



Fill Management Plan –Traffic Assessment

Holt Pit, McCowan Road and Mill Road, Town of East Gwillimbury, Region of York

Rice Commercial Group Limited

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11139891 | Report No 3 | Updated January 2021, Original August 2019



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1. Introduction

1.1 Retainer and Objective

GHD was retained by Rice Commercial Group Limited to conduct a Traffic Assessment to determine the traffic-related impacts of a proposed fill management plan at the subject site. The subject site is located on McCowan Road between Herald Road and Mount Albert Road in the Town of East Gwillimbury. The site location is shown in Figure 1.

1.2 Study Background

It is estimated according to the proposed Fill Management Plan that the site will require approximately 1,000,000 to 1,300,000 m³ of fill materials to restore the subject site to pre-existing conditions. It is expected that all fill material deliveries to the site will be made by heavy trucks. It is further estimated that the fill operation will take 3-7 years to complete. The analysis contained in this Traffic Impact Study is based on 200 trucks per day, assuming that 400,000 m² of fill material will be processed at the Site. Notwithstanding, a maximum of 150 trucks per day will be permitted at the Site. Since this represents a lower volume of trucks, the analysis represents a conservative assessment.

The site location is shown in Figure 1. Access to the site will be provided by the existing T-intersection on McCowan Road from the times when the site was an active aggregate resource extraction site.

This study establishes the existing (2018) traffic volumes and operating conditions for the critical weekday AM and PM peak hours, derives and assesses the background (non-site related) traffic growth and impacts on the road network in the study area, estimates and assigns the new site related traffic volumes onto the road network, and documents the expected site-related impacts from the proposed Fill Management Plan.

Additionally, to the capacity and sightlines analyses based on 2018 data, a safety audit, conducted by the York Region, and Automatic Traffic Recorder (ATR) data from 2020 were reviewed for the McCowan Road corridor nearby the subject site. Details of the safety audit and ATR data are shown in Sections 12 and 13, respectively. These sections were added January 2021.

1.3 Study Team

The project team members involved in the preparation of this study are:

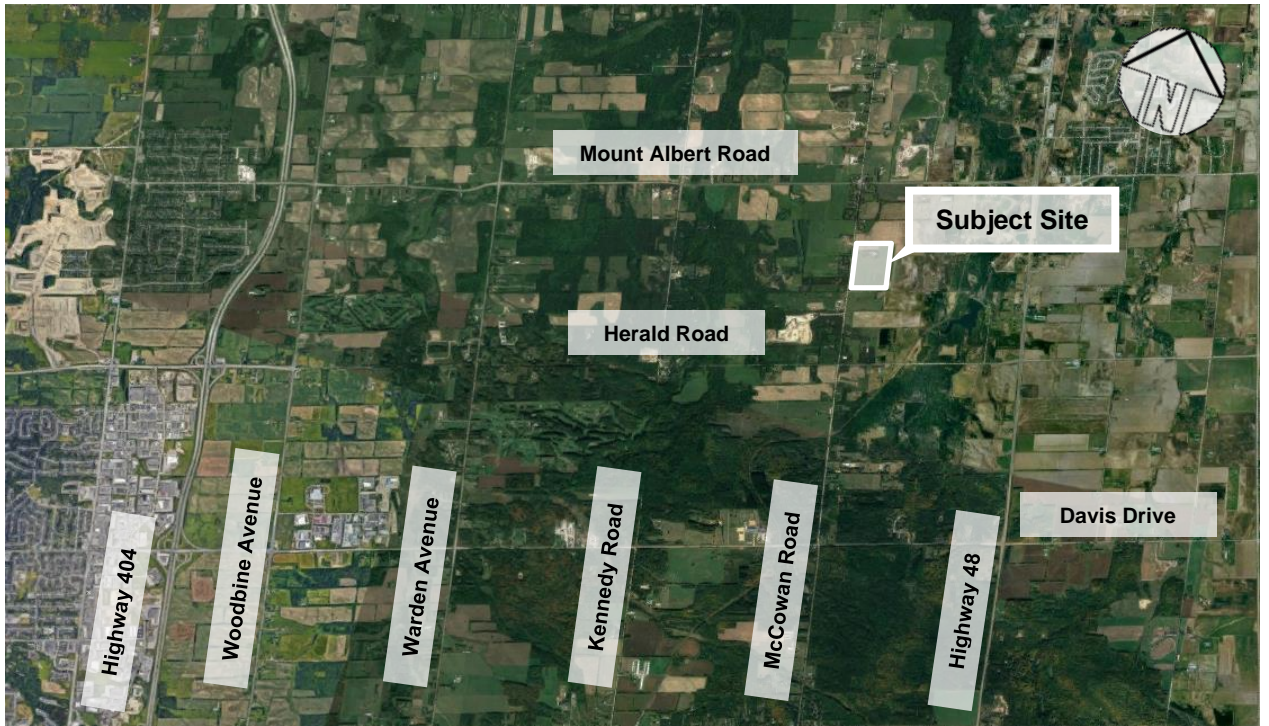
- Mr. Roland Roovers, P.Eng., Senior Transportation Manager, and
- Mr. Dominic Cho, EIT, Transportation Planner.

