 truck trips are expected during the weekday AM and PM peak hours, respectively, ensuring that potential operational impacts are not understated.
- Under 2025 Base Year conditions, the intersection of James Snow Parkway and No. 5 Side Road operates at LOS C or better during both weekday peak periods. By the 2030 horizon, operations are forecast to remain generally stable, with LOS C or better during the AM peak hour. During the PM peak hour, the northbound approach is projected to operate at LOS E with a v/c ratio of approximately 0.95. Overall intersection delay and capacity remain unchanged between the background and total traffic scenarios.
- A sensitivity analysis was conducted to evaluate potential signal timing optimization without altering existing lane configurations or cycle lengths. The optimized timing plan reduces critical movement v/c ratios to approximately 0.91 and improves overall operations to LOS D, demonstrating that future traffic growth can be effectively managed through signal timing refinements.
- The unsignalized intersection of No. 5 Side Road and the site access is forecast to operate efficiently under both current and future conditions. All movements operate at LOS B or better in the 2025 Base Year, with only a minor degradation to LOS C for the stop-controlled eastbound left-turn movement by the 2030 horizon. Volume-to-capacity ratios remain well within acceptable limits, and the site driveway is expected to continue operating with minimal delay during peak periods.
- Left-turn lane warrants were evaluated using applicable nomographs for unsignalized intersections on two-lane undivided highways. Based on this analysis, a northbound left-turn lane at the site access is not warranted.

- Site circulation was evaluated using the TAC WB-20 and TAC Heavy Single Unit design vehicles. AutoTURN swept-path analyses, completed in October 2021 and accepted by the Town and Region, remain valid, as no changes to the site plan or design vehicles are proposed. The site driveway geometry is sufficient to accommodate all intended vehicle movements, and both design vehicles can circulate the site without conflicts with buildings or on-site features. Outbound right-turn movements for WB-20 vehicles are expected to enter the northbound lane on No. 5 Side Road, subject to acceptable gaps in traffic.

Based on the findings of the study:

- The proposed development is not expected to cause unacceptable traffic or operational impacts on the surrounding road network. Both the signalized and unsignalized intersections are forecast to operate within acceptable levels of service under future conditions, and site access and internal circulation are appropriately designed to accommodate the anticipated mix of vehicle traffic, including trucks.

Yours very truly,

PARADIGM TRANSPORTATION SOLUTIONS LIMITED

<< Original Signed By >>

Adam J. Makarewicz
Dipl. T., C.E.T., LET, RSP1, MITE
Senior Project Manager

Attachments

Appendix A

TERMS OF REFERENCE

From: Loro, Darren
To: Adam Makarewicz
Cc: Chris Toews; Clackett, Robert
Subject: RE: Transportation Terms of Reference - 7265 5 Sideroad
Date: November 27, 2025 3:56:14 PM
Attachments: image001.png

Hi Adam,

It's been a while – hope you're doing well!

Chris forwarded me your traffic study proposal for the change in land use from a truck rental agency & truck sales centre to solely a truck terminal. Chris and I have reviewed and discussed together so that the Town and Region's transportation requirements align.

The previous trip generation letter that you attached was for the inclusion of the sales centre component of the existing land use. We approved the trip generation letter in that context.

As for the proposed truck terminal use, we agree that the traffic forecasts would likely be similar the traffic volumes associated with the existing site. However, Chris and I's concern from a transportation perspective with the proposed truck terminal use would be the increased percentage of heavy trucks within the traffic volumes. Particularly, our concern would be how this increased heavy truck percentage would impact queuing along No. 5 Sideroad between the site access and James Snow Parkway given that there is no auxiliary left-turn lane on No. 5 Sideroad at the site access.

Therefore, Chris and I will require a scoped Transportation Impact Study (TIS) in support of the proposed truck terminal use. We have provided a scope of work for the scoped study below:

- Existing Conditions Analysis
    - Analyze the intersections of James Snow Parkway and No. 5 Sideroad, and No. 5 Sideroad and the existing site access.
    - Request the latest turning movement data and signal timing plans for the intersection of James Snow Parkway and No. 5 Sideroad from accesshalton@halton.ca to use in the analysis.
    - Use the September 2024 site access traffic data from the previous trip generation memo as the 2025 existing traffic volumes for the site access. The through volumes along No. 5 Sideroad at the site access should be balanced in relation to the latest traffic data for the intersection of James Snow Parkway and No. 5 Sideroad.
    - Synchro analysis must conform to Halton Region's TIS Guidelines with all methodologies and results documented in the report accordingly. The Region's TIS Guidelines are available online at: https://www.halton.ca/Repository/Transportation-Impact-Study-Guidelines

- Future Background Conditions Analysis
    - Analyze a 2030 horizon year (five-years from existing conditions).
    - Apply a growth rate of 2% compounded annually to all existing movements at the intersection of James Snow Parkway and No. 5 Sideroad.
    - Account for background development traffic associated with the outstanding build-out

of the Broccolini / Emery subdivision to the south, the future courier facility at 7450 No. 5 Sideroad and the future commercial building at 0 James Snow Parkway (between the subject property and Tremaine Road).
    - Synchro analysis must conform to Halton Region's TIS Guidelines with all methodologies and results documented in the report accordingly.

- Site Trip Forecasting
    - Subtract traffic volumes associated with the existing site from the road network as to avoid double-counting site traffic after adding the traffic volume forecasts associated with the proposed truck terminal use.
    - Trip generation for passenger cars and for heavy trucks must be forecasted using ITE data or first principles data.
    - Document all trip generation assumptions in the brief with supporting data appended.
    - Document all trip distribution assumptions in the brief with supporting data appended.

- Future Total Conditions Analysis
    - Conduct an auxiliary left-turn lane warrant on No. 5 Sideroad at the site access to determine if an auxiliary left-turn lane is required.
    - Synchro analysis must conform to Halton Region's TIS Guidelines with all methodologies and results documented in the report accordingly.
    - The traffic volume inputs in the Synchro modelling must reflect the increased heavy truck percentage associated with the proposed truck terminal use.
    - If an auxiliary left-turn lane is warranted on No. 5 Sideroad at the site access, then it would have to be integrated with the existing southbound left-turn lane to James Snow Parkway (I,e. back-to-back turn lanes).
    - If an auxiliary left-turn lane is warranted on No. 5 Sideroad at the site access, then a SimTraffic queuing analysis will be required to determine storage requirements on No. 5 Sideroad for both the auxiliary left-turn lane at the site access and the existing southbound left-turn lane to James Snow Parkway. The report must recommend defined storage lengths (to be defined via pavement marking revisions) for both turn lanes so that the respective 95^{th} percentile queue lengths within each turn lane can be accommodated.

- Design Review
    - Provide Vehicle Maneuvering Diagrams confirming that WB-20 design vehicles can perform ingress/egress maneuvers to/from the site simultaneously, and without encroaching into opposing lanes of traffic (on or off-site).
    - If an auxiliary left-turn lane is warranted on No. 5 Sideroad at the site access, a land dedication to the Town would be required to support full taper and storage lengths. A Functional Design Plan with design drawings would also be required.

Hope this helps. Let us know if you have any questions or wish to discuss further.

Cheers,
Darren

Darren Loro, C.E.T.
Project Manager I – Transportation Development Review
Development Services
Public Works
Halton Region
905-825-6000, ext. 2694 | 1-866-442-5866

From: Adam Makarewicz <amakarewicz@ptsl.com>
Sent: Wednesday, November 19, 2025 2:21 PM
To: Chris Toews <Chris.Toews@milton.ca>
Subject: RE: Transportation Terms of Reference - 7265 5 Sideroad

Hi Chris,

The planners for 7265 5 Side Road have asked us to prepare a proposal to complete the traffic study for the conversion to a truck terminal. I've looked at the ITE trip generation rates for a truck terminal, and they are very similar to those of a truck rental and sales centre, which we previously prepared (see enclosed). There is also no parking shortfall based on the zoning by-law requirements.

- Truck Rental and Sale Centre: 37-57 trips during the weekday peak hours
- Truck Terminal: 40-38 trips during the weekday peak hours.

Based on the above, we would like to confirm that an update to the previous trip generation letter would satisfy the traffic study requirements.

Thanks,

Adam J. Makarewicz, CET, LET, RSP1
Senior Project Manager, Associate

paradigm TRANSPORTATION SOLUTIONS LIMITED

Great Place To Work. Certified NOV 2023 - NOV 2024 CANADA

5A-150 Pinebush Road, Cambridge ON, N1R 8J8
p: 519.497.7179 (direct)
p: 905.381.2229 x303
e:amakarewicz@ptsl.com
w:www.ptsl.com

From: Chris.Toews@milton.ca <Chris.Toews@milton.ca>
Date: Friday, November 14, 2025 at 8:01 AM
To: Kristie Oughtred <Kristie@weoughtred.ca>
Cc: Bill Oughtred <Bill@weoughtred.ca>
Subject: RE: Transportation Terms of Reference - 7265 5 Sideroad

Good afternoon Kristie,

Sorry for the delayed response. To determine impacts of the new land use, Transportation Planning staff would require a Traffic Impact Study to be submitted for the Town's review. A Parking Justification Study component to the report would also be required if the site was unable to meet the Town's zoning by-law requirements.

The traffic consultant must provide a Terms of Reference to the undersigned for review, and confirm scope of work prior to commencing the study.

Halton Regional Transportation staff should also be circulated on any Terms of Reference for commentary given the site's proximity to James Snow Parkway.

Feel free to let me know if there are any questions.

Kind regards,
Chris

From: Kristie Oughtred <Kristie@weoughtred.ca>
Sent: Monday, November 10, 2025 1:36 PM

To: Chris Toews <Chris.Toews@milton.ca>
Cc: Bill Oughtred <Bill@weoughtred.ca>
Subject: Re: Transportation Terms of Reference - 7265 5 Sideroad

Hi Chris,

Just following up thank you! Let me know if you need more info.

--
Kristie

From: Kristie Oughtred <Kristie@weoughtred.ca>
Date: Tuesday, November 4, 2025 at 10:47 AM
To: chris.toews@milton.ca <chris.toews@milton.ca>
Cc: Bill Oughtred <Bill@weoughtred.ca>
Subject: Transportation Terms of Reference - 7265 5 Sideroad

Hi Chris,

We are planning to complete a rezoning to permit the use of a**truck terminal** at 7265 5 Side Road. We previously had a transportation study completed to permit truck rentals. Aaron Raymond suggested we reach out to you for requirements and terms of reference before completing a new traffic brief.

Attached are the previous traffic reports and a site plan.

Please let me know if you want to set up a call.

Kristie Oughtred
W.E. Oughtred & Associates Inc
26-2140 Winston Park Dr
Oakville, ON L6H 5V5
(905)822-5644

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Appendix B

TRAFFIC DATA

James Snow Pkwy @ 5 Side Rd

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:45:00
To: 8:45:00

Municipality: Halton Region
Site #: 1030500100
Intersection: James Snow Pkwy & 5 Side Rd
TFR File #: 33
Count date: 23-Apr-2025

Weather conditions:
Partly Cloudy/Dry

Person(s) who counted:
Pyramid Traffic Inc

**** Signalized Intersection ****

Major Road: James Snow Pkwy runs N/S

North Leg Total: 781
North Entering: 503
North Peds: 0
Peds Cross: ⋈

Cyclists	0	0	0
Trucks	79	7	86
Cars	311	106	417
Totals	390	113	

Cyclists	0
Trucks	73
Cars	205
Totals	278

East Leg Total: 251
East Entering: 129
East Peds: 1
Peds Cross: ⋈

James Snow Pkwy

Cars	Trucks	Cyclists	Totals
110	3	0	113
16	0	0	16
126	3	0	

N
W E
S

5 Side Rd

Cars	Trucks	Cyclists	Totals
114	8	0	122

James Snow Pkwy

Cars	327		
Trucks	79		
Cyclists	0		
Totals	406		

Cars	95	8	103
Trucks	70	1	71
Cyclists	0	0	0
Totals	165	9	

Peds Cross: ⋈
South Peds: 0
South Entering: 174
South Leg Total: 580

Comments

James Snow Pkwy @ 5 Side Rd

Mid-day Peak Diagram

Specified Period
From: 11:00:00
To: 14:00:00

One Hour Peak
From: 12:00:00
To: 13:00:00

Municipality: Halton Region
Site #: 1030500100
Intersection: James Snow Pkwy & 5 Side Rd
TFR File #: 33
Count date: 23-Apr-2025

Weather conditions:
Partly Cloudy/Dry

Person(s) who counted:
Pyramid Traffic Inc

**** Signalized Intersection ****

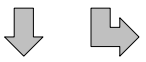
Major Road: James Snow Pkwy runs N/S

North Leg Total: 498
North Entering: 252
North Peds: 0
Peds Cross: ⋈

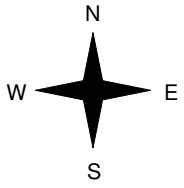
Cyclists	0	1	1
Trucks	71	4	75
Cars	123	53	176
Totals	194	58	

Cyclists	1
Trucks	71
Cars	174
Totals	246

East Leg Total: 142
East Entering: 69
East Peds: 0
Peds Cross: ⋈



Cars	Trucks	Cyclists	Totals
58	0	1	59
9	1	0	10
67	1	1	



5 Side Rd

Cars	Trucks	Cyclists	Totals
68	4	1	73

Cars	132		
Trucks	72		
Cyclists	0		
Totals	204		

Cars	116	15	131
Trucks	71	0	71
Cyclists	0	0	0
Totals	187	15	

Peds Cross: ⋈
South Peds: 1
South Entering: 202
South Leg Total: 406

Comments

James Snow Pkwy @ 5 Side Rd

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Municipality: Halton Region
Site #: 1030500100
Intersection: James Snow Pkwy & 5 Side Rd
TFR File #: 33
Count date: 23-Apr-2025

Weather conditions:
Partly Cloudy/Dry

Person(s) who counted:
Pyramid Traffic Inc

**** Signalized Intersection ****

Major Road: James Snow Pkwy runs N/S

North Leg Total: 1206
North Entering: 336
North Peds: 0
Peds Cross: ⋈

Cyclists	1	0	1
Trucks	4	3	7
Cars	166	162	328
Totals	171	165	

Cyclists	0
Trucks	15
Cars	855
Totals	870

East Leg Total: 416
East Entering: 237
East Peds: 2
Peds Cross: ⋈

James Snow Pkwy

Cars	Trucks	Cyclists	Totals
215	4	0	219
12	6	0	18
227	10	0	

N
W E
S

5 Side Rd

Cars	Trucks	Cyclists	Totals
173	6	0	179

James Snow Pkwy

Cars	178
Trucks	10
Cyclists	1
Totals	189

Cars	640	11	651
Trucks	11	3	14
Cyclists	0	0	0
Totals	651	14	

Peds Cross: ⋈
South Peds: 0
South Entering: 665
South Leg Total: 854

Comments

James Snow Pkwy @ 5 Side Rd

Total Count Diagram

Municipality: Halton Region
Site #: 1030500100
Intersection: James Snow Pkwy & 5 Side Rd
TFR File #: 33
Count date: 23-Apr-2025

Weather conditions:
Partly Cloudy/Dry

Person(s) who counted:
Pyramid Traffic Inc

**** Signalized Intersection ****

Major Road: James Snow Pkwy runs N/S

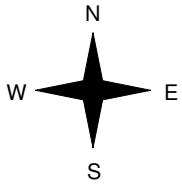
North Leg Total: 5769
North Entering: 2453
North Peds: 0
Peds Cross: ⋈

Cyclists	1	1	2
Trucks	407	31	438
Cars	1287	726	2013
Totals	1695	758	

Cyclists	23
Trucks	454
Cars	2839
Totals	3316

East Leg Total: 1911
East Entering: 1060
East Peds: 7
Peds Cross: ⋈

	Cars	Trucks	Cyclists	Totals
	891	39	22	952
	86	22	0	108
	977	61	22	



5 Side Rd

	Cars	Trucks	Cyclists	Totals
	806	44	1	851

Cars	1373		
Trucks	429		
Cyclists	1		
Totals	1803		

Cars	1948	80	2028
Trucks	415	13	428
Cyclists	1	0	1
Totals	2364	93	

Peds Cross: ⋈
South Peds: 1
South Entering: 2457
South Leg Total: 4260

Comments

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: 7265 5 Side Road
Site Code: 240559
Start Date: 09/11/2024

Turning Movement Data

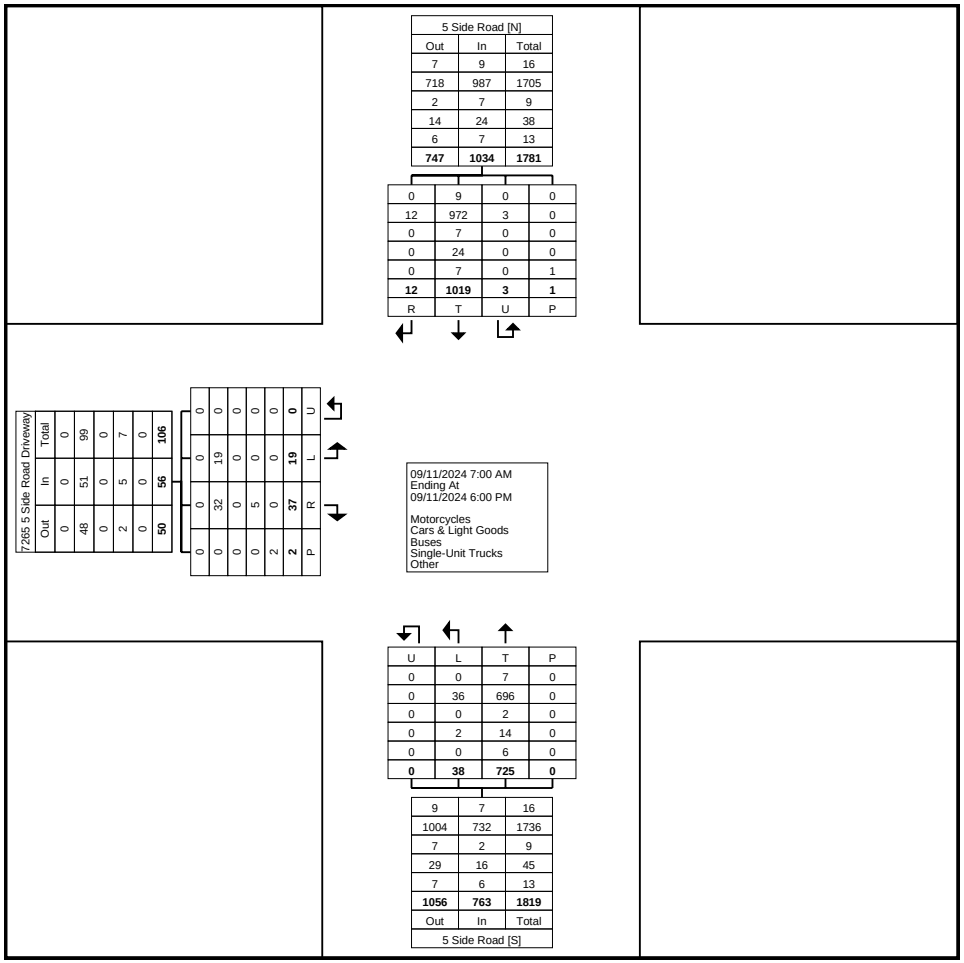
Start Time	7265 5 Side Road Driveway Eastbound					5 Side Road Northbound					5 Side Road Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	2	17	0	0	19	24	4	0	0	28	47
7:15 AM	0	0	0	0	0	1	15	0	0	16	25	0	0	0	25	41
7:30 AM	1	0	0	0	1	2	26	0	0	28	20	0	0	0	20	49
7:45 AM	0	0	0	0	0	3	23	0	0	26	41	3	0	0	44	70
Hourly Total	1	0	0	0	1	8	81	0	0	89	110	7	0	0	117	207
8:00 AM	0	3	0	0	3	6	22	0	0	28	30	4	0	0	34	65
8:15 AM	0	0	0	0	0	0	17	0	0	17	25	0	0	0	25	42
8:30 AM	0	0	0	0	0	0	28	0	0	28	25	0	0	0	25	53
8:45 AM	0	1	0	0	1	1	14	0	0	15	18	0	1	0	19	35
Hourly Total	0	4	0	0	4	7	81	0	0	88	98	4	1	0	103	195
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	1	0	0	1	0	10	0	0	10	17	0	0	0	17	28
11:15 AM	0	1	0	0	1	0	9	0	0	9	7	0	0	0	7	17
11:30 AM	1	0	0	0	1	1	15	0	0	16	16	1	0	0	17	34
11:45 AM	0	0	0	0	0	1	6	0	0	7	17	0	0	0	17	24
Hourly Total	1	2	0	0	3	2	40	0	0	42	57	1	0	0	58	103
12:00 PM	1	0	0	0	1	0	13	0	0	13	20	0	1	0	21	35
12:15 PM	0	1	0	0	1	2	15	0	0	17	27	0	0	0	27	45
12:30 PM	0	0	0	0	0	2	10	0	0	12	11	0	0	0	11	23
12:45 PM	0	3	0	1	3	2	21	0	0	23	16	0	0	0	16	42
Hourly Total	1	4	0	1	5	6	59	0	0	65	74	0	1	0	75	145
1:00 PM	0	1	0	0	1	2	15	0	0	17	9	0	0	0	9	27
1:15 PM	0	2	0	0	2	4	17	0	0	21	22	0	0	0	22	45
1:30 PM	0	1	0	0	1	1	12	0	0	13	21	0	0	0	21	35
1:45 PM	0	2	0	0	2	1	22	0	0	23	24	0	0	0	24	49
Hourly Total	0	6	0	0	6	8	66	0	0	74	76	0	0	0	76	156
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	1	0	0	1	0	20	0	0	20	40	0	1	0	41	62
3:15 PM	0	2	0	0	2	0	20	0	0	20	48	0	0	0	48	70
3:30 PM	0	0	0	0	0	0	30	0	0	30	54	0	0	0	54	84
3:45 PM	0	0	0	0	0	1	27	0	0	28	50	0	0	0	50	78
Hourly Total	0	3	0	0	3	1	97	0	0	98	192	0	1	0	193	294
4:00 PM	1	1	0	0	2	0	25	0	0	25	59	0	0	0	59	86
4:15 PM	2	4	0	0	6	1	41	0	0	42	44	0	0	0	44	92
4:30 PM	3	6	0	0	9	1	41	0	0	42	56	0	0	0	56	107
4:45 PM	1	1	0	1	2	0	32	0	0	32	51	0	0	1	51	85