Our findings, conclusions, and recommendations are contained herein.

2. Site Characteristics

2.1 Site Location

The subject site is located on McCowan Road between Herald Road and Mount Albert Road in the Town of East Gwillimbury. The subject site location is shown in Figure 1.

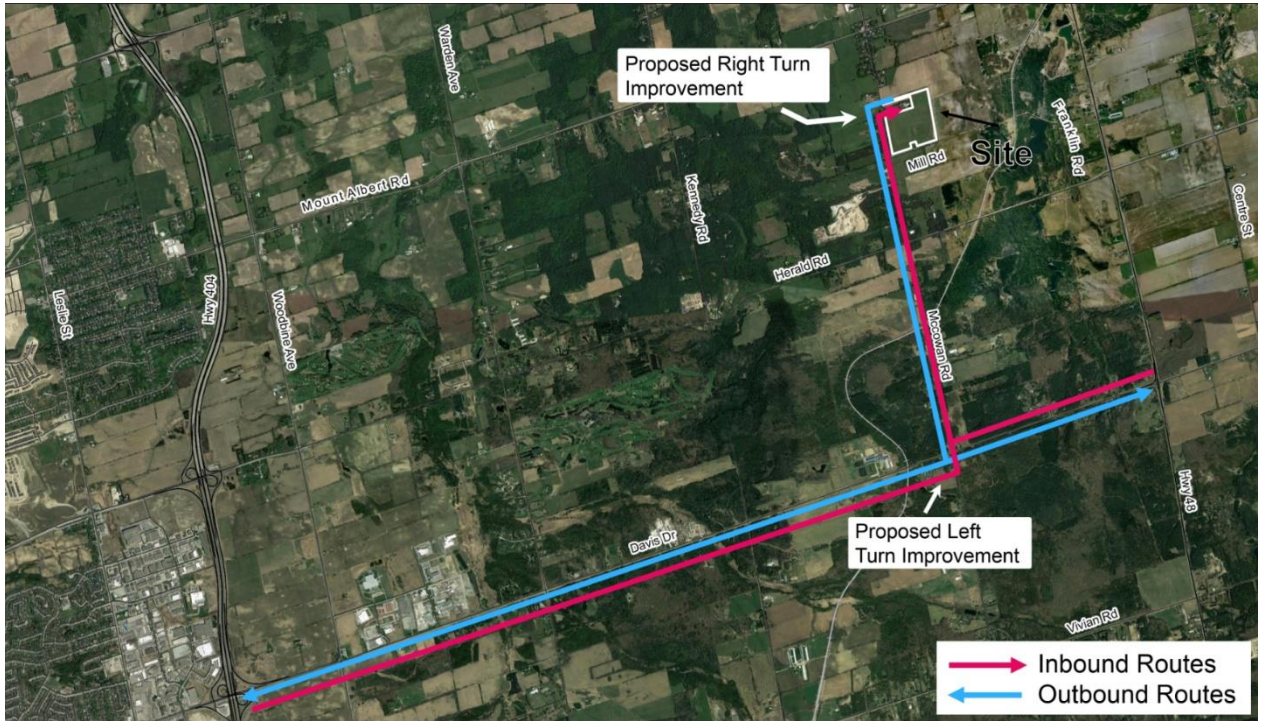


Source: Google Maps

Figure 1 Site Location

2.2 Truck Routes

It is expected that the majority of the trucks will travel from source material locations south and west of the site. The trucks associated with the fill management will travel via Davis Drive and McCowan Road. This has been confirmed by York Region and in discussions with the Town of East Gwillimbury. The truck routes are shown in Figure 2.