Hourly Total	7	12	0	1	19	2	139	0	0	141	210	0	0	1	210	370
5:00 PM	5	2	0	0	7	0	40	0	0	40	65	0	0	0	65	112
5:15 PM	2	2	0	0	4	2	38	0	0	40	52	0	0	0	52	96
5:30 PM	1	2	0	0	3	1	45	0	0	46	49	0	0	0	49	98
5:45 PM	1	0	0	0	1	1	39	0	0	40	36	0	0	0	36	77
Hourly Total	9	6	0	0	15	4	162	0	0	166	202	0	0	0	202	383
Grand Total	19	37	0	2	56	38	725	0	0	763	1019	12	3	1	1034	1853
Approach %	33.9	66.1	0.0	-	-	5.0	95.0	0.0	-	-	98.5	1.2	0.3	-	-	-
Total %	1.0	2.0	0.0	-	3.0	2.1	39.1	0.0	-	41.2	55.0	0.6	0.2	-	55.8	-
Motorcycles	0	0	0	-	0	0	7	0	-	7	9	0	0	-	9	16
% Motorcycles	0.0	0.0	-	-	0.0	0.0	1.0	-	-	0.9	0.9	0.0	0.0	-	0.9	0.9
Cars & Light Goods	19	32	0	-	51	36	696	0	-	732	972	12	3	-	987	1770
% Cars & Light Goods	100.0	86.5	-	-	91.1	94.7	96.0	-	-	95.9	95.4	100.0	100.0	-	95.5	95.5
Buses	0	0	0	-	0	0	2	0	-	2	7	0	0	-	7	9
% Buses	0.0	0.0	-	-	0.0	0.0	0.3	-	-	0.3	0.7	0.0	0.0	-	0.7	0.5
Single-Unit Trucks	0	5	0	-	5	2	14	0	-	16	24	0	0	-	24	45
% Single-Unit Trucks	0.0	13.5	-	-	8.9	5.3	1.9	-	-	2.1	2.4	0.0	0.0	-	2.3	2.4
Articulated Trucks	0	0	0	-	0	0	2	0	-	2	5	0	0	-	5	7
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.3	-	-	0.3	0.5	0.0	0.0	-	0.5	0.4
Bicycles on Road	0	0	0	-	0	0	4	0	-	4	2	0	0	-	2	6
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.6	-	-	0.5	0.2	0.0	0.0	-	0.2	0.3
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	2	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: 7265 5 Side Road
Site Code: 240559
Start Date: 09/11/2024



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: 7265 5 Side Road
Site Code: 240559
Start Date: 09/11/2024

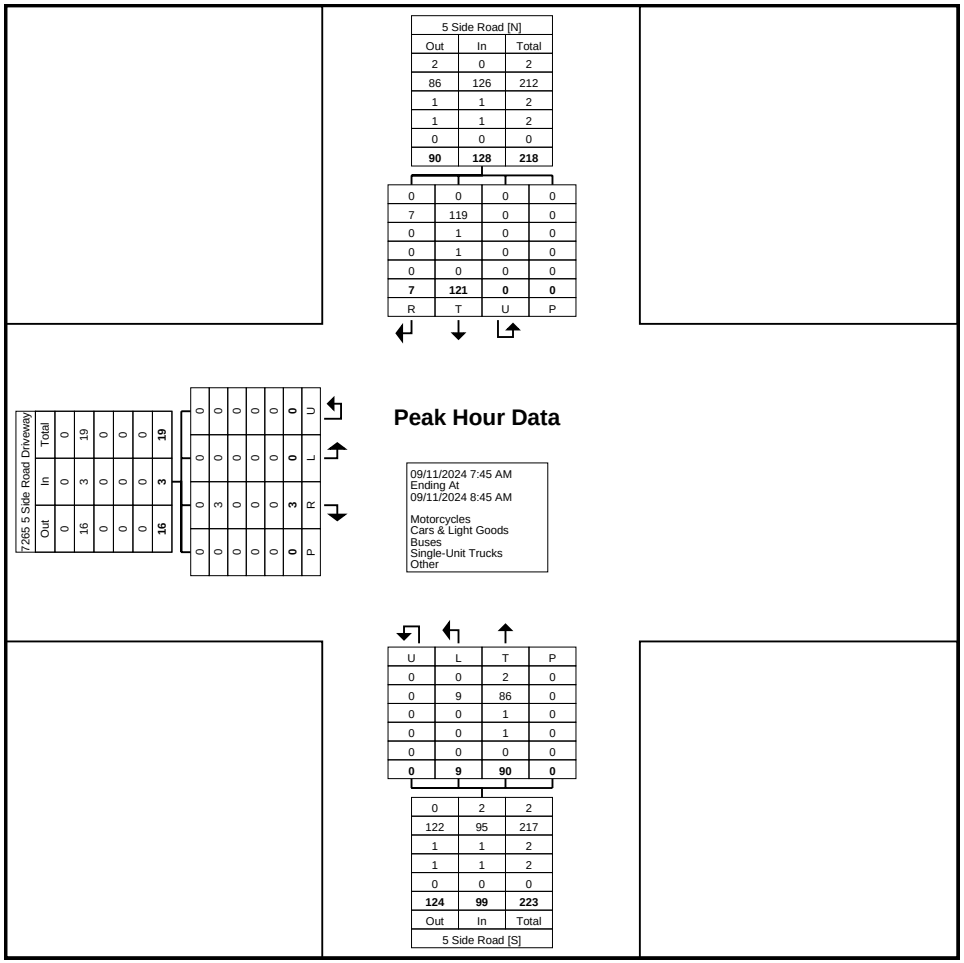
Turning Movement Peak Hour Data (7:45 AM)

Start Time	7265 5 Side Road Driveway Eastbound					5 Side Road Northbound					5 Side Road Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
7:45 AM	0	0	0	0	0	3	23	0	0	26	41	3	0	0	44	70
8:00 AM	0	3	0	0	3	6	22	0	0	28	30	4	0	0	34	65
8:15 AM	0	0	0	0	0	0	17	0	0	17	25	0	0	0	25	42
8:30 AM	0	0	0	0	0	0	28	0	0	28	25	0	0	0	25	53
Total	0	3	0	0	3	9	90	0	0	99	121	7	0	0	128	230
Approach %	0.0	100.0	0.0	-	-	9.1	90.9	0.0	-	-	94.5	5.5	0.0	-	-	-
Total %	0.0	1.3	0.0	-	1.3	3.9	39.1	0.0	-	43.0	52.6	3.0	0.0	-	55.7	-
PHF	0.000	0.250	0.000	-	0.250	0.375	0.804	0.000	-	0.884	0.738	0.438	0.000	-	0.727	0.821
Motorcycles	0	0	0	-	0	0	2	0	-	2	0	0	0	-	0	2
% Motorcycles	-	0.0	-	-	0.0	0.0	2.2	-	-	2.0	0.0	0.0	-	-	0.0	0.9
Cars & Light Goods	0	3	0	-	3	9	86	0	-	95	119	7	0	-	126	224
% Cars & Light Goods	-	100.0	-	-	100.0	100.0	95.6	-	-	96.0	98.3	100.0	-	-	98.4	97.4
Buses	0	0	0	-	0	0	1	0	-	1	1	0	0	-	1	2
% Buses	-	0.0	-	-	0.0	0.0	1.1	-	-	1.0	0.8	0.0	-	-	0.8	0.9
Single-Unit Trucks	0	0	0	-	0	0	1	0	-	1	1	0	0	-	1	2
% Single-Unit Trucks	-	0.0	-	-	0.0	0.0	1.1	-	-	1.0	0.8	0.0	-	-	0.8	0.9
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: 7265 5 Side Road
Site Code: 240559
Start Date: 09/11/2024



Turning Movement Peak Hour Data Plot (7:45 AM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: 7265 5 Side Road
Site Code: 240559
Start Date: 09/11/2024

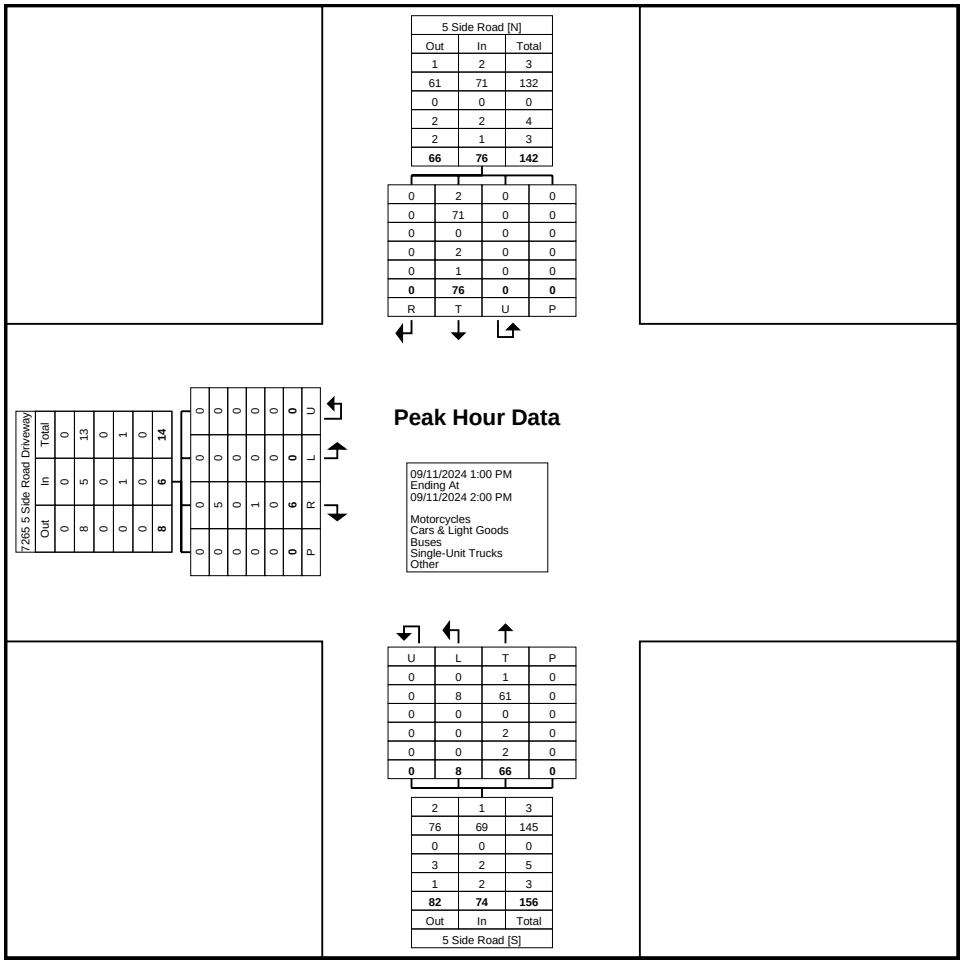
Turning Movement Peak Hour Data (1:00 PM)

Start Time	7265 5 Side Road Driveway Eastbound					5 Side Road Northbound					5 Side Road Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
1:00 PM	0	1	0	0	1	2	15	0	0	17	9	0	0	0	9	27
1:15 PM	0	2	0	0	2	4	17	0	0	21	22	0	0	0	22	45
1:30 PM	0	1	0	0	1	1	12	0	0	13	21	0	0	0	21	35
1:45 PM	0	2	0	0	2	1	22	0	0	23	24	0	0	0	24	49
Total	0	6	0	0	6	8	66	0	0	74	76	0	0	0	76	156
Approach %	0.0	100.0	0.0	-	-	10.8	89.2	0.0	-	-	100.0	0.0	0.0	-	-	-
Total %	0.0	3.8	0.0	-	3.8	5.1	42.3	0.0	-	47.4	48.7	0.0	0.0	-	48.7	-
PHF	0.000	0.750	0.000	-	0.750	0.500	0.750	0.000	-	0.804	0.792	0.000	0.000	-	0.792	0.796
Motorcycles	0	0	0	-	0	0	1	0	-	1	2	0	0	-	2	3
% Motorcycles	-	0.0	-	-	0.0	0.0	1.5	-	-	1.4	2.6	-	-	-	2.6	1.9
Cars & Light Goods	0	5	0	-	5	8	61	0	-	69	71	0	0	-	71	145
% Cars & Light Goods	-	83.3	-	-	83.3	100.0	92.4	-	-	93.2	93.4	-	-	-	93.4	92.9
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	-	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	-	-	-	0.0	0.0
Single-Unit Trucks	0	1	0	-	1	0	2	0	-	2	2	0	0	-	2	5
% Single-Unit Trucks	-	16.7	-	-	16.7	0.0	3.0	-	-	2.7	2.6	-	-	-	2.6	3.2
Articulated Trucks	0	0	0	-	0	0	1	0	-	1	0	0	0	-	0	1
% Articulated Trucks	-	0.0	-	-	0.0	0.0	1.5	-	-	1.4	0.0	-	-	-	0.0	0.6
Bicycles on Road	0	0	0	-	0	0	1	0	-	1	1	0	0	-	1	2
% Bicycles on Road	-	0.0	-	-	0.0	0.0	1.5	-	-	1.4	1.3	-	-	-	1.3	1.3
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: 7265 5 Side Road
Site Code: 240559
Start Date: 09/11/2024



Turning Movement Peak Hour Data Plot (1:00 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: 7265 5 Side Road
Site Code: 240559
Start Date: 09/11/2024

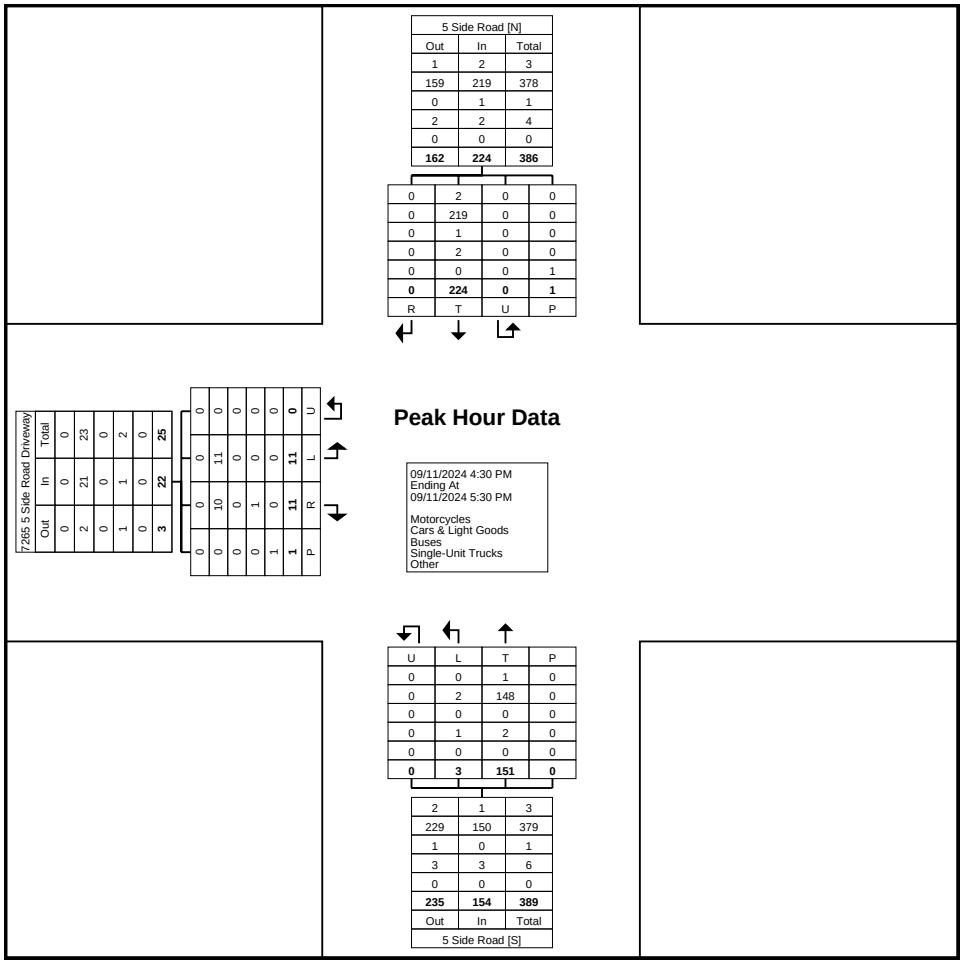
Turning Movement Peak Hour Data (4:30 PM)