Source: Google Maps

Figure 2 Truck Routes

The trip distribution is shown in Table 1.

Table 1 Site Trip Distributions

Trip Orientation	Trip Distribution	
	In	Out
West via Davis Drive (to Highway 404)	90%	90%
East via Davis Drive (to Highway 48)	10%	10%
Total	100%	100%

3. Projected Truck Volume

The Fill Management Plan will require approximately 1,000,000 m³ to 1,300,000 m³ of fill materials to be delivered to the site over a period of 3-7 years. With expectation of 400,000 m² fill material to be processed every year, it is assumed that an average of 200 trucks per day will be required based on 200 working days per year and 10 m³ of fill material per truck. The fill operation is expected to operate Monday to Friday, 7:00 AM to 5:00 PM, resulting in average of 20 trucks per hour during the 10 hours of operation. Note that due to requests from the Town and the residents, the number



of trucks will be restricted to 150 per day. However, for the purposes of this study, a maximum of 200 trucks per day (and 20 trucks per hour) has been used as a conservative measure.

4. Existing Traffic Characteristics

4.1 Existing Road Network

The lane configuration of the study intersections are shown in Figure 3.

As shown in Figure 3, the intersections of Mount Albert Road / McCowan Road and Davis Drive / McCowan Road are two-way STOP controlled (TWSC) intersections where northbound southbound traffic along McCowan Road are STOP controlled while the traffic along the east-west roads run free.

There are exclusive right turn lanes for eastbound and westbound movements at the intersection of Davis Drive / McCowan Road.

The Site Access / McCowan Road is an existing T-intersection (from the days when the site was operating as the Holt Pit) where the westbound traffic exiting the site are STOP controlled while the traffic on McCowan Road run free. There are no exclusive turning lanes provided.

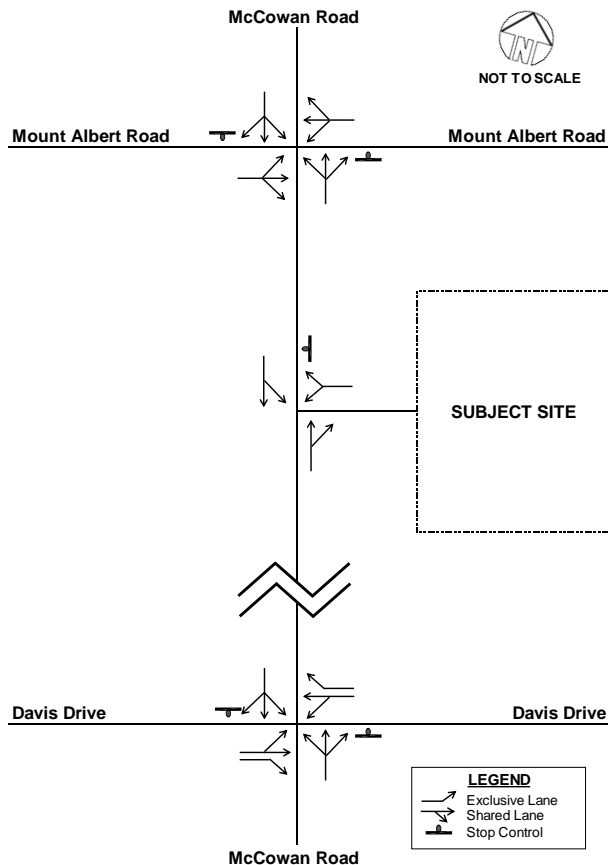


Figure 3 Existing Lane Configuration



4.2 Existing Traffic Data

In order to assess the traffic volumes during busiest travel periods, weekday turning movement counts (TMCs) and automatic traffic recorder counts (ATRs) were recorded by Ontario Traffic Inc. The locations and dates of the TMCs and ATRs are shown in Table 2. The existing traffic count data are provided in Appendix A.