Start Time	7265 5 Side Road Driveway Eastbound					5 Side Road Northbound					5 Side Road Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
4:30 PM	3	6	0	0	9	1	41	0	0	42	56	0	0	0	56	107
4:45 PM	1	1	0	1	2	0	32	0	0	32	51	0	0	1	51	85
5:00 PM	5	2	0	0	7	0	40	0	0	40	65	0	0	0	65	112
5:15 PM	2	2	0	0	4	2	38	0	0	40	52	0	0	0	52	96
Total	11	11	0	1	22	3	151	0	0	154	224	0	0	1	224	400
Approach %	50.0	50.0	0.0	-	-	1.9	98.1	0.0	-	-	100.0	0.0	0.0	-	-	-
Total %	2.8	2.8	0.0	-	5.5	0.8	37.8	0.0	-	38.5	56.0	0.0	0.0	-	56.0	-
PHF	0.550	0.458	0.000	-	0.611	0.375	0.921	0.000	-	0.917	0.862	0.000	0.000	-	0.862	0.893
Motorcycles	0	0	0	-	0	0	1	0	-	1	2	0	0	-	2	3
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.7	-	-	0.6	0.9	-	-	-	0.9	0.8
Cars & Light Goods	11	10	0	-	21	2	148	0	-	150	219	0	0	-	219	390
% Cars & Light Goods	100.0	90.9	-	-	95.5	66.7	98.0	-	-	97.4	97.8	-	-	-	97.8	97.5
Buses	0	0	0	-	0	0	0	0	-	0	1	0	0	-	1	1
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.4	-	-	-	0.4	0.3
Single-Unit Trucks	0	1	0	-	1	1	2	0	-	3	2	0	0	-	2	6
% Single-Unit Trucks	0.0	9.1	-	-	4.5	33.3	1.3	-	-	1.9	0.9	-	-	-	0.9	1.5
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	-	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	-	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: 7265 5 Side Road
Site Code: 240559
Start Date: 09/11/2024



Turning Movement Peak Hour Data Plot (4:30 PM)

Date: 21-May-20
Intersection: James Snow Pkwy & Campbellville Rd/5 Sideroad

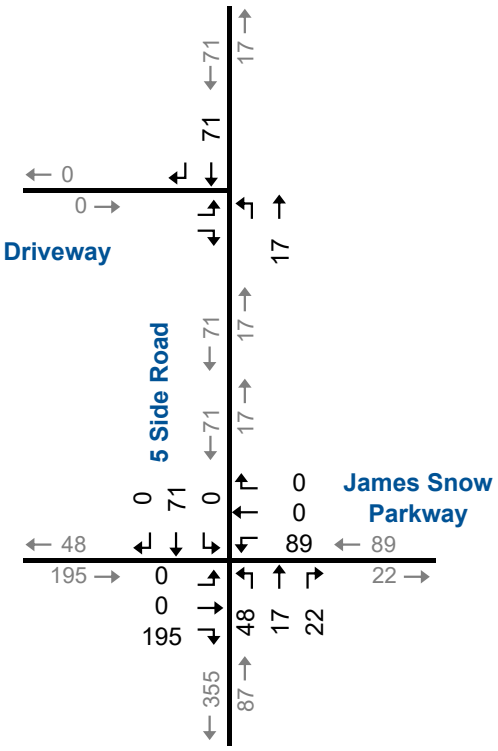
8 Phase Basic Timing Sheet

	1	2	3	4	5	6	7	8	2 Ped	4 Ped	6 Ped	8 Ped
Phases in use		X		X	X	X				x	x	
Direction		EBT		SBT	EBLT	WBT						
Min Green		20		10	7	20						
Veh Ext.		3.0		3.0	3.0	3.0						
Yellow		3.7		3.7	3	3.7						
Red		3.1		3.3	1	3.1						
Walk		7		7		7						
Don't Walk		17		23		17						
Max 1		48		37	17	31						
Max 2												
Max 3												
Veh Recall		x				x						
Ped Recall												
Notes:												

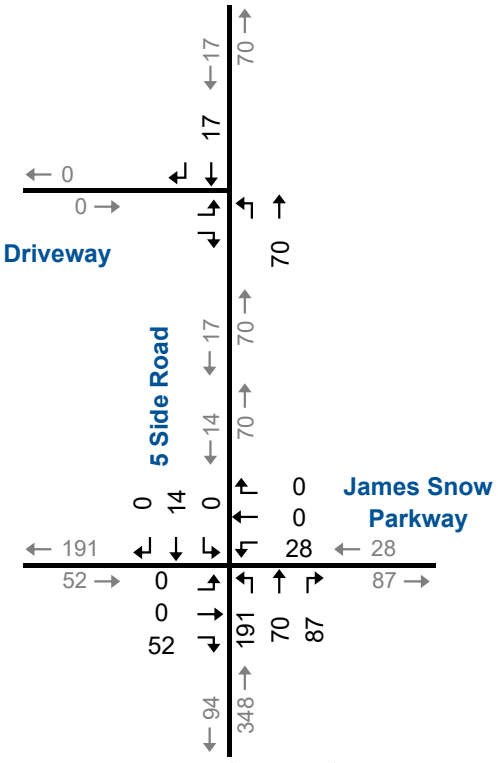
Appendix C

BACKGROUND TRAFFIC PROJECTIONS

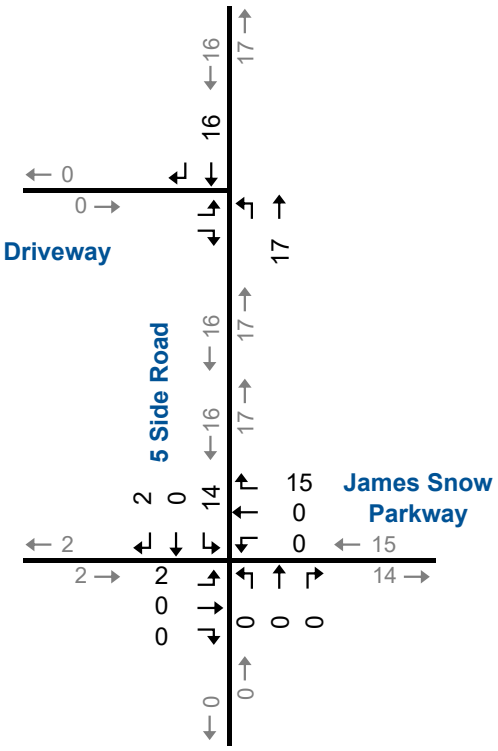
Weekday AM Peak Hour



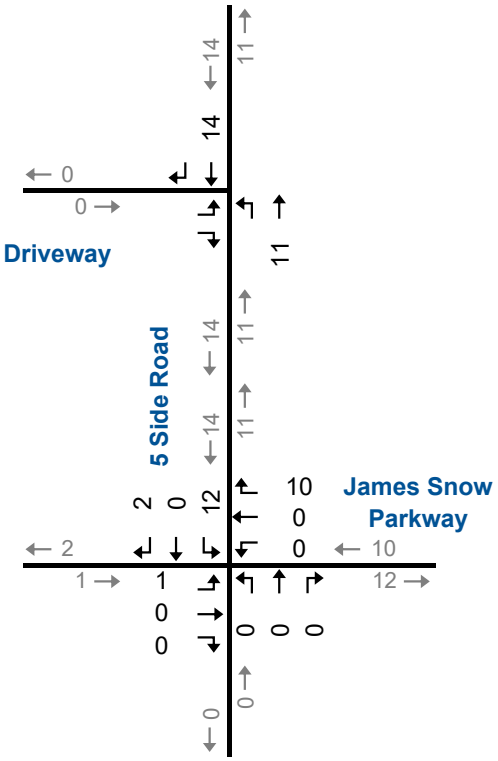
Weekday PM Peak Hour



Weekday AM Peak Hour



Weekday PM Peak Hour

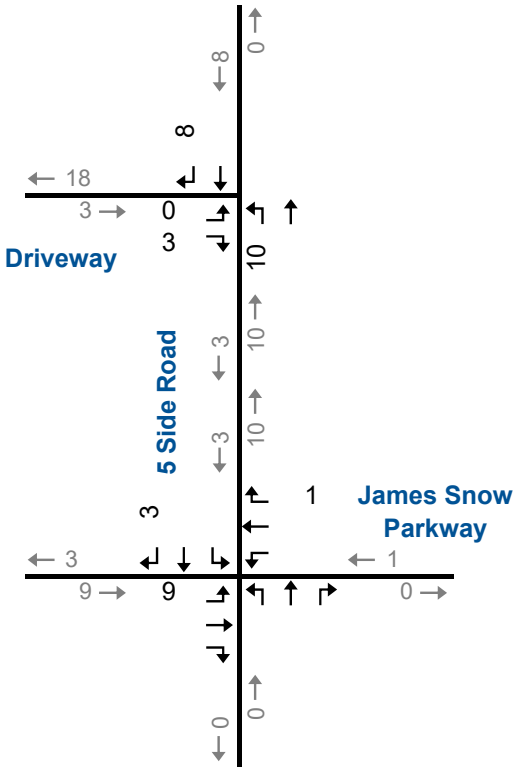


7450 No. 5 Sideroad

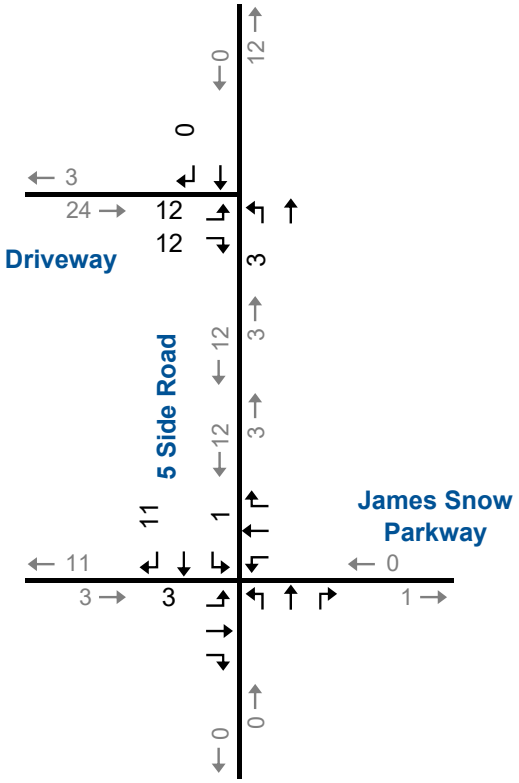
Appendix D

EXISTING SITE TRAFFIC

Weekday AM Peak Hour

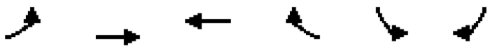


Weekday PM Peak Hour

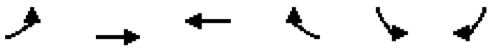


Appendix E

SYNCHRO OUTPUTS



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	113	390	165	9	16	113
Future Volume (vph)	113	390	165	9	16	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			30.0	30.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	85.0				60.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	1.00					
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1722	3042	2571	1471	1825	1585
Flt Permitted	0.574				0.950	
Satd. Flow (perm)	1039	3042	2571	1471	1825	1585
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				10		123
Link Speed (k/h)		60	60		50	
Link Distance (m)		319.0	422.5		163.9	
Travel Time (s)		19.1	25.4		11.8	
Confl. Peds. (#/hr)	1					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	20%	42%	11%	0%	3%
Adj. Flow (vph)	123	424	179	10	17	123
Shared Lane Traffic (%)						
Lane Group Flow (vph)	123	424	179	10	17	123
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (m)	6.1	30.5	30.5	6.1	6.1	6.1
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)	6.1	1.8	1.8	6.1	6.1	6.1
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)		28.7	28.7			
Detector 2 Size(m)		1.8	1.8			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

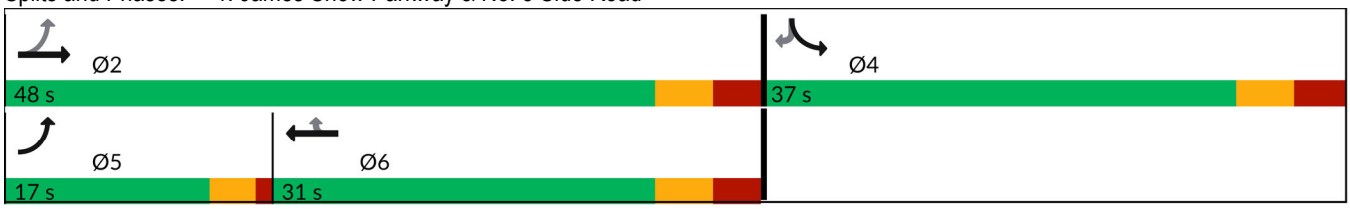


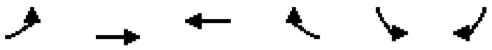
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	7.0	20.0	20.0	20.0	10.0	10.0
Minimum Split (s)	11.5	30.8	30.8	30.8	37.0	37.0
Total Split (s)	17.0	48.0	31.0	31.0	37.0	37.0
Total Split (%)	20.0%	56.5%	36.5%	36.5%	43.5%	43.5%
Maximum Green (s)	13.0	41.2	24.2	24.2	30.0	30.0
Yellow Time (s)	3.0	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	3.1	3.1	3.1	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.8	6.8	6.8	7.0	7.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	None	None
Walk Time (s)		7.0	7.0	7.0	7.0	7.0
Flash Don't Walk (s)		17.0	17.0	17.0	23.0	23.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effct Green (s)	47.1	45.7	36.5	36.5	10.0	10.0
Actuated g/C Ratio	0.73	0.71	0.57	0.57	0.15	0.15
v/c Ratio	0.15	0.20	0.12	0.01	0.06	0.35
Control Delay (s/veh)	4.0	4.9	10.3	5.9	24.2	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.0	4.9	10.3	5.9	24.2	8.8
LOS	A	A	B	A	C	A
Approach Delay (s/veh)		4.7	10.0		10.7	
Approach LOS		A	B		B	
Queue Length 50th (m)	4.4	11.3	8.3	0.0	1.8	0.0
Queue Length 95th (m)	9.0	17.4	15.8	2.4	6.4	12.5
Internal Link Dist (m)		295.0	398.5		139.9	
Turn Bay Length (m)	30.0			30.0	30.0	
Base Capacity (vph)	894	2151	1452	835	847	801
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	0.14	0.20	0.12	0.01	0.02	0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 64.6			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.35			
Intersection Signal Delay (s/veh): 6.8		Intersection LOS: A	
Intersection Capacity Utilization 46.1%		ICU Level of Service A	

Analysis Period (min) 15

Splits and Phases: 1: James Snow Parkway & No. 5 Side Road

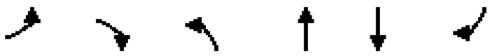




Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	113	390	165	9	16	113
Future Volume (vph)	113	390	165	9	16	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.8	6.8	6.8	7.0	7.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
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)	1721	3042	2571	1471	1825	1585
Flt Permitted	0.57	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1039	3042	2571	1471	1825	1585
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	123	424	179	10	17	123
RTOR Reduction (vph)	0	0	0	5	0	108
Lane Group Flow (vph)	123	424	179	5	17	15
Confl. Peds. (#/hr)	1					
Heavy Vehicles (%)	6%	20%	42%	11%	0%	3%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	45.1	45.1	35.1	35.1	8.0	8.0
Effective Green, g (s)	45.1	45.1	35.1	35.1	8.0	8.0
Actuated g/C Ratio	0.67	0.67	0.52	0.52	0.12	0.12
Clearance Time (s)	4.0	6.8	6.8	6.8	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	761	2050	1348	771	218	189
v/s Ratio Prot	0.01	c0.14	0.07		c0.01	
v/s Ratio Perm	0.09			0.00		0.01
v/c Ratio	0.16	0.21	0.13	0.01	0.08	0.08
Uniform Delay, d1	4.0	4.1	8.1	7.6	26.2	26.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.2	0.2	0.0	0.2	0.2
Delay (s)	4.1	4.4	8.3	7.6	26.3	26.3
Level of Service	A	A	A	A	C	C
Approach Delay (s/veh)		4.3	8.3		26.3	
Approach LOS		A	A		C	

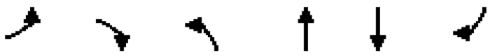
Intersection Summary			
HCM 2000 Control Delay (s/veh)	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	17.8
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	3	9	113	126	7
Future Volume (vph)	0	3	9	113	126	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.993	
Flt Protected				0.996		
Satd. Flow (prot)	1921	1633	0	1845	1872	0
Flt Permitted				0.996		
Satd. Flow (perm)	1921	1633	0	1845	1872	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	104.6			163.9	200.1	
Travel Time (s)	7.8			11.8	14.4	
Confl. Peds. (#/hr)	1		2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	4%	2%	0%
Adj. Flow (vph)	0	3	10	123	137	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	3	0	133	145	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	17.5%	ICU Level of Service	A
Analysis Period (min)	15		

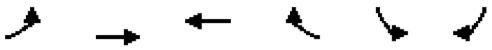


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	3	9	113	126	7
Future Volume (Veh/h)	0	3	9	113	126	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	3	10	123	137	8
Pedestrians	2				1	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked						
vC, conflicting volume	287	143	147			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	287	143	147			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	701	908	1445			

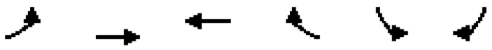
Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	0	3	133	145
Volume Left	0	0	10	0
Volume Right	0	3	0	8
cSH	1700	908	1445	1700
Volume to Capacity	0.00	0.00*	0.00*	0.09
Queue Length 95th (m)	0.0	0.1	0.2	0.0
Control Delay (s/veh)	0.0	9.0	0.6	0.0
Lane LOS	A	A	A	
Approach Delay (s/veh)	9.0		0.6	0.0
Approach LOS	A			

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	17.5%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	165	171	651	14	18	219
Future Volume (vph)	165	171	651	14	18	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			30.0	30.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	85.0				60.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	1.00			0.98		
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1789	3579	3579	1601	1372	1601
Flt Permitted	0.306				0.950	
Satd. Flow (perm)	576	3579	3579	1563	1372	1601
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				12		238
Link Speed (k/h)		60	60		50	
Link Distance (m)		319.0	422.5		163.9	
Travel Time (s)		19.1	25.4		11.8	
Confl. Peds. (#/hr)	2			2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	33%	2%
Adj. Flow (vph)	179	186	708	15	20	238
Shared Lane Traffic (%)						
Lane Group Flow (vph)	179	186	708	15	20	238
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Number of Detectors	1	2	2	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (m)	6.1	30.5	30.5	6.1	6.1	6.1
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)	6.1	1.8	1.8	6.1	6.1	6.1
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)		28.7	28.7			
Detector 2 Size(m)		1.8	1.8			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

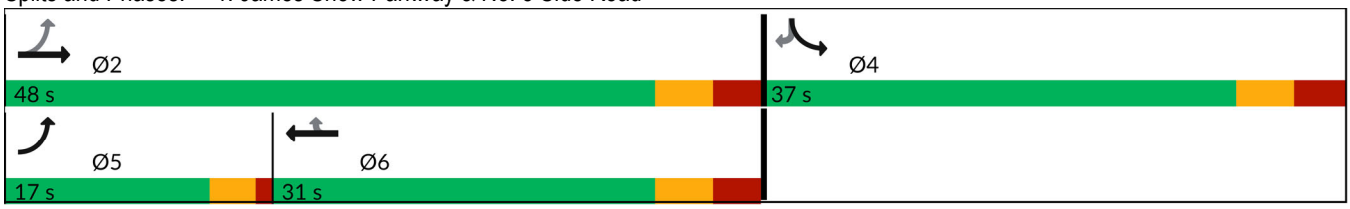


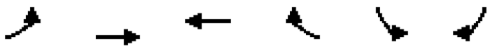
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	7.0	20.0	20.0	20.0	10.0	10.0
Minimum Split (s)	11.5	30.8	30.8	30.8	37.0	37.0
Total Split (s)	17.0	48.0	31.0	31.0	37.0	37.0
Total Split (%)	20.0%	56.5%	36.5%	36.5%	43.5%	43.5%
Maximum Green (s)	13.0	41.2	24.2	24.2	30.0	30.0
Yellow Time (s)	3.0	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	3.1	3.1	3.1	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.8	6.8	6.8	7.0	7.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	None	None
Walk Time (s)		7.0	7.0	7.0	7.0	7.0
Flash Don't Walk (s)		17.0	17.0	17.0	23.0	23.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effct Green (s)	44.0	41.2	29.2	29.2	10.3	10.3
Actuated g/C Ratio	0.67	0.63	0.45	0.45	0.16	0.16
v/c Ratio	0.33	0.08	0.44	0.02	0.09	0.53
Control Delay (s/veh)	5.7	4.9	13.9	7.1	24.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.7	4.9	13.9	7.1	24.7	8.7
LOS	A	A	B	A	C	A
Approach Delay (s/veh)		5.3	13.7		9.9	
Approach LOS		A	B		A	
Queue Length 50th (m)	6.4	3.9	29.4	0.2	2.7	0.0
Queue Length 95th (m)	13.1	7.5	46.7	3.2	9.2	16.8
Internal Link Dist (m)		295.0	398.5		139.9	
Turn Bay Length (m)	30.0			30.0	30.0	
Base Capacity (vph)	629	2258	1598	704	630	864
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	0.28	0.08	0.44	0.02	0.03	0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 65.3			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay (s/veh): 10.7		Intersection LOS: B	
Intersection Capacity Utilization 52.3%		ICU Level of Service A	