Table 2 Existing Traffic Data

Traffic Data	Locations	Date of the Counts	AM Peak Hour	PM Peak Hour
TMC	Mount Albert Road / McCowan Road	Thursday, May 24, 2018	7:30 AM – 8:30 AM	4:15 PM – 5:15 PM
TMC	Davis Drive / McCowan Road	Thursday, May 24, 2018	7:30 AM – 8:30 AM	4:00 PM – 5:00 PM
ATR	McCowan Road, 400 m North of Herald Road	May 25 - May 31, 2018	Peak Hour Occurs Between 7:30 AM to 9:30 AM	Peak Hour Occurs Between 3:30 PM to 5:30 PM
ATR	McCowan Road, North of 18725 McCowan Road	May 25 - May 31, 2018	Peak Hour Occurs Between 7:30 AM to 9:30 AM	Peak Hour Occurs Between 3:30 PM to 5:30 PM

The ATR volumes were used to compare with the link volumes along McCowan Road to determine whether or not the peak hour volumes from the TMCs accurately portray the highest volumes experienced by McCowan Road in the study area.

The existing peak hour traffic volumes are shown in Figure 4.

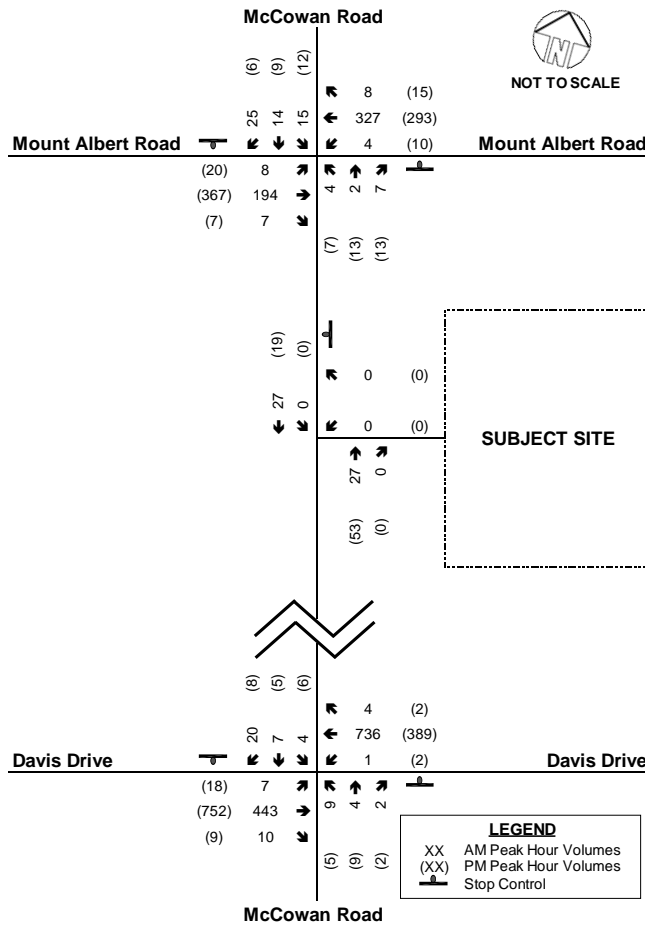


Figure 4 Existing Traffic Volumes

The existing volumes were balanced to reflect highest volumes observed on McCowan Road (ATR). The balanced existing traffic volumes are shown in Figure 5.