Analysis Period (min) 15

Splits and Phases: 1: James Snow Parkway & No. 5 Side Road

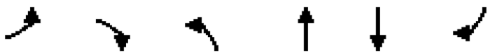




Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	165	171	651	14	18	219
Future Volume (vph)	165	171	651	14	18	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.8	6.8	6.8	7.0	7.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1789	3579	3579	1565	1372	1601
Flt Permitted	0.31	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	576	3579	3579	1565	1372	1601
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	186	708	15	20	238
RTOR Reduction (vph)	0	0	0	7	0	200
Lane Group Flow (vph)	179	186	708	8	20	38
Confl. Peds. (#/hr)	2			2		
Heavy Vehicles (%)	2%	2%	2%	2%	33%	2%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	41.2	41.2	29.2	29.2	10.3	10.3
Effective Green, g (s)	41.2	41.2	29.2	29.2	10.3	10.3
Actuated g/C Ratio	0.63	0.63	0.45	0.45	0.16	0.16
Clearance Time (s)	4.0	6.8	6.8	6.8	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	512	2258	1600	699	216	252
v/s Ratio Prot	c0.04	0.05	c0.20		0.01	
v/s Ratio Perm	0.18			0.01		c0.02
v/c Ratio	0.35	0.08	0.44	0.01	0.09	0.15
Uniform Delay, d1	5.4	4.7	12.4	10.0	23.5	23.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1	0.9	0.0	0.2	0.3
Delay (s)	5.8	4.8	13.3	10.1	23.7	24.0
Level of Service	A	A	B	B	C	C
Approach Delay (s/veh)		5.3	13.3		24.0	
Approach LOS		A	B		C	

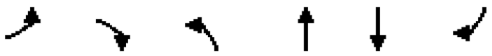
Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	65.3	Sum of lost time (s)	17.8
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	11	11	3	176	226	0
Future Volume (vph)	11	11	3	176	226	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950			0.999		
Satd. Flow (prot)	1825	1484	0	1873	1865	0
Flt Permitted	0.950			0.999		
Satd. Flow (perm)	1825	1484	0	1873	1865	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	104.6			163.9	200.1	
Travel Time (s)	7.8			11.8	14.4	
Confl. Peds. (#/hr)	1		1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	10%	33%	2%	3%	0%
Adj. Flow (vph)	12	12	3	191	246	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	12	0	194	246	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	21.9%	ICU Level of Service	A
Analysis Period (min)	15		



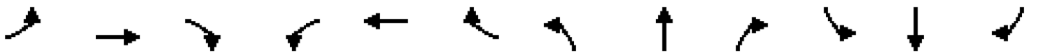
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	11	3	176	226	0
Future Volume (Veh/h)	11	11	3	176	226	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	12	3	191	246	0
Pedestrians	1				1	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked						
vC, conflicting volume	445	247	247			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	445	247	247			
tC, single (s)	6.4	6.3	4.4			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.5			
p0 queue free %	98	98	100			
cM capacity (veh/h)	572	772	1157			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	12	12	194	246
Volume Left	12	0	3	0
Volume Right	0	12	0	0
cSH	572	772	1157	1700
Volume to Capacity	0.02	0.02	0.00*	0.14
Queue Length 95th (m)	0.5	0.4	0.1	0.0
Control Delay (s/veh)	11.4	9.7	0.1	0.0
Lane LOS	B	A	A	
Approach Delay (s/veh)	10.6		0.1	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	21.9%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	431	195	89	182	25	48	17	22	32	71	127
Future Volume (vph)	127	431	195	89	182	25	48	17	22	32	71	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		30.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	85.0			90.0			2.5			60.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00											
Frt		0.953				0.850		0.966			0.904	
Flt Protected	0.950			0.950				0.973		0.950		
Satd. Flow (prot)	1722	3041	0	1789	2571	1471	0	1770	0	1825	1692	0
Flt Permitted	0.558			0.393				0.671		0.696		
Satd. Flow (perm)	1010	3041	0	740	2571	1471	0	1221	0	1337	1692	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		119				103		22			117	
Link Speed (k/h)		60			60			48			50	
Link Distance (m)		319.0			422.5			184.5			163.9	
Travel Time (s)		19.1			25.4			13.8			11.8	
Confl. Peds. (#/hr)	1											
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	20%	2%	2%	42%	11%	2%	2%	2%	0%	2%	3%
Adj. Flow (vph)	138	468	212	97	198	27	52	18	24	35	77	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	680	0	97	198	27	0	94	0	35	215	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			1.6			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1		30.5		6.1	30.5	
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)	6.1	1.8		6.1	1.8	6.1		1.8		6.1	1.8	
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	

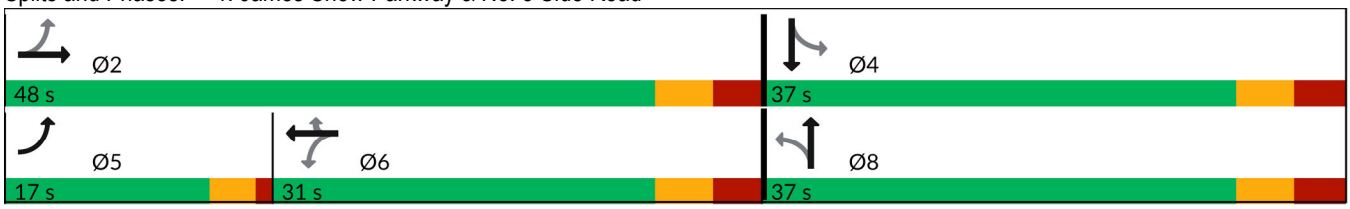


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	5	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	20.0		20.0	20.0	20.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	11.5	30.8		30.8	30.8	30.8	37.0	37.0		37.0	37.0	
Total Split (s)	17.0	48.0		31.0	31.0	31.0	37.0	37.0		37.0	37.0	
Total Split (%)	20.0%	56.5%		36.5%	36.5%	36.5%	43.5%	43.5%		43.5%	43.5%	
Maximum Green (s)	13.0	41.2		24.2	24.2	24.2	30.0	30.0		30.0	30.0	
Yellow Time (s)	3.0	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	3.1		3.1	3.1	3.1	3.3	3.3		3.3	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Max		Max	Max	Max	None	None		None	None	
Walk Time (s)		7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)		17.0		17.0	17.0	17.0	23.0	23.0		23.0	23.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0		0	0	
Act Effct Green (s)	44.7	41.9		32.3	32.3	32.3		11.2		11.2	11.2	
Actuated g/C Ratio	0.67	0.63		0.48	0.48	0.48		0.17		0.17	0.17	
v/c Ratio	0.18	0.35		0.27	0.16	0.04		0.42		0.16	0.57	
Control Delay (s/veh)	5.0	5.6		15.5	11.8	0.1		25.8		25.0	18.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay (s/veh)	5.0	5.6		15.5	11.8	0.1		25.8		25.0	18.3	
LOS	A	A		B	B	A		C		C	B	
Approach Delay (s/veh)		5.5			11.9			25.8			19.2	
Approach LOS		A			B			C			B	
Queue Length 50th (m)	5.0	15.7		7.0	9.3	0.0		8.1		3.7	10.9	
Queue Length 95th (m)	12.8	30.5		20.1	20.1	0.0		20.3		10.6	28.9	
Internal Link Dist (m)		295.0			398.5			160.5			139.9	
Turn Bay Length (m)	30.0			30.0		30.0				30.0		
Base Capacity (vph)	813	1948		356	1240	762		560		600	823	
Starvation Cap Reductn	0	0		0	0	0		0		0	0	
Spillback Cap Reductn	0	0		0	0	0		0		0	0	
Storage Cap Reductn	0	0		0	0	0		0		0	0	
Reduced v/c Ratio	0.17	0.35		0.27	0.16	0.04		0.17		0.06	0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 66.9			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay (s/veh): 10.5		Intersection LOS: B	
Intersection Capacity Utilization 77.7%		ICU Level of Service D	

Analysis Period (min) 15

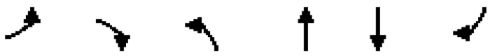
Splits and Phases: 1: James Snow Parkway & No. 5 Side Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	431	195	89	182	25	48	17	22	32	71	127
Future Volume (vph)	127	431	195	89	182	25	48	17	22	32	71	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00	0.85		0.97		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97		0.95	1.00	
Satd. Flow (prot)	1721	3042		1789	2571	1471		1770		1825	1691	
Flt Permitted	0.56	1.00		0.39	1.00	1.00		0.67		0.70	1.00	
Satd. Flow (perm)	1011	3042		740	2571	1471		1221		1337	1691	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	138	468	212	97	198	27	52	18	24	35	77	138
RTOR Reduction (vph)	0	44	0	0	0	14	0	18	0	0	98	0
Lane Group Flow (vph)	138	636	0	97	198	13	0	76	0	35	117	0
Confl. Peds. (#/hr)	1											
Heavy Vehicles (%)	6%	20%	2%	2%	42%	11%	2%	2%	2%	0%	2%	3%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	42.7	42.7		32.3	32.3	32.3		11.2		11.2	11.2	
Effective Green, g (s)	42.7	42.7		32.3	32.3	32.3		11.2		11.2	11.2	
Actuated g/C Ratio	0.63	0.63		0.48	0.48	0.48		0.17		0.17	0.17	
Clearance Time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	704	1918		353	1226	701		201		221	279	
v/s Ratio Prot	0.02	c0.21			0.08						c0.07	
v/s Ratio Perm	0.10			0.13		0.01		0.06		0.03		
v/c Ratio	0.20	0.33		0.27	0.16	0.02		0.38		0.16	0.42	
Uniform Delay, d1	5.2	5.8		10.7	10.0	9.3		25.1		24.2	25.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.5		1.9	0.3	0.0		1.2		0.3	1.0	
Delay (s)	5.3	6.3		12.6	10.3	9.4		26.3		24.5	26.4	
Level of Service	A	A		B	B	A		C		C	C	
Approach Delay (s/veh)		6.1			10.9			26.3			26.1	
Approach LOS		A			B			C			C	

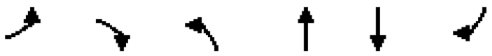
Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	67.7	Sum of lost time (s)	17.8
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	3	10	159	226	8
Future Volume (vph)	0	3	10	159	226	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.995	
Flt Protected				0.997		
Satd. Flow (prot)	1921	1633	0	1846	1875	0
Flt Permitted				0.997		
Satd. Flow (perm)	1921	1633	0	1846	1875	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	104.6			163.9	200.1	
Travel Time (s)	7.8			11.8	14.4	
Confl. Peds. (#/hr)	1		2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	4%	2%	0%
Adj. Flow (vph)	0	3	11	173	246	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	3	0	184	255	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	22.4%	ICU Level of Service	A
Analysis Period (min)	15		

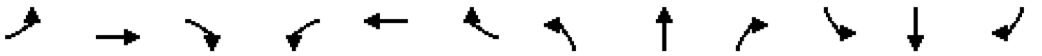


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	3	10	159	226	8
Future Volume (Veh/h)	0	3	10	159	226	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	3	11	173	246	9
Pedestrians	2				1	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked						
vC, conflicting volume	449	253	257			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	449	253	257			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	565	790	1317			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	0	3	184	255
Volume Left	0	0	11	0
Volume Right	0	3	0	9
cSH	1700	790	1317	1700
Volume to Capacity	0.00	0.00*	0.00*	0.15
Queue Length 95th (m)	0.0	0.1	0.2	0.0
Control Delay (s/veh)	0.0	9.6	0.5	0.0
Lane LOS	A	A	A	
Approach Delay (s/veh)	9.6		0.5	0.0
Approach LOS	A			

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	22.4%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	183	189	52	28	719	25	191	70	87	32	14	244
Future Volume (vph)	183	189	52	28	719	25	191	70	87	32	14	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		30.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	85.0			90.0			2.5			60.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.98						
Frt		0.967				0.850		0.966			0.858	
Flt Protected	0.950			0.950				0.973		0.950		
Satd. Flow (prot)	1789	3460	0	1789	3579	1601	0	1770	0	1372	1616	0
Flt Permitted	0.193			0.590				0.609		0.545		
Satd. Flow (perm)	363	3460	0	1111	3579	1563	0	1108	0	787	1616	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57				103		22			265	
Link Speed (k/h)		60			60			48			50	
Link Distance (m)		319.0			422.5			163.0			163.9	
Travel Time (s)		19.1			25.4			12.2			11.8	
Confl. Peds. (#/hr)	2					2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	33%	2%	2%
Adj. Flow (vph)	199	205	57	30	782	27	208	76	95	35	15	265
Shared Lane Traffic (%)												
Lane Group Flow (vph)	199	262	0	30	782	27	0	379	0	35	280	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			1.6			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1		30.5		6.1	30.5	
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)	6.1	1.8		6.1	1.8	6.1		1.8		6.1	1.8	
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	5	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	20.0		20.0	20.0	20.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	11.5	30.8		30.8	30.8	30.8	37.0	37.0		37.0	37.0	
Total Split (s)	17.0	48.0		31.0	31.0	31.0	37.0	37.0		37.0	37.0	
Total Split (%)	20.0%	56.5%		36.5%	36.5%	36.5%	43.5%	43.5%		43.5%	43.5%	
Maximum Green (s)	13.0	41.2		24.2	24.2	24.2	30.0	30.0		30.0	30.0	
Yellow Time (s)	3.0	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	3.1		3.1	3.1	3.1	3.3	3.3		3.3	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Max		Max	Max	Max	None	None		None	None	
Walk Time (s)		7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)		17.0		17.0	17.0	17.0	23.0	23.0		23.0	23.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0		0	0	
Act Effct Green (s)	44.0	41.2		26.9	26.9	26.9		28.9		28.9	28.9	
Actuated g/C Ratio	0.52	0.49		0.32	0.32	0.32		0.34		0.34	0.34	
v/c Ratio	0.54	0.15		0.08	0.68	0.05		0.96		0.13	0.38	
Control Delay (s/veh)	16.9	9.6		22.6	29.3	0.2		63.5		20.3	4.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay (s/veh)	16.9	9.6		22.6	29.3	0.2		63.5		20.3	4.9	
LOS	B	A		C	C	A		E		C	A	
Approach Delay (s/veh)		12.8			28.1			63.5			6.6	
Approach LOS		B			C			E			A	
Queue Length 50th (m)	16.8	9.3		3.5	59.2	0.0		56.6		4.8	1.6	
Queue Length 95th (m)	28.7	15.8		10.1	82.7	0.0		#111.6		13.0	17.1	
Internal Link Dist (m)		295.0			398.5			139.0			139.9	
Turn Bay Length (m)	30.0			30.0		30.0				30.0		
Base Capacity (vph)	411	1727		355	1145	570		410		281	747	
Starvation Cap Reductn	0	0		0	0	0		0		0	0	
Spillback Cap Reductn	0	0		0	0	0		0		0	0	
Storage Cap Reductn	0	0		0	0	0		0		0	0	
Reduced v/c Ratio	0.48	0.15		0.08	0.68	0.05		0.92		0.12	0.37	

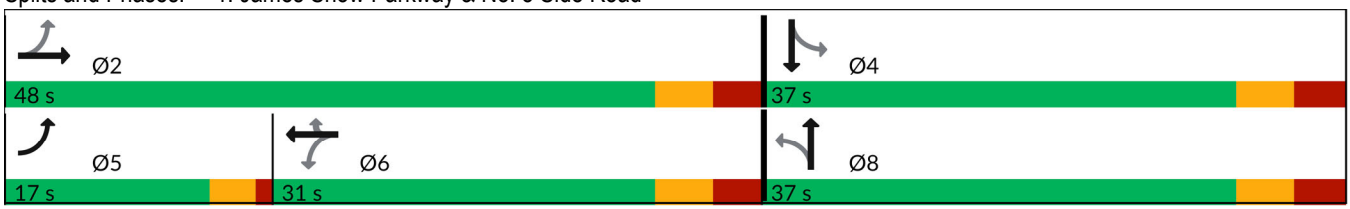
Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 84			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay (s/veh): 27.9		Intersection LOS: C	
Intersection Capacity Utilization 91.7%		ICU Level of Service F	

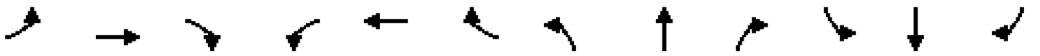
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 1: James Snow Parkway & No. 5 Side Road

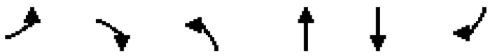




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	183	189	52	28	719	25	191	70	87	32	14	244
Future Volume (vph)	183	189	52	28	719	25	191	70	87	32	14	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98		1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00	0.85		0.97		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97		0.95	1.00	
Satd. Flow (prot)	1789	3462		1789	3579	1563		1771		1372	1616	
Flt Permitted	0.19	1.00		0.59	1.00	1.00		0.61		0.54	1.00	
Satd. Flow (perm)	364	3462		1111	3579	1563		1109		787	1616	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	199	205	57	30	782	27	208	76	95	35	15	265
RTOR Reduction (vph)	0	29	0	0	0	18	0	14	0	0	174	0
Lane Group Flow (vph)	199	233	0	30	782	9	0	365	0	35	106	0
Confl. Peds. (#/hr)	2					2						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	33%	2%	2%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	41.2	41.2		26.9	26.9	26.9		28.9		28.9	28.9	
Effective Green, g (s)	41.2	41.2		26.9	26.9	26.9		28.9		28.9	28.9	
Actuated g/C Ratio	0.49	0.49		0.32	0.32	0.32		0.34		0.34	0.34	
Clearance Time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	353	1700		356	1147	501		382		271	556	
v/s Ratio Prot	c0.07	0.07			c0.22						0.07	
v/s Ratio Perm	0.21			0.03		0.01		c0.33		0.04		
v/c Ratio	0.56	0.14		0.08	0.68	0.02		0.95		0.13	0.19	
Uniform Delay, d1	13.9	11.6		19.9	24.8	19.5		26.9		18.9	19.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.2		0.5	3.3	0.1		34.1		0.2	0.2	
Delay (s)	16.0	11.8		20.4	28.1	19.5		60.9		19.1	19.5	
Level of Service	B	B		C	C	B		E		B	B	
Approach Delay (s/veh)		13.6			27.5			60.9			19.4	
Approach LOS		B			C			E			B	

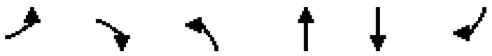
Intersection Summary			
HCM 2000 Control Delay (s/veh)	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	83.9	Sum of lost time (s)	17.8
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	12	3	275	281	0
Future Volume (vph)	12	12	3	275	281	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1825	1484	0	1878	1865	0
Flt Permitted	0.950					
Satd. Flow (perm)	1825	1484	0	1878	1865	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	104.6			163.9	200.1	
Travel Time (s)	7.8			11.8	14.4	
Confl. Peds. (#/hr)	1		1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	10%	33%	2%	3%	0%
Adj. Flow (vph)	13	13	3	299	305	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	13	0	302	305	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		

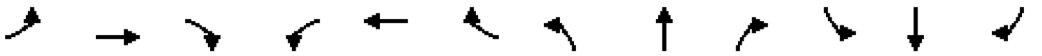


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	12	3	275	281	0
Future Volume (Veh/h)	12	12	3	275	281	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	13	3	299	305	0
Pedestrians	1				1	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked	0.96					
vC, conflicting volume	612	306	306			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	573	306	306			
tC, single (s)	6.4	6.3	4.4			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.5			
p0 queue free %	97	98	100			
cM capacity (veh/h)	462	715	1097			

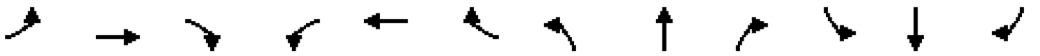
Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	13	13	302	305
Volume Left	13	0	3	0
Volume Right	0	13	0	0
cSH	462	715	1097	1700
Volume to Capacity	0.03	0.02	0.00*	0.18
Queue Length 95th (m)	0.7	0.4	0.1	0.0
Control Delay (s/veh)	13.0	10.1	0.1	0.0
Lane LOS	B	B	A	
Approach Delay (s/veh)	11.6		0.1	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	431	195	89	182	25	48	17	22	33	71	135
Future Volume (vph)	128	431	195	89	182	25	48	17	22	33	71	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		30.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	85.0			90.0			2.5			60.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00											
Frt		0.953				0.850		0.966			0.902	
Flt Protected	0.950			0.950				0.973		0.950		
Satd. Flow (prot)	1722	3041	0	1789	2571	1471	0	1770	0	1825	1688	0
Flt Permitted	0.558			0.393				0.646		0.696		
Satd. Flow (perm)	1010	3041	0	740	2571	1471	0	1175	0	1337	1688	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		119				103		22			125	
Link Speed (k/h)		60			60			48			50	
Link Distance (m)		319.0			422.5			184.5			163.9	
Travel Time (s)		19.1			25.4			13.8			11.8	
Confl. Peds. (#/hr)	1											
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	20%	2%	2%	42%	11%	2%	2%	2%	0%	2%	3%
Adj. Flow (vph)	139	468	212	97	198	27	52	18	24	36	77	147
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	680	0	97	198	27	0	94	0	36	224	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			1.6			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1		30.5		6.1	30.5	
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)	6.1	1.8		6.1	1.8	6.1		1.8		6.1	1.8	
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	

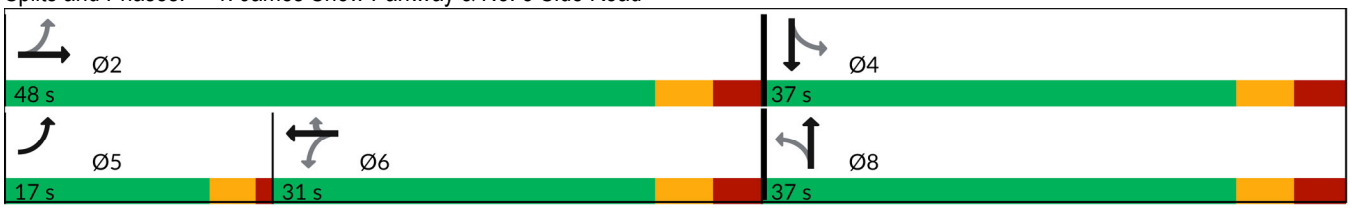


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	5	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	20.0		20.0	20.0	20.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	11.5	30.8		30.8	30.8	30.8	37.0	37.0		37.0	37.0	
Total Split (s)	17.0	48.0		31.0	31.0	31.0	37.0	37.0		37.0	37.0	
Total Split (%)	20.0%	56.5%		36.5%	36.5%	36.5%	43.5%	43.5%		43.5%	43.5%	
Maximum Green (s)	13.0	41.2		24.2	24.2	24.2	30.0	30.0		30.0	30.0	
Yellow Time (s)	3.0	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	3.1		3.1	3.1	3.1	3.3	3.3		3.3	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Max		Max	Max	Max	None	None		None	None	
Walk Time (s)		7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)		17.0		17.0	17.0	17.0	23.0	23.0		23.0	23.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0		0	0	
Act Effct Green (s)	44.5	41.7		32.1	32.1	32.1		11.3		11.3	11.3	
Actuated g/C Ratio	0.67	0.62		0.48	0.48	0.48		0.17		0.17	0.17	
v/c Ratio	0.18	0.35		0.27	0.16	0.04		0.43		0.16	0.58	
Control Delay (s/veh)	5.1	5.7		15.6	11.9	0.1		26.3		25.0	18.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay (s/veh)	5.1	5.7		15.6	11.9	0.1		26.3		25.0	18.1	
LOS	A	A		B	B	A		C		C	B	
Approach Delay (s/veh)		5.6			12.0			26.3			19.0	
Approach LOS		A			B			C			B	
Queue Length 50th (m)	5.0	15.7		7.0	9.3	0.0		8.1		3.8	11.1	
Queue Length 95th (m)	13.0	30.8		20.3	20.4	0.0		20.3		10.7	29.4	
Internal Link Dist (m)		295.0			398.5			160.5			139.9	
Turn Bay Length (m)	30.0			30.0		30.0				30.0		
Base Capacity (vph)	811	1942		355	1234	760		540		601	827	
Starvation Cap Reductn	0	0		0	0	0		0		0	0	
Spillback Cap Reductn	0	0		0	0	0		0		0	0	
Storage Cap Reductn	0	0		0	0	0		0		0	0	
Reduced v/c Ratio	0.17	0.35		0.27	0.16	0.04		0.17		0.06	0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 66.8			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay (s/veh): 10.6		Intersection LOS: B	
Intersection Capacity Utilization 78.2%		ICU Level of Service D	

Analysis Period (min) 15

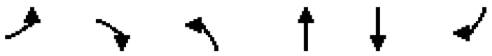
Splits and Phases: 1: James Snow Parkway & No. 5 Side Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	431	195	89	182	25	48	17	22	33	71	135
Future Volume (vph)	128	431	195	89	182	25	48	17	22	33	71	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00	0.85		0.97		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97		0.95	1.00	
Satd. Flow (prot)	1721	3042		1789	2571	1471		1770		1825	1687	
Flt Permitted	0.56	1.00		0.39	1.00	1.00		0.65		0.70	1.00	
Satd. Flow (perm)	1010	3042		740	2571	1471		1176		1337	1687	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	139	468	212	97	198	27	52	18	24	36	77	147
RTOR Reduction (vph)	0	44	0	0	0	14	0	18	0	0	104	0
Lane Group Flow (vph)	139	636	0	97	198	13	0	76	0	36	120	0
Confl. Peds. (#/hr)	1											
Heavy Vehicles (%)	6%	20%	2%	2%	42%	11%	2%	2%	2%	0%	2%	3%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	42.5	42.5		32.1	32.1	32.1		11.3		11.3	11.3	
Effective Green, g (s)	42.5	42.5		32.1	32.1	32.1		11.3		11.3	11.3	
Actuated g/C Ratio	0.63	0.63		0.47	0.47	0.47		0.17		0.17	0.17	
Clearance Time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	702	1912		351	1220	698		196		223	281	
v/s Ratio Prot	0.02	c0.21			0.08						c0.07	
v/s Ratio Perm	0.11			0.13		0.01		0.06		0.03		
v/c Ratio	0.20	0.33		0.28	0.16	0.02		0.39		0.16	0.43	
Uniform Delay, d1	5.2	5.9		10.7	10.1	9.4		25.1		24.1	25.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.5		1.9	0.3	0.0		1.3		0.3	1.0	
Delay (s)	5.3	6.4		12.7	10.4	9.5		26.3		24.4	26.3	
Level of Service	A	A		B	B	A		C		C	C	
Approach Delay (s/veh)		6.2			11.0			26.3			26.0	
Approach LOS		A			B			C			C	

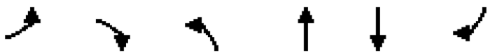
Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	67.6	Sum of lost time (s)	17.8
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	12	11	159	226	8
Future Volume (vph)	8	12	11	159	226	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.995	
Flt Protected	0.950			0.997		
Satd. Flow (prot)	913	816	0	1738	1813	0
Flt Permitted	0.950			0.997		
Satd. Flow (perm)	913	816	0	1738	1813	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	104.6			163.9	200.1	
Travel Time (s)	7.8			11.8	14.4	
Confl. Peds. (#/hr)	1		2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	100%	100%	100%	4%	2%	100%
Adj. Flow (vph)	9	13	12	173	246	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	9	13	0	185	255	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		

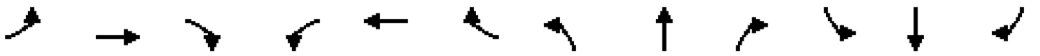


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	12	11	159	226	8
Future Volume (Veh/h)	8	12	11	159	226	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	13	12	173	246	9
Pedestrians	2				1	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked						
vC, conflicting volume	451	253	257			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	451	253	257			
tC, single (s)	7.4	7.2	5.1			
tC, 2 stage (s)						
tF (s)	4.4	4.2	3.1			
p0 queue free %	98	98	99			
cM capacity (veh/h)	415	596	898			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	9	13	185	255
Volume Left	9	0	12	0
Volume Right	0	13	0	9
cSH	415	596	898	1700
Volume to Capacity	0.02	0.02	0.01	0.15
Queue Length 95th (m)	0.5	0.5	0.3	0.0
Control Delay (s/veh)	13.9	11.2	0.7	0.0
Lane LOS	B	B	A	
Approach Delay (s/veh)	12.3		0.7	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	189	52	28	719	26	191	70	87	32	14	242
Future Volume (vph)	190	189	52	28	719	26	191	70	87	32	14	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		30.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	85.0			90.0			2.5			60.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.98						
Frt		0.967				0.850		0.966			0.858	
Flt Protected	0.950			0.950				0.973		0.950		
Satd. Flow (prot)	1789	3460	0	1789	3579	1601	0	1770	0	1372	1616	0
Flt Permitted	0.192			0.590				0.612		0.545		
Satd. Flow (perm)	361	3460	0	1111	3579	1563	0	1113	0	787	1616	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57				103		22			263	
Link Speed (k/h)		60			60			48			50	
Link Distance (m)		319.0			422.5			163.0			163.9	
Travel Time (s)		19.1			25.4			12.2			11.8	
Confl. Peds. (#/hr)	2					2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	33%	2%	2%
Adj. Flow (vph)	207	205	57	30	782	28	208	76	95	35	15	263
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	262	0	30	782	28	0	379	0	35	278	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			1.6			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1		30.5		6.1	30.5	
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)	6.1	1.8		6.1	1.8	6.1		1.8		6.1	1.8	
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	5	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	20.0		20.0	20.0	20.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	11.5	30.8		30.8	30.8	30.8	37.0	37.0		37.0	37.0	
Total Split (s)	17.0	48.0		31.0	31.0	31.0	37.0	37.0		37.0	37.0	
Total Split (%)	20.0%	56.5%		36.5%	36.5%	36.5%	43.5%	43.5%		43.5%	43.5%	
Maximum Green (s)	13.0	41.2		24.2	24.2	24.2	30.0	30.0		30.0	30.0	
Yellow Time (s)	3.0	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	3.1		3.1	3.1	3.1	3.3	3.3		3.3	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Max		Max	Max	Max	None	None		None	None	
Walk Time (s)		7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)		17.0		17.0	17.0	17.0	23.0	23.0		23.0	23.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0		0	0	
Act Effct Green (s)	44.0	41.2		26.7	26.7	26.7		28.8		28.8	28.8	
Actuated g/C Ratio	0.52	0.49		0.32	0.32	0.32		0.34		0.34	0.34	
v/c Ratio	0.56	0.15		0.08	0.69	0.05		0.95		0.13	0.38	
Control Delay (s/veh)	17.4	9.6		22.8	29.5	0.2		62.8		20.3	4.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay (s/veh)	17.4	9.6		22.8	29.5	0.2		62.8		20.3	4.9	
LOS	B	A		C	C	A		E		C	A	
Approach Delay (s/veh)		13.0			28.3			62.8			6.6	
Approach LOS		B			C			E			A	
Queue Length 50th (m)	17.6	9.3		3.5	59.3	0.0		56.5		4.8	1.6	
Queue Length 95th (m)	29.9	15.8		10.1	82.7	0.0		#111.3		13.0	17.0	
Internal Link Dist (m)		295.0			398.5			139.0			139.9	
Turn Bay Length (m)	30.0			30.0		30.0				30.0		
Base Capacity (vph)	411	1729		353	1139	567		412		281	747	
Starvation Cap Reductn	0	0		0	0	0		0		0	0	
Spillback Cap Reductn	0	0		0	0	0		0		0	0	
Storage Cap Reductn	0	0		0	0	0		0		0	0	
Reduced v/c Ratio	0.50	0.15		0.08	0.69	0.05		0.92		0.12	0.37	

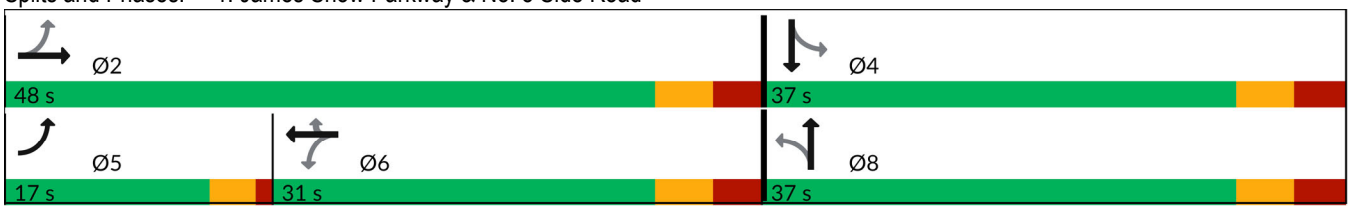
Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 83.9			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay (s/veh): 27.8		Intersection LOS: C	
Intersection Capacity Utilization 91.6%		ICU Level of Service F	

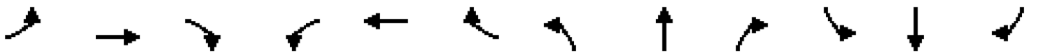
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 1: James Snow Parkway & No. 5 Side Road

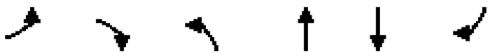




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	189	52	28	719	26	191	70	87	32	14	242
Future Volume (vph)	190	189	52	28	719	26	191	70	87	32	14	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98		1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00	0.85		0.97		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97		0.95	1.00	
Satd. Flow (prot)	1789	3462		1789	3579	1563		1771		1372	1616	
Flt Permitted	0.19	1.00		0.59	1.00	1.00		0.61		0.54	1.00	
Satd. Flow (perm)	362	3462		1111	3579	1563		1114		787	1616	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	205	57	30	782	28	208	76	95	35	15	263
RTOR Reduction (vph)	0	29	0	0	0	19	0	14	0	0	173	0
Lane Group Flow (vph)	207	233	0	30	782	9	0	365	0	35	105	0
Confl. Peds. (#/hr)	2					2						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	33%	2%	2%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	41.2	41.2		26.7	26.7	26.7		28.8		28.8	28.8	
Effective Green, g (s)	41.2	41.2		26.7	26.7	26.7		28.8		28.8	28.8	
Actuated g/C Ratio	0.49	0.49		0.32	0.32	0.32		0.34		0.34	0.34	
Clearance Time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	356	1702		353	1140	497		382		270	555	
v/s Ratio Prot	c0.07	0.07			c0.22						0.07	
v/s Ratio Perm	0.21			0.03		0.01		c0.33		0.04		
v/c Ratio	0.58	0.14		0.08	0.69	0.02		0.95		0.13	0.19	
Uniform Delay, d1	14.0	11.6		20.0	24.9	19.6		26.9		18.9	19.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	2.4	0.2		0.5	3.4	0.1		34.1		0.2	0.2	
Delay (s)	16.4	11.8		20.5	28.3	19.6		60.9		19.1	19.5	
Level of Service	B	B		C	C	B		E		B	B	
Approach Delay (s/veh)		13.8			27.7			60.9			19.4	
Approach LOS		B			C			E			B	

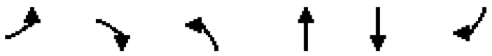
Intersection Summary			
HCM 2000 Control Delay (s/veh)	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	83.8	Sum of lost time (s)	17.8
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	11	0	275	281	8
Future Volume (vph)	8	11	0	275	281	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.996	
Flt Protected	0.950					
Satd. Flow (prot)	913	816	0	1883	1809	0
Flt Permitted	0.950					
Satd. Flow (perm)	913	816	0	1883	1809	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	104.6			163.9	200.1	
Travel Time (s)	7.8			11.8	14.4	
Confl. Peds. (#/hr)	1		1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	100%	100%	100%	2%	3%	100%
Adj. Flow (vph)	9	12	0	299	305	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	9	12	0	299	314	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	25.3%	ICU Level of Service	A
Analysis Period (min)	15		



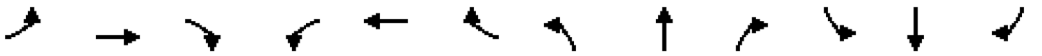
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	11	0	275	281	8
Future Volume (Veh/h)	8	11	0	275	281	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	12	0	299	305	9
Pedestrians	1				1	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked	0.96					
vC, conflicting volume	611	311	315			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	572	311	315			
tC, single (s)	7.4	7.2	5.1			
tC, 2 stage (s)						
tF (s)	4.4	4.2	3.1			
p0 queue free %	97	98	100			
cM capacity (veh/h)	336	549	848			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	9	12	299	314
Volume Left	9	0	0	0
Volume Right	0	12	0	9
cSH	336	549	848	1700
Volume to Capacity	0.03	0.02	0.00	0.18
Queue Length 95th (m)	0.6	0.5	0.0	0.0
Control Delay (s/veh)	16.0	11.7	0.0	0.0
Lane LOS	C	B		
Approach Delay (s/veh)	13.6		0.0	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	25.3%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix F

SENSITIVITY SYNCHRO OUTPUTS



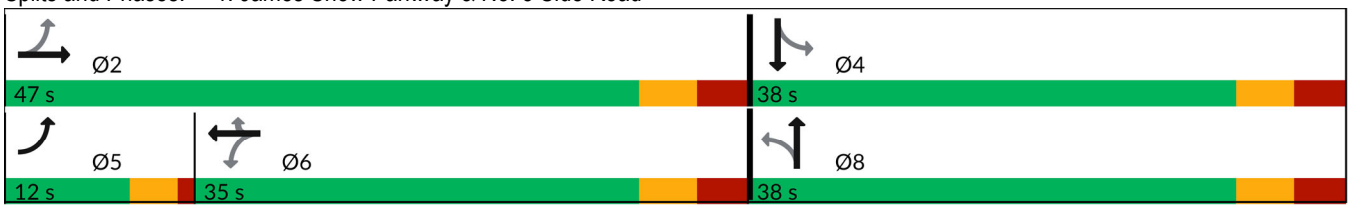
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	431	195	89	182	25	48	17	22	33	71	135
Future Volume (vph)	128	431	195	89	182	25	48	17	22	33	71	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		30.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	85.0			90.0			2.5			60.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00											
Frt		0.953				0.850		0.966			0.902	
Flt Protected	0.950			0.950				0.973		0.950		
Satd. Flow (prot)	1722	3041	0	1789	2571	1471	0	1770	0	1825	1688	0
Flt Permitted	0.556			0.393				0.655		0.696		
Satd. Flow (perm)	1006	3041	0	740	2571	1471	0	1192	0	1337	1688	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		117				103		23			127	
Link Speed (k/h)		60			60			48			50	
Link Distance (m)		319.0			422.5			184.5			163.9	
Travel Time (s)		19.1			25.4			13.8			11.8	
Confl. Peds. (#/hr)	1											
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	20%	2%	2%	42%	11%	2%	2%	2%	0%	2%	3%
Adj. Flow (vph)	139	468	212	97	198	27	52	18	24	36	77	147
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	680	0	97	198	27	0	94	0	36	224	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			1.6			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1		30.5		6.1	30.5	
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)	6.1	1.8		6.1	1.8	6.1		1.8		6.1	1.8	
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	

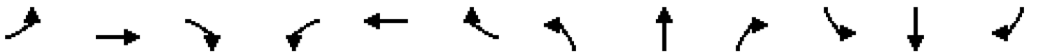
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	5	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	20.0		20.0	20.0	20.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	11.5	30.8		30.8	30.8	30.8	37.0	37.0		37.0	37.0	
Total Split (s)	12.0	47.0		35.0	35.0	35.0	38.0	38.0		38.0	38.0	
Total Split (%)	14.1%	55.3%		41.2%	41.2%	41.2%	44.7%	44.7%		44.7%	44.7%	
Maximum Green (s)	8.0	40.2		28.2	28.2	28.2	31.0	31.0		31.0	31.0	
Yellow Time (s)	3.0	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	3.1		3.1	3.1	3.1	3.3	3.3		3.3	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Max		Max	Max	Max	None	None		None	None	
Walk Time (s)		7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)		17.0		17.0	17.0	17.0	23.0	23.0		23.0	23.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0		0	0	
Act Effct Green (s)	43.5	40.7		31.4	31.4	31.4		11.2		11.2	11.2	
Actuated g/C Ratio	0.66	0.62		0.48	0.48	0.48		0.17		0.17	0.17	
v/c Ratio	0.19	0.35		0.27	0.16	0.04		0.42		0.16	0.57	
Control Delay (s/veh)	5.1	5.7		15.3	11.7	0.1		25.3		24.5	17.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay (s/veh)	5.1	5.7		15.3	11.7	0.1		25.3		24.5	17.5	
LOS	A	A		B	B	A		C		C	B	
Approach Delay (s/veh)		5.6			11.8			25.3			18.5	
Approach LOS		A			B			C			B	
Queue Length 50th (m)	5.0	15.8		7.0	9.3	0.0		7.8		3.7	10.6	
Queue Length 95th (m)	12.9	30.6		19.4	19.3	0.0		19.8		10.5	28.7	
Internal Link Dist (m)		295.0			398.5			160.5			139.9	
Turn Bay Length (m)	30.0			30.0		30.0				30.0		
Base Capacity (vph)	753	1927		353	1228	756		575		631	864	
Starvation Cap Reductn	0	0		0	0	0		0		0	0	
Spillback Cap Reductn	0	0		0	0	0		0		0	0	
Storage Cap Reductn	0	0		0	0	0		0		0	0	
Reduced v/c Ratio	0.18	0.35		0.27	0.16	0.04		0.16		0.06	0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 65.7			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay (s/veh): 10.4		Intersection LOS: B	
Intersection Capacity Utilization 78.2%		ICU Level of Service D	

Analysis Period (min) 15

Splits and Phases: 1: James Snow Parkway & No. 5 Side Road

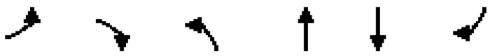




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	431	195	89	182	25	48	17	22	33	71	135
Future Volume (vph)	128	431	195	89	182	25	48	17	22	33	71	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00	0.85		0.97		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97		0.95	1.00	
Satd. Flow (prot)	1721	3042		1789	2571	1471		1770		1825	1687	
Flt Permitted	0.56	1.00		0.39	1.00	1.00		0.65		0.70	1.00	
Satd. Flow (perm)	1008	3042		740	2571	1471		1191		1337	1687	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	139	468	212	97	198	27	52	18	24	36	77	147
RTOR Reduction (vph)	0	44	0	0	0	14	0	19	0	0	106	0
Lane Group Flow (vph)	139	636	0	97	198	13	0	75	0	36	118	0
Confl. Peds. (#/hr)	1											
Heavy Vehicles (%)	6%	20%	2%	2%	42%	11%	2%	2%	2%	0%	2%	3%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	41.5	41.5		31.4	31.4	31.4		11.2		11.2	11.2	
Effective Green, g (s)	41.5	41.5		31.4	31.4	31.4		11.2		11.2	11.2	
Actuated g/C Ratio	0.62	0.62		0.47	0.47	0.47		0.17		0.17	0.17	
Clearance Time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	694	1898		349	1213	694		200		225	284	
v/s Ratio Prot	0.02	c0.21			0.08						c0.07	
v/s Ratio Perm	0.11			0.13		0.01		0.06		0.03		
v/c Ratio	0.20	0.34		0.28	0.16	0.02		0.37		0.16	0.42	
Uniform Delay, d1	5.2	5.9		10.7	10.0	9.3		24.5		23.6	24.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.5		2.0	0.3	0.0		1.2		0.3	1.0	
Delay (s)	5.4	6.4		12.6	10.3	9.4		25.7		24.0	25.7	
Level of Service	A	A		B	B	A		C		C	C	
Approach Delay (s/veh)		6.2			10.9			25.7			25.5	
Approach LOS		A			B			C			C	

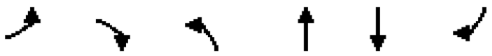
Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	66.5	Sum of lost time (s)	17.8
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	12	11	159	226	8
Future Volume (vph)	8	12	11	159	226	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.995	
Flt Protected	0.950			0.997		
Satd. Flow (prot)	913	816	0	1738	1813	0
Flt Permitted	0.950			0.997		
Satd. Flow (perm)	913	816	0	1738	1813	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	104.6			163.9	200.1	
Travel Time (s)	7.8			11.8	14.4	
Confl. Peds. (#/hr)	1		2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	100%	100%	100%	4%	2%	100%
Adj. Flow (vph)	9	13	12	173	246	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	9	13	0	185	255	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

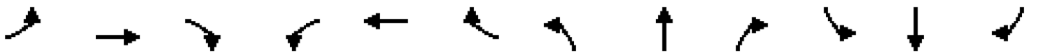
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		



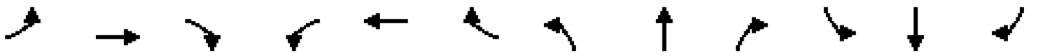
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	12	11	159	226	8
Future Volume (Veh/h)	8	12	11	159	226	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	13	12	173	246	9
Pedestrians	2				1	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked						
vC, conflicting volume	451	253	257			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	451	253	257			
tC, single (s)	7.4	7.2	5.1			
tC, 2 stage (s)						
tF (s)	4.4	4.2	3.1			
p0 queue free %	98	98	99			
cM capacity (veh/h)	415	596	898			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	9	13	185	255
Volume Left	9	0	12	0
Volume Right	0	13	0	9
cSH	415	596	898	1700
Volume to Capacity	0.02	0.02	0.01	0.15
Queue Length 95th (m)	0.5	0.5	0.3	0.0
Control Delay (s/veh)	13.9	11.2	0.7	0.0
Lane LOS	B	B	A	
Approach Delay (s/veh)	12.3		0.7	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	189	52	28	719	26	191	70	87	32	14	242
Future Volume (vph)	190	189	52	28	719	26	191	70	87	32	14	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		30.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	85.0			90.0			2.5			60.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00					0.98						
Frt		0.967				0.850		0.966			0.858	
Flt Protected	0.950			0.950				0.973		0.950		
Satd. Flow (prot)	1789	3460	0	1789	3579	1601	0	1770	0	1372	1616	0
Flt Permitted	0.193			0.590				0.624		0.546		
Satd. Flow (perm)	363	3460	0	1111	3579	1563	0	1135	0	789	1616	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		54				103		23			263	
Link Speed (k/h)		60			60			48			50	
Link Distance (m)		319.0			422.5			163.0			163.9	
Travel Time (s)		19.1			25.4			12.2			11.8	
Confl. Peds. (#/hr)	2					2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	33%	2%	2%
Adj. Flow (vph)	207	205	57	30	782	28	208	76	95	35	15	263
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	262	0	30	782	28	0	379	0	35	278	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			1.6			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1		2		1	2	
Detector Template	Left	Thru		Left	Thru	Right		Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1		30.5		6.1	30.5	
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)	6.1	1.8		6.1	1.8	6.1		1.8		6.1	1.8	
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	5	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	20.0		20.0	20.0	20.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	11.5	30.8		30.8	30.8	30.8	37.0	37.0		37.0	37.0	
Total Split (s)	13.2	45.0		31.8	31.8	31.8	40.0	40.0		40.0	40.0	
Total Split (%)	15.5%	52.9%		37.4%	37.4%	37.4%	47.1%	47.1%		47.1%	47.1%	
Maximum Green (s)	9.2	38.2		25.0	25.0	25.0	33.0	33.0		33.0	33.0	
Yellow Time (s)	3.0	3.7		3.7	3.7	3.7	3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	3.1		3.1	3.1	3.1	3.3	3.3		3.3	3.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Max		Max	Max	Max	None	None		None	None	
Walk Time (s)		7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)		17.0		17.0	17.0	17.0	23.0	23.0		23.0	23.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0		0	0	
Act Effct Green (s)	41.2	38.4		25.6	25.6	25.6		28.5		28.5	28.5	
Actuated g/C Ratio	0.51	0.48		0.32	0.32	0.32		0.35		0.35	0.35	
v/c Ratio	0.61	0.16		0.09	0.69	0.05		0.91		0.13	0.38	
Control Delay (s/veh)	20.4	10.6		22.5	29.0	0.2		51.7		18.3	4.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay (s/veh)	20.4	10.6		22.5	29.0	0.2		51.7		18.3	4.5	
LOS	C	B		C	C	A		D		B	A	
Approach Delay (s/veh)		15.0			27.8			51.7			6.1	
Approach LOS		B			C			D			A	
Queue Length 50th (m)	19.0	10.1		3.6	60.8	0.0		52.3		4.5	1.5	
Queue Length 95th (m)	32.4	17.2		10.0	81.5	0.0		#102.6		12.2	16.0	
Internal Link Dist (m)		295.0			398.5			139.0			139.9	
Turn Bay Length (m)	30.0			30.0		30.0				30.0		
Base Capacity (vph)	348	1672		352	1134	565		479		324	818	
Starvation Cap Reductn	0	0		0	0	0		0		0	0	
Spillback Cap Reductn	0	0		0	0	0		0		0	0	
Storage Cap Reductn	0	0		0	0	0		0		0	0	
Reduced v/c Ratio	0.59	0.16		0.09	0.69	0.05		0.79		0.11	0.34	

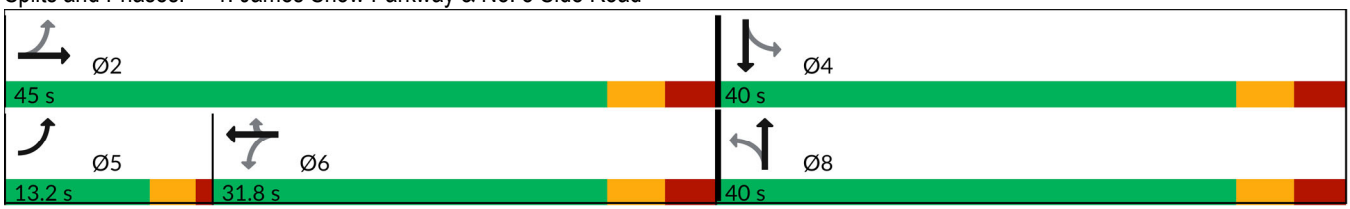
Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 80.8			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay (s/veh): 25.9		Intersection LOS: C	
Intersection Capacity Utilization 91.6%		ICU Level of Service F	

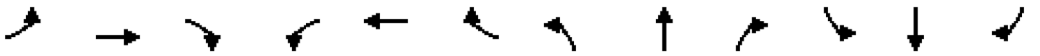
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 1: James Snow Parkway & No. 5 Side Road

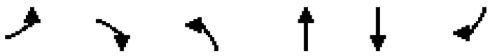




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	189	52	28	719	26	191	70	87	32	14	242
Future Volume (vph)	190	189	52	28	719	26	191	70	87	32	14	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98		1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00	0.85		0.97		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97		0.95	1.00	
Satd. Flow (prot)	1789	3462		1789	3579	1564		1771		1372	1616	
Flt Permitted	0.19	1.00		0.59	1.00	1.00		0.62		0.55	1.00	
Satd. Flow (perm)	363	3462		1111	3579	1564		1135		788	1616	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	205	57	30	782	28	208	76	95	35	15	263
RTOR Reduction (vph)	0	28	0	0	0	19	0	15	0	0	170	0
Lane Group Flow (vph)	207	234	0	30	782	9	0	364	0	35	108	0
Confl. Peds. (#/hr)	2					2						
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	33%	2%	2%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	38.4	38.4		25.6	25.6	25.6		28.5		28.5	28.5	
Effective Green, g (s)	38.4	38.4		25.6	25.6	25.6		28.5		28.5	28.5	
Actuated g/C Ratio	0.48	0.48		0.32	0.32	0.32		0.35		0.35	0.35	
Clearance Time (s)	4.0	6.8		6.8	6.8	6.8		7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	328	1647		352	1135	496		400		278	570	
v/s Ratio Prot	c0.07	0.07			0.22						0.07	
v/s Ratio Perm	c0.23			0.03		0.01		c0.32		0.04		
v/c Ratio	0.63	0.14		0.09	0.69	0.02		0.91		0.13	0.19	
Uniform Delay, d1	14.2	11.9		19.3	24.1	18.9		24.9		17.7	18.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	3.9	0.2		0.5	3.4	0.1		24.4		0.2	0.2	
Delay (s)	18.1	12.1		19.8	27.5	19.0		49.3		17.9	18.3	
Level of Service	B	B		B	C	B		D		B	B	
Approach Delay (s/veh)		14.7			26.9			49.3			18.2	
Approach LOS		B			C			D			B	

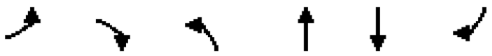
Intersection Summary			
HCM 2000 Control Delay (s/veh)	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	80.7	Sum of lost time (s)	17.8
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	11	0	275	281	8
Future Volume (vph)	8	11	0	275	281	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.996	
Flt Protected	0.950					
Satd. Flow (prot)	913	816	0	1883	1809	0
Flt Permitted	0.950					
Satd. Flow (perm)	913	816	0	1883	1809	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	104.6			163.9	200.1	
Travel Time (s)	7.8			11.8	14.4	
Confl. Peds. (#/hr)	1		1			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	100%	100%	100%	2%	3%	100%
Adj. Flow (vph)	9	12	0	299	305	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	9	12	0	299	314	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	25.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	11	0	275	281	8
Future Volume (Veh/h)	8	11	0	275	281	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	12	0	299	305	9
Pedestrians	1				1	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	0				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked	0.96					
vC, conflicting volume	611	311	315			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	571	311	315			
tC, single (s)	7.4	7.2	5.1			
tC, 2 stage (s)						
tF (s)	4.4	4.2	3.1			
p0 queue free %	97	98	100			
cM capacity (veh/h)	336	549	848			

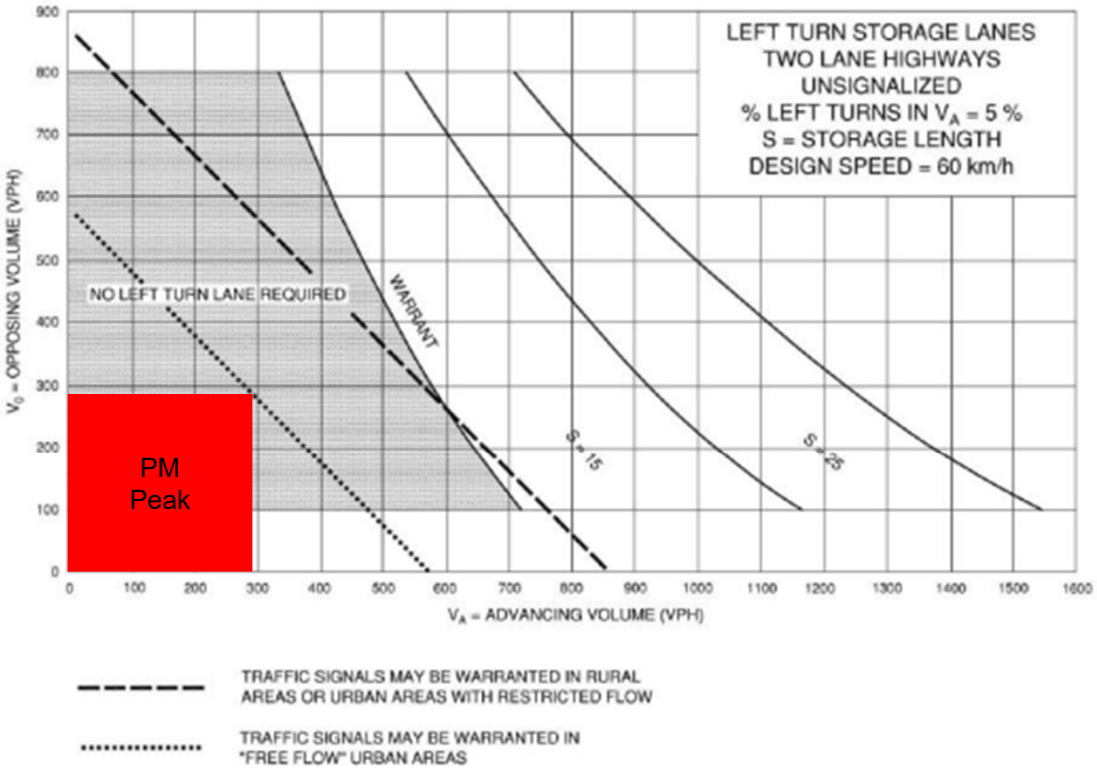
Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	9	12	299	314
Volume Left	9	0	0	0
Volume Right	0	12	0	9
cSH	336	549	848	1700
Volume to Capacity	0.03	0.02	0.00	0.18
Queue Length 95th (m)	0.6	0.5	0.0	0.0
Control Delay (s/veh)	16.0	11.7	0.0	0.0
Lane LOS	C	B		
Approach Delay (s/veh)	13.6		0.0	0.0
Approach LOS	B			

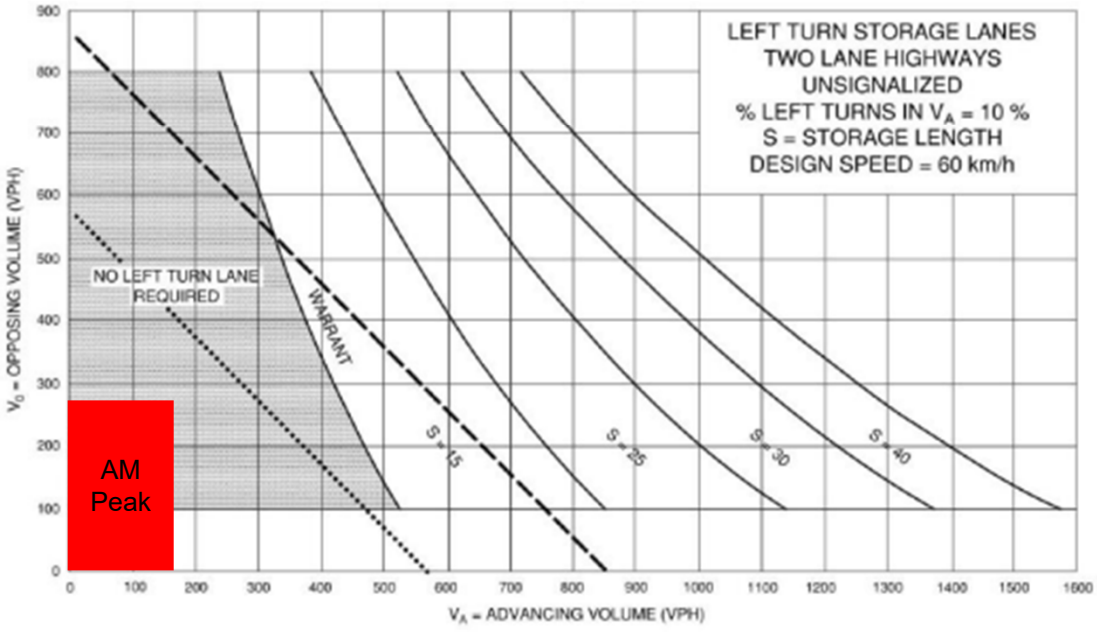
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	25.3%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix G

LEFT-TURN LANE NOMOGRAPHS

Exhibit-9A-7





NTS

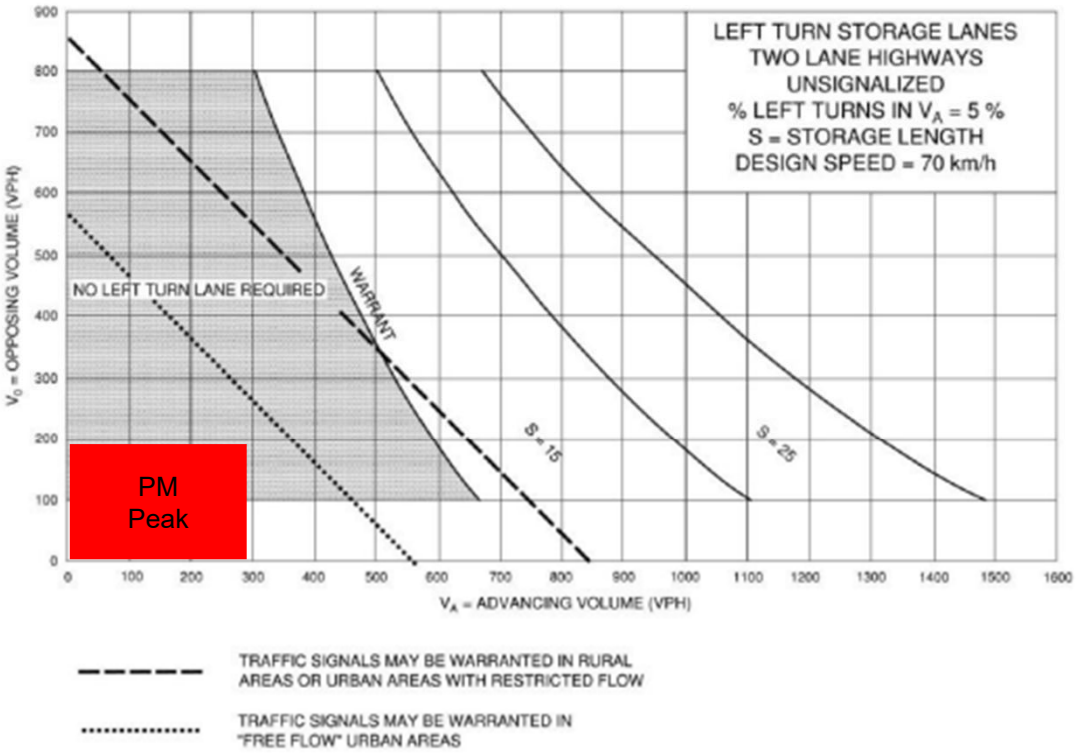
paradigm TRANSPORTATION SOLUTIONS LIMITED

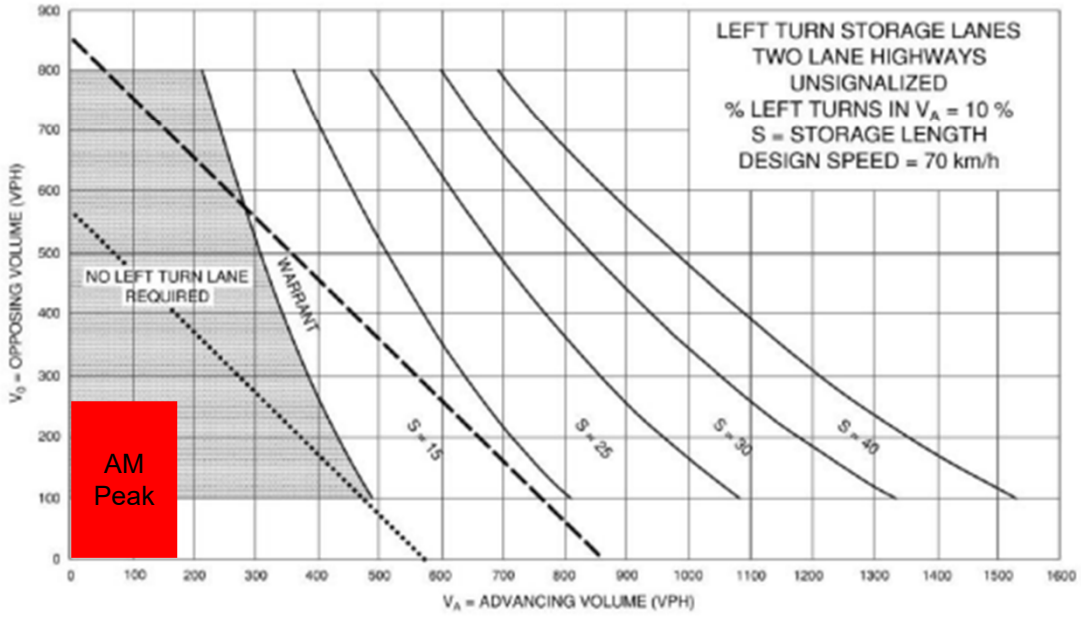
Left-Turn Warrant
60 km/h Design Speed

250772
7265 No.5 Side Road, Milton TIS Update

Figure G1

Exhibit-9A-11





NTS

paradigm TRANSPORTATION SOLUTIONS LIMITED

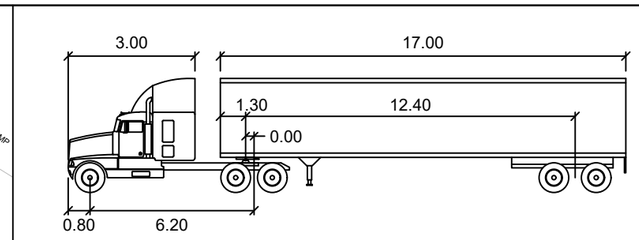
Left-Turn Warrant
70 km/h Design Speed

250772
7265 No.5 Side Road, Milton TIS Update

Figure G2

Appendix H

AUTOTURN ASSESSMENT



WB-20

meters

Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

HALTON REGION LAND DEDICATION

CONSERVATION HALTON 15m REGULATED ALLOWANCE ADJACENT TO TRIBUTARY B (BLOCK 9)

PART 1 ROAD WIDENING

TRUCK CAB STORAGE

CH REGULATED ALLOWANCE

ALL ASPHALT TO BE HEAVY DUTY

CAB PARKING

SNOW STORAGE AREA 225m2

ABOVE GROUND FUEL TANK. PROVIDE BOLLARDS AROUND TANK

TRUCK PARKING

VACANT LAND

PAVEMENT MARKINGS & SIGNAGE

PAVEMENT MARKING AND SIGNAGE ARE TO BE IMPLEMENTED AS PER THE SIGNAGE AND PAVEMENT MARKING PLAN BY PARADIGM TRANSPORTATION SOLUTIONS LIMITED

TRANSFORMER. PROVIDE BOLLARDS AT EACH CORNER

CANOPY ABOVE. REFER TO DETAIL

PRE-FAB. GUARD KIOSK

ILLUMINATED PYLON SIGN 1525mm HIGH

NEW ACCESS DRIVEWAY NOTE: EXISTING BOULEVARD TO BE RESTORED AFTER CONSTRUCTION

5m x 5m VISIBILITY TRIANGLE AT ENTRANCE.

ELECTRICALLY OPERATED GATES

WOOD GARBAGE ENCLOSURE. REFER TO DETAIL

FUEL ISLAND (1 SPACES)

12000mm RADIUS

BOLLARDS TO BE PROVIDED AT EXIT DOORS.

1800mm HIGH CHAIN LINK FENCE AROUND ENTIRE SITE.

WAREHOUSE

TRUCK RENTAL BUILDING

AREA = 1224 m2 (13,175 SF)

SPRINKLER ROOM

OUTLINE OF ROOF TOP UNITS SCREENED BY PARAPETS

LOADING AREA

OFFICE (2 STOREY)

EV CHARGING STATION

NEW FIRE HYDRANT

BIKE RACKS QTY=2

SIAMESE CONNECTION

FLUSH CURB

SLOPED RAMP

ACCESS. PARKING SIGNS AS PER BYLAW. REFER TO DETAIL 1/A003

BARRIER FREE DEPRESSED CURB

PAINTED LINES

HATCHED AREA INDICATES SECTION OF CONC. SIDEWALK TO BE SLOPED DOWNWARD, FLUSH WITH ASPHALT

ALL ASPHALT TO BE HEAVY DUTY

PAINTED LINES FOR PEDESTRIAN WALKWAY

FIRE ROUTE

CAR PARKING

PROVIDE ELECTRICAL HOOKUP FOR FUTURE CHARGING STATIONS AT (10 TOTAL)

HALTON REGION LAND DEDICATION

PART 2

PART 3

PIN 24976-0148(LT)

PIN 24976-0104(LT)

PIN 24976-0166(LT)

PIN 24976-0132(LT)

REGION OF HALTON ROAD WIDENING

ASPHALT WALKWAY

CONCRETE

GRAVEL

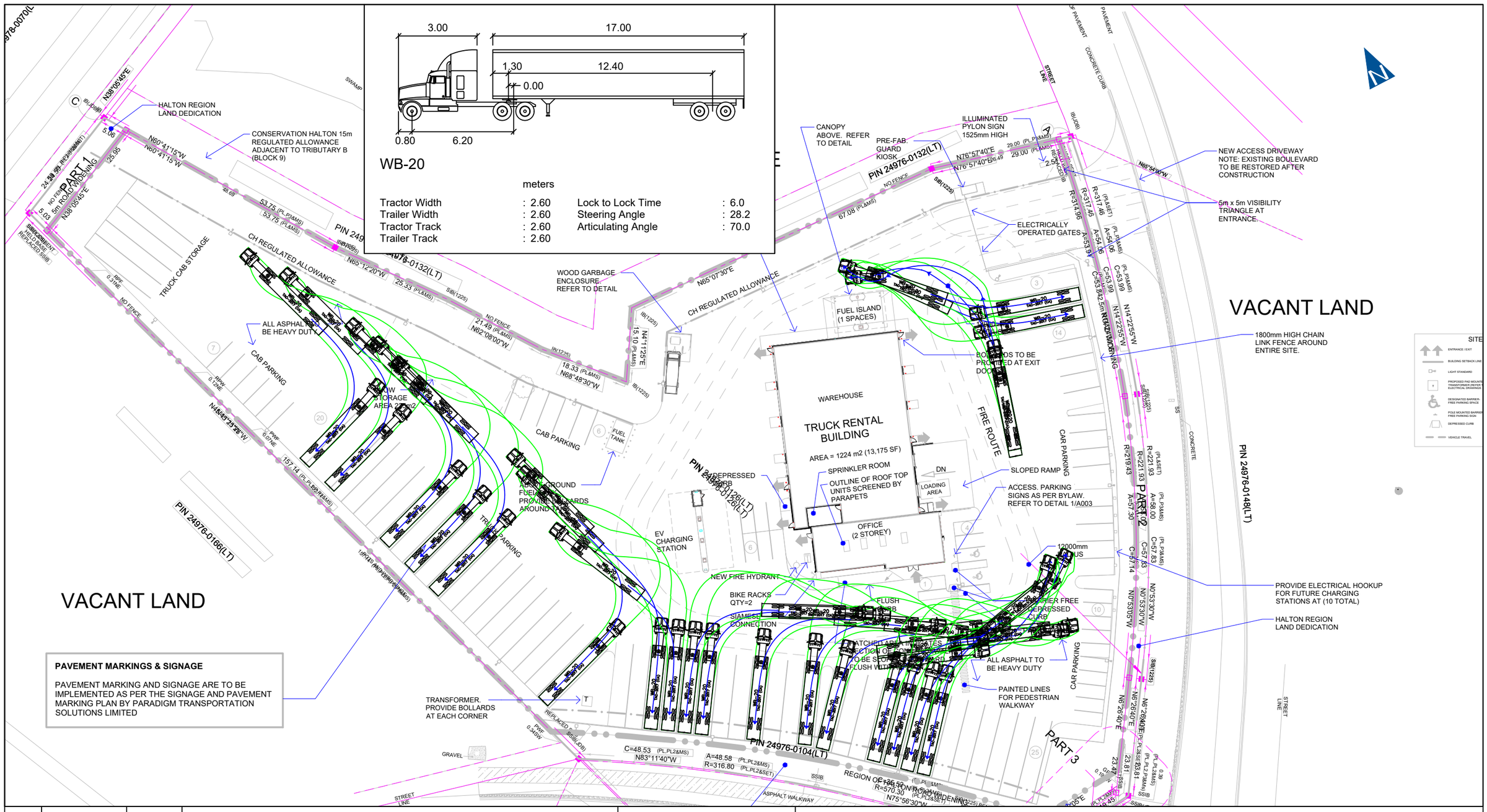
STREET LINE

SITE

NO.	DATE	INITIAL	REVISION DETAIL	APPROVAL:

AUTOTURN ASSESSMENT - WB-20 CIRCULATION
7260 NO. 5 SIDE ROAD
TOWN OF MILTON

paradigm TRANSPORTATION SOLUTIONS LIMITED	PROJECT NO.: 200061	DATE: SEPTEMBER 2020	SCALE: 1:750	DRAWING NO.: AT 1
	DRAWN: SH	DESIGN: SH	CHECK: SC	



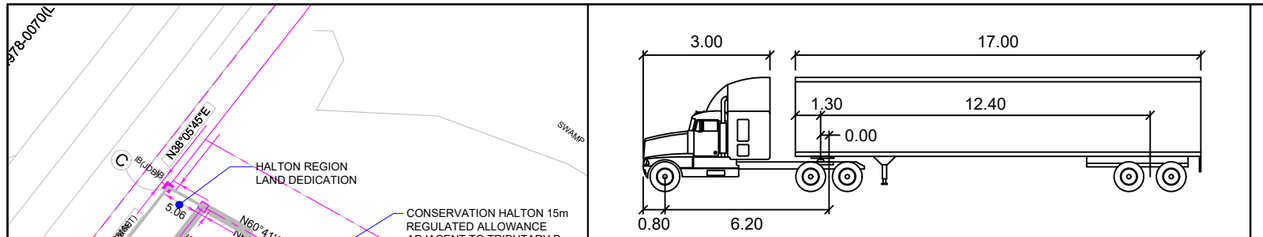
NO.	DATE	INITIAL	REVISION DETAIL

APPROVAL:

AUTOTURN ASSESSMENT - WB-20 PARKING - INBOUND
7260 NO. 5 SIDE ROAD
TOWN OF MILTON

paradigm TRANSPORTATION SOLUTIONS LIMITED

PROJECT NO.: 200061	DATE: SEPTEMBER 2020	SCALE: 1:750	DRAWING NO.: AT 2
DRAWN: SH	DESIGN: SH	CHECK: SC	



WB-20

meters

Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

HALTON REGION LAND DEDICATION

CONSERVATION HALTON 15m REGULATED ALLOWANCE ADJACENT TO TRIBUTARY B (BLOCK 9)

PART 1 WIDENING

5m ROAD WIDENING

CH REGULATED ALLOWANCE

TRUCK CAB STORAGE

ALL ASPHALT TO BE HEAVY DUTY

CAB PARKING

SNOW STORAGE AREA 225m2

CAB PARKING

ABOVE GROUND FUEL TANK. PROVIDE BOLLARDS AROUND TANK

FUEL TANK

PIN 24976-0166(LT)

TRUCK PARKING

VACANT LAND

PAVEMENT MARKINGS & SIGNAGE

PAVEMENT MARKING AND SIGNAGE ARE TO BE IMPLEMENTED AS PER THE SIGNAGE AND PAVEMENT MARKING PLAN BY PARADIGM TRANSPORTATION SOLUTIONS LIMITED

WOOD GARBAGE ENCLOSURE. REFER TO DETAIL

CANOPY ABOVE. REFER TO DETAIL

PRE-FAB. GUARD KIOSK

ILLUMINATED PYLON SIGN 1525mm HIGH

PIN 24976-0132(LT)

ELECTRICALLY OPERATED GATES

NEW ACCESS DRIVEWAY NOTE: EXISTING BOULEVARD TO BE RESTORED AFTER CONSTRUCTION

5m x 5m VISIBILITY TRIANGLE AT ENTRANCE.

FUEL ISLAND (1 SPACES)

WAREHOUSE

TRUCK RENTAL BUILDING

AREA = 1224 m2 (13,175 SF)

SPRINKLER ROOM

OUTLINE OF ROOF TOP UNITS SCREENED BY PARAPETS

LOADING AREA

OFFICE (2 STOREY)

EV CHARGING STATION

FIRE HYDRANT

BIKE RACK QTY=2

SIAMESE CONNECTION

FIRE ROUTE

12000mm RADIUS

BOLLARDS TO BE PROVIDED AT EXIT DOORS.

SLOPED RAMP

ACCESS. PARKING SIGNS AS PER BYLAW. REFER TO DETAIL 1/A003

CAR PARKING

FLUSH CURB

HATCHED AREA INDICATES LOCATION OF CONC. SIDEWALK TO BE SLOPED DOWNWARD, FLUSH WITH ASPHALT.

BARRIER FREE DEPRESSED CURB

PAINTED LINES

ALL ASPHALT TO BE HEAVY DUTY

PAINTED LINES FOR PEDESTRIAN WALKWAY

PROVIDE ELECTRICAL HOOKUP FOR FUTURE CHARGING STATIONS AT (10 TOTAL)

HALTON REGION LAND DEDICATION

1800mm HIGH CHAIN LINK FENCE AROUND ENTIRE SITE.

VACANT LAND

PART 2 WIDENING

PART 3

PIN 24976-0104(LT)

PIN 24976-0148(LT)

TRANSFORMER. PROVIDE BOLLARDS AT EACH CORNER

GRAVEL

ASPHALT WALKWAY

CONCRETE

STREET LINE

SITE

ENTRANCE / EXIT

BUILDING SETBACK LINE

LIGHT STANDARD

PROPOSED PAD MOUNTED TRANSFORMER (REFER TO ELECTRICAL DRAWINGS)

DESIGNATED BARRIER-FREE PARKING SPACE

POLE MOUNTED BARRIER-FREE PARKING SIGN

DEPRESSED CURB

VEHICLE TRAVEL

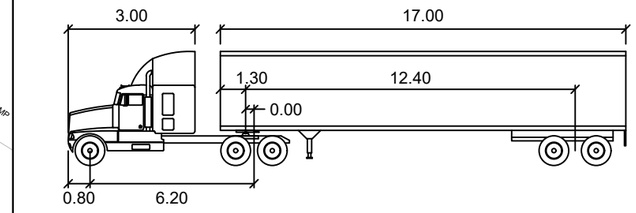
NO.	DATE	INITIAL	REVISION DETAIL

APPROVAL:

AUTOTURN ASSESSMENT - WB-20 PARKING - OUTBOUND
7260 NO. 5 SIDE ROAD
TOWN OF MILTON

paradigm TRANSPORTATION SOLUTIONS LIMITED

PROJECT NO.: 200061	DATE: SEPTEMBER 2020	SCALE: 1:750	DRAWING NO.: AT 3
DRAWN: SH	DESIGN: SH	CHECK: SC	



WB-20

meters			
Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

VACANT LAND

VACANT LAND

PIN 24976-0148(LT)

PIN 24976-0166(LT)

PIN 24976-0104(LT)

PART 1

PART 2

PART 3

HALTON REGION LAND DEDICATION

CONSERVATION HALTON 15m REGULATED ALLOWANCE ADJACENT TO TRIBUTARY B (BLOCK 9)

5m ROAD WIDENING

CH REGULATED ALLOWANCE

TRUCK CAB STORAGE

ALL ASPHALT TO BE HEAVY DUTY

CAB PARKING

SNOW STORAGE AREA 225m2

ABOVE GROUND FUEL TANK. PROVIDE BOLLARDS AROUND TANK

TRUCK PARKING

TRANSFORMER. PROVIDE BOLLARDS AT EACH CORNER

WOOD GARBAGE ENCLOSURE. REFER TO DETAIL

CANOPY ABOVE. REFER TO DETAIL

PRE-FAB. GUARD KIOSK

ILLUMINATED PYLON SIGN 1525mm HIGH

NEW ACCESS DRIVEWAY NOTE: EXISTING BOULEVARD TO BE RESTORED AFTER CONSTRUCTION

5m x 5m VISIBILITY TRIANGLE AT ENTRANCE.

ELECTRICALLY OPERATED GATES

FUEL ISLAND (1 SPACES)

12000mm RADIUS

BOLLARDS TO BE PROVIDED AT EXIT DOORS.

1800mm HIGH CHAIN LINK FENCE AROUND ENTIRE SITE.

WAREHOUSE

TRUCK RENTAL BUILDING

AREA = 1224 m2 (13,175 SF)

SPRINKLER ROOM

OUTLINE OF ROOF TOP UNITS SCREENED BY PARAPETS

LOADING AREA

DEPRESSED CURB

OFFICE (2 STOREY)

EV CHARGING STATION

NEW FIRE HYDRANT

BIKE RACKS QTY=2

SIAMESE CONNECTION

FLUSH CURB

FIRE ROUTE

SLOPED RAMP

ACCESS. PARKING SIGNS AS PER BYLAW. REFER TO DETAIL 1/A003

CAR PARKING

BARRIER FREE DEPRESSED CURB

PAINTED LINES

HATCHED AREA INDICATES SECTION OF CONC. SIDEWALK TO BE SLOPED DOWNWARD, FLUSH WITH ASPHALT.

ALL ASPHALT TO BE HEAVY DUTY

PAINTED LINES FOR PEDESTRIAN WALKWAY

PROVIDE ELECTRICAL HOOKUP FOR FUTURE CHARGING STATIONS AT (10 TOTAL)

HALTON REGION LAND DEDICATION

PAVEMENT MARKINGS & SIGNAGE

PAVEMENT MARKING AND SIGNAGE ARE TO BE IMPLEMENTED AS PER THE SIGNAGE AND PAVEMENT MARKING PLAN BY PARADIGM TRANSPORTATION SOLUTIONS LIMITED

SITE

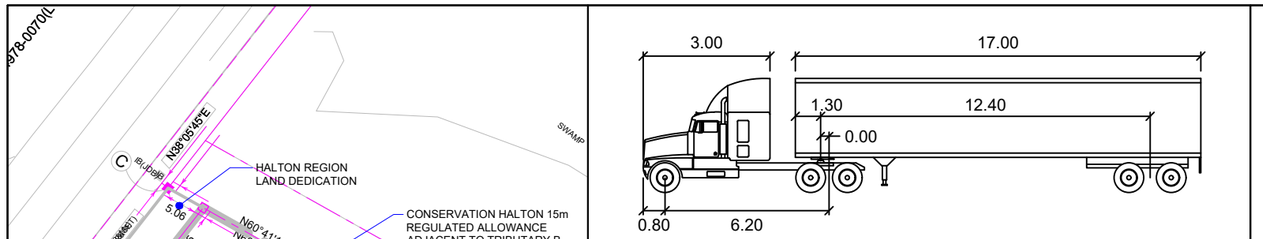
NO.	DATE	INITIAL	REVISION DETAIL

APPROVAL:

AUTOTURN ASSESSMENT - WB-20 CIRCULATION - BUILDING
7260 NO. 5 SIDE ROAD
TOWN OF MILTON

paradigm TRANSPORTATION SOLUTIONS LIMITED

PROJECT NO.: 200061	DATE: SEPTEMBER 2020	SCALE: 1:750	DRAWING NO.: AT 4
DRAWN: SH	DESIGN: SH	CHECK: SC	



WB-20

meters

Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

HALTON REGION LAND DEDICATION

CONSERVATION HALTON 15m REGULATED ALLOWANCE ADJACENT TO TRIBUTARY B (BLOCK 9)

PART 1 ROAD WIDENING

TRUCK CAB STORAGE

CH REGULATED ALLOWANCE

ALL ASPHALT TO BE HEAVY DUTY

CAB PARKING

SNOW STORAGE AREA 225m2

ABOVE GROUND FUEL TANK. PROVIDE BOLLARDS AROUND TANK

TRUCK PARKING

VACANT LAND

PAVEMENT MARKINGS & SIGNAGE

PAVEMENT MARKING AND SIGNAGE ARE TO BE IMPLEMENTED AS PER THE SIGNAGE AND PAVEMENT MARKING PLAN BY PARADIGM TRANSPORTATION SOLUTIONS LIMITED

TRANSFORMER. PROVIDE BOLLARDS AT EACH CORNER

WOOD GARBAGE ENCLOSURE. REFER TO DETAIL

CANOPY ABOVE. REFER TO DETAIL

PRE-FAB. GUARD KIOSK

ILLUMINATED PYLON SIGN 1525mm HIGH

ELECTRICALLY OPERATED GATES

FUEL ISLAND (1 SPACES)

WAREHOUSE

TRUCK RENTAL

AREA = 1224 m2 (13,175 SF)

SPRINKLER ROOM

OUTLINE OF ROOF TOP UNITS SCREENED BY PARAPETS

LOADING AREA

OFFICE (2 STOREY)

EV CHARGING STATION

NEW FIRE HYDRANT

BIKE RACKS QTY=2

SIAMESE CONNECTION

FLUSH CURB

HATCHED AREA INDICATES SECTION OF CONC. SIDEWALK TO BE SLOPED DOWNWARD, FLUSH WITH ASPHALT.

12000mm RADIUS

BOLLARDS TO BE PROVIDED AT EXIT DOORS.

FIRE ROUTE

SLOPED RAMP

ACCESSIBLE PARKING SIGNS AS PER BYLAW. REFER TO DETAIL 1/A003

BARRIER FREE DEPRESSED CURB

PAINTED LINES

ALL ASPHALT TO BE HEAVY DUTY

PAINTED LINES FOR PEDESTRIAN WALKWAY

CAR PARKING

NEW ACCESS DRIVEWAY NOTE: EXISTING BOULEVARD TO BE RESTORED AFTER CONSTRUCTION

5m x 5m VISIBILITY TRIANGLE AT ENTRANCE.

1800mm HIGH CHAIN LINK FENCE AROUND ENTIRE SITE.

PROVIDE ELECTRICAL HOOKUP FOR FUTURE CHARGING STATIONS AT (10 TOTAL)

HALTON REGION LAND DEDICATION

PART 2 ROAD WIDENING

PART 3 ROAD WIDENING

PIN 24976-0132(LT)

PIN 24976-0166(LT)

PIN 24976-0104(LT)

PIN 24976-0148(LT)

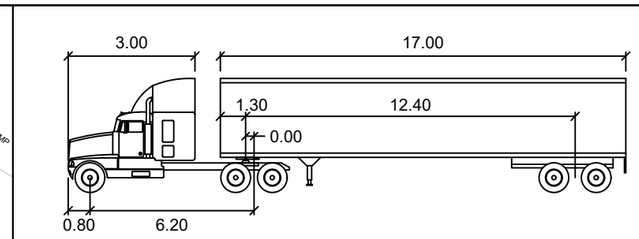
SITE

NO.	DATE	INITIAL	REVISION DETAIL	APPROVAL:

AUTOTURN ASSESSMENT - WB-20 CAB CIRCULATION - BUILDING
7260 NO. 5 SIDE ROAD
TOWN OF MILTON

paradigm TRANSPORTATION SOLUTIONS LIMITED

PROJECT NO.: 200061	DATE: SEPTEMBER 2020	SCALE: 1:750	DRAWING NO.: AT 5
DRAWN: SH	DESIGN: SH	CHECK: SC	



WB-20

meters

Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

HALTON REGION LAND DEDICATION

CONSERVATION HALTON 15m REGULATED ALLOWANCE ADJACENT TO TRIBUTARY B (BLOCK 9)

PART 1

5m ROAD WIDENING

TRUCK CAB STORAGE

CH REGULATED ALLOWANCE

ALL ASPHALT TO BE HEAVY DUTY

CAB PARKING

SNOW STORAGE AREA 225m2

PIN 24976-0166(LT)

VACANT LAND

PAVEMENT MARKINGS & SIGNAGE

PAVEMENT MARKING AND SIGNAGE ARE TO BE IMPLEMENTED AS PER THE SIGNAGE AND PAVEMENT MARKING PLAN BY PARADIGM TRANSPORTATION SOLUTIONS LIMITED

WOOD GARBAGE ENCLOSURE. REFER TO DETAIL

CANOPY ABOVE. REFER TO DETAIL

PRE-FAB. GUARD KIOSK

ILLUMINATED PYLON SIGN 1525mm HIGH

PIN 24976-0132(LT)

ELECTRICALLY OPERATED GATES

NEW ACCESS DRIVEWAY NOTE: EXISTING BOULEVARD TO BE RESTORED AFTER CONSTRUCTION

5m x 5m VISIBILITY TRIANGLE AT ENTRANCE.

12000mm RADIUS

1800mm HIGH CHAIN LINK FENCE AROUND ENTIRE SITE.

BOLLARDS TO BE PROVIDED AT EXIT DOORS.

FIRE ROUTE

WAREHOUSE

TRUCK RENTAL BUILDING

AREA = 1224 m2 (13,175 SF)

SPRINKLER ROOM

OUTLINE OF ROOF TOP UNITS SCREENED BY PARAPETS

LOADING AREA

OFFICE (2 STOREY)

SLOPED RAMP

ACCESS. PARKING SIGNS AS PER BYLAW. REFER TO DETAIL 1/A003

ABOVE GROUND FUEL TANK. PROVIDE BOLLARDS AROUND TANK

FUEL TANK

EV CHARGING STATION

DEPRESSED CURB

NEW FIRE HYDRANT

BIKE RACKS QTY=2

SIAMESE CONNECTION

FLUSH CURB

BARRIER FREE DEPRESSED CURB

PAINTED LINES

HATCHED AREA INDICATES SECTION OF CONC. SIDEWALK TO BE SLOPED DOWNWARD, FLUSH WITH ASPHALT.

ALL ASPHALT TO BE HEAVY DUTY

PAINTED LINES FOR PEDESTRIAN WALKWAY

CAR PARKING

PROVIDE ELECTRICAL HOOKUP FOR FUTURE CHARGING STATIONS AT (10 TOTAL)

HALTON REGION LAND DEDICATION

TRANSFORMER. PROVIDE BOLLARDS AT EACH CORNER

PART 2

PART 3

PIN 24976-0104(LT)

PIN 24976-0148(LT)

REGION OF HALTON (ROAD WIDENING)

ASPHALT WALKWAY

CONCRETE

GRAVEL

STREET LINE

SITE

ENTRANCE / EXIT

BUILDING SETBACK LINE

LIGHT STANDARD

PROPOSED PAD MOUNTED TRANSFORMER (REFER TO ELECTRICAL DRAWINGS)

DESIGNATED BARRIER-FREE PARKING SPACE

POLE MOUNTED BARRIER-FREE PARKING SIGN

DEPRESSED CURB

VEHICLE TRAVEL

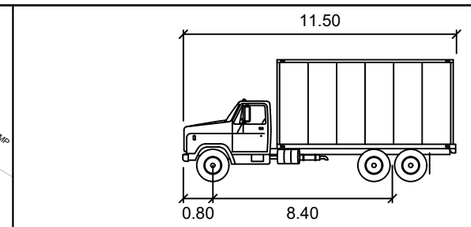
NO.	DATE	INITIAL	REVISION DETAIL

APPROVAL:

AUTOTURN ASSESSMENT - WB-20 FUEL TRUCK
7260 NO. 5 SIDE ROAD
TOWN OF MILTON

paradigm TRANSPORTATION SOLUTIONS LIMITED

PROJECT NO.: 200061	DATE: SEPTEMBER 2020	SCALE: 1:750	DRAWING NO.: AT 6
DRAWN: SH	DESIGN: SH	CHECK: SC	



HSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

HALTON REGION LAND DEDICATION

CONSERVATION HALTON 15m REGULATED ALLOWANCE ADJACENT TO TRIBUTARY B (BLOCK 9)

PART 1 ROAD WIDENING

CH REGULATED ALLOWANCE

TRUCK CAB STORAGE

ALL ASPHALT TO BE HEAVY DUTY

CAB PARKING

SNOW STORAGE AREA 225m2

ABOVE GROUND FUEL TANK. PROVIDE BOLLARDS AROUND TANK

TRUCK PARKING

VACANT LAND

PAVEMENT MARKINGS & SIGNAGE

PAVEMENT MARKING AND SIGNAGE ARE TO BE IMPLEMENTED AS PER THE SIGNAGE AND PAVEMENT MARKING PLAN BY PARADIGM TRANSPORTATION SOLUTIONS LIMITED

TRANSFORMER. PROVIDE BOLLARDS AT EACH CORNER

WOOD GARBAGE ENCLOSURE. REFER TO DETAIL

CANOPY ABOVE. REFER TO DETAIL

PRE-FAB. GUARD KIOSK

ILLUMINATED PYLON SIGN 1525mm HIGH

PIN 24976-0132(LT)

FUEL ISLAND (1 SPACES)

WAREHOUSE

TRUCK RENTAL BUILDING

AREA = 1224 m2 (13,175 SF)

SPRINKLER ROOM

OUTLINE OF ROOF TOP UNITS SCREENED BY PARAPETS

OFFICE (2 STOREY)

LOADING AREA

EV CHARGING STATION

NEW FIRE HYDRANT

SIAMESE CONNECTION

FLUSH CURB

HATCHED AREA INDICATES SECTION OF CONC. SIDEWALK TO BE SLOPED DOWNWARD, FLUSH WITH ASPHALT.

BOLLARDS TO BE PROVIDED AT EXIT DOORS.

12000mm RADIUS

FIRE ROUTE

SLOPED RAMP

ACCESS. PARKING SIGNS AS PER BYLAW. REFER TO DETAIL 1/A003

PAINTED LINES

PAINTED LINES FOR PEDESTRIAN WALKWAY

ELECTRICALLY OPERATED GATE

NEW ACCESS DRIVEWAY NOTE: EXISTING BOULEVARD TO BE RESTORED AFTER CONSTRUCTION

5m x 5m VISIBILITY TRIANGLE AT ENTRANCE.

1800mm HIGH CHAIN LINK FENCE AROUND ENTIRE SITE.

PROVIDE ELECTRICAL HOOKUP FOR FUTURE CHARGING STATIONS AT (10 TOTAL)

HALTON REGION LAND DEDICATION

PART 2 ROAD WIDENING

PART 3 ROAD WIDENING

PIN 24976-0148(LT)

PIN 24976-0104(LT)

PIN 24976-0166(LT)

REGION OF HALTON ROAD WIDENING

SITE

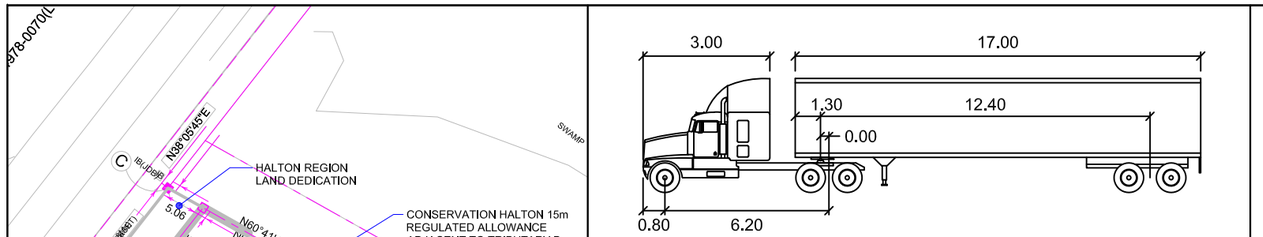
NO.	DATE	INITIAL	REVISION DETAIL

APPROVAL:

AUTOTURN ASSESSMENT - GARBAGE TRUCK
7260 NO. 5 SIDE ROAD
TOWN OF MILTON

paradigm TRANSPORTATION SOLUTIONS LIMITED

PROJECT NO.: 200061	DATE: SEPTEMBER 2020	SCALE: 1:750	DRAWING NO.: AT 7
DRAWN: SH	DESIGN: SH	CHECK: SC	



WB-20

meters

Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

HALTON REGION LAND DEDICATION

CONSERVATION HALTON 15m REGULATED ALLOWANCE ADJACENT TO TRIBUTARY B (BLOCK 9)

PART 1 ROAD WIDENING

CH REGULATED ALLOWANCE

TRUCK CAB STORAGE

ALL ASPHALT TO BE HEAVY DUTY

CAB PARKING

SNOW STORAGE AREA 225m²

ABOVE GROUND FUEL TANK. PROVIDE BOLLARDS AROUND TANK

TRUCK PARKING

PIN 24976-0166(LT)

VACANT LAND

PAVEMENT MARKINGS & SIGNAGE

PAVEMENT MARKING AND SIGNAGE ARE TO BE IMPLEMENTED AS PER THE SIGNAGE AND PAVEMENT MARKING PLAN BY PARADIGM TRANSPORTATION SOLUTIONS LIMITED

WOOD GARBAGE ENCLOSURE, REFER TO DETAIL

FUEL ISLAND (1 SPACES)

WAREHOUSE

TRUCK RENTAL BUILDING

AREA = 1224 m2 (13,175 SF)

SPRINKLER ROOM

OUTLINE OF ROOF TOP UNITS SCREENED BY PARAPETS

OFFICE (2 STOREY)

LOADING AREA

EV CHARGING STATION

NEW FIRE HYDRANT

BIKE RACKS QTY=2

SIAMESE CONNECTION

FUEL TANK

PIN 24976-0126(LT)

PIN 24976-0132(LT)

PRE-FAB. GUARD KIOSK

CANOPY ABOVE, REFER TO DETAIL

ILLUMINATED PYLON SIGN 1525mm HIGH

ELECTRICALLY OPERATED GATES

12000mm RADIUS

BOLLARDS TO BE PROVIDED AT EXIT DOORS.

FIRE ROUTE

SLOPED RAMP

ACCESS. PARKING SIGNS AS PER BYLAW. REFER TO DETAIL 1/A003

BARRIER FREE DEPRESSED CURB

PAINTED LINES

FLUSH CURB

HATCHED AREA INDICATES SECTION OF CONC. SIDEWALK TO BE SLOPED DOWNWARD, FLUSH WITH ASPHALT.

ALL ASPHALT TO BE HEAVY DUTY

PAINTED LINES FOR PEDESTRIAN WALKWAY

CAR PARKING

NEW ACCESS DRIVEWAY NOTE: EXISTING BOULEVARD TO BE RESTORED AFTER CONSTRUCTION

5m x 5m VISIBILITY TRIANGLE AT ENTRANCE.

1800mm HIGH CHAIN LINK FENCE AROUND ENTIRE SITE.

PROVIDE ELECTRICAL HOOKUP FOR FUTURE CHARGING STATIONS AT (10 TOTAL)

HALTON REGION LAND DEDICATION

PART 2

PART 3

PIN 24976-0148(LT)

PIN 24976-0104(LT)

REGION OF HALTON ROAD WIDENING

TRANSFORMER. PROVIDE BOLLARDS AT EACH CORNER

GRAVEL

ASPHALT WALKWAY

STREET LINE

CONCRETE CURB

SITE

NO.	DATE	INITIAL	REVISION DETAIL

APPROVAL:

AUTOTURN ASSESSMENT - WB-20 PARKING - INBOUND
7260 NO. 5 SIDE ROAD
TOWN OF MILTON

paradigm TRANSPORTATION SOLUTIONS LIMITED

PROJECT NO.: 200061	DATE: SEPTEMBER 2020	SCALE: 1:750	DRAWING NO.: AT 2
DRAWN: SH	DESIGN: SH	CHECK: SC	