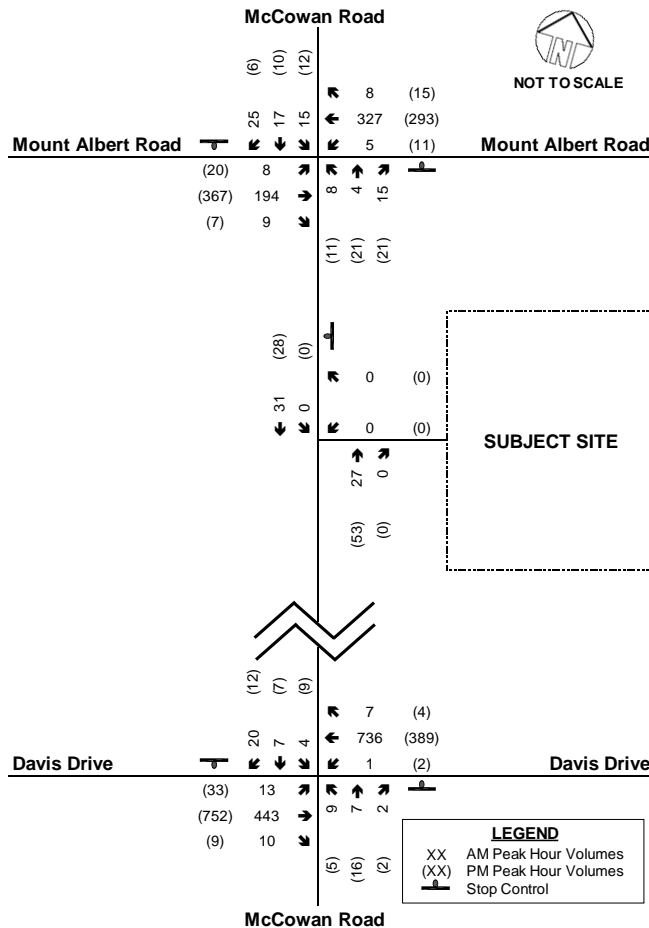


Figure 5 Existing Balanced Traffic Volumes

5. Background Traffic

There are no background developments considered in the future. It is assumed that McCowan Road will not experience significant traffic growth due to developments. However, to be conservative, an annual growth rate of 1% is adopted for all traffic volumes at the study intersections.

Based on an annual growth rate of 1%, the existing traffic volumes (Figure 6) and the estimated traffic growth were combined to derive the future background weekday AM and PM peak hour traffic volumes. The background traffic volumes are shown in Figure 6.

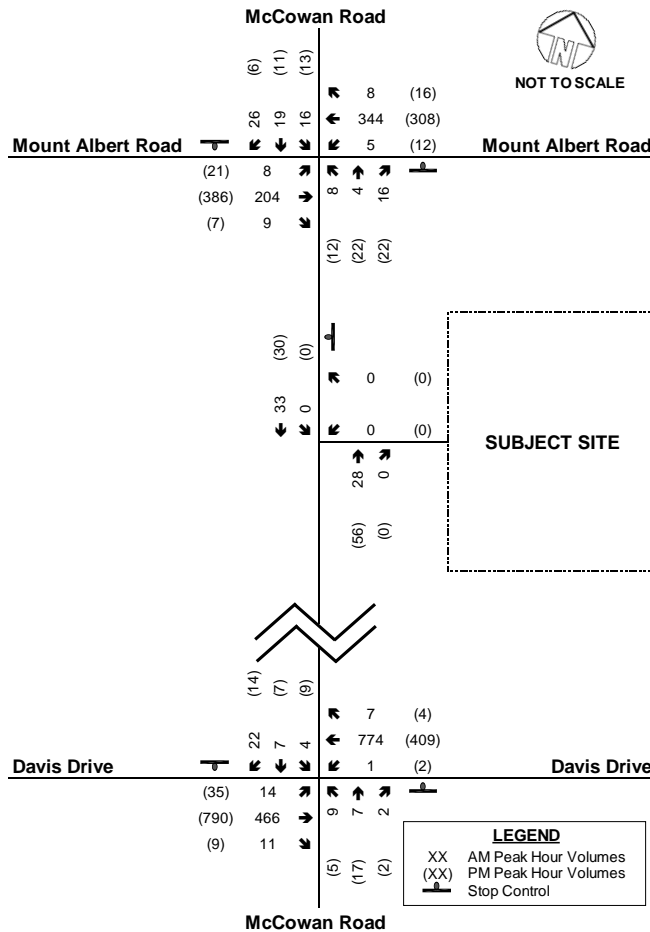


Figure 6 Background Traffic Volumes

6. Site Generated Traffic

The projected truck volumes established in Section 3 are distributed to the study intersections based on trip distribution presented in Section 2.2 (Table 1). The site traffic volumes are shown in Figure 7.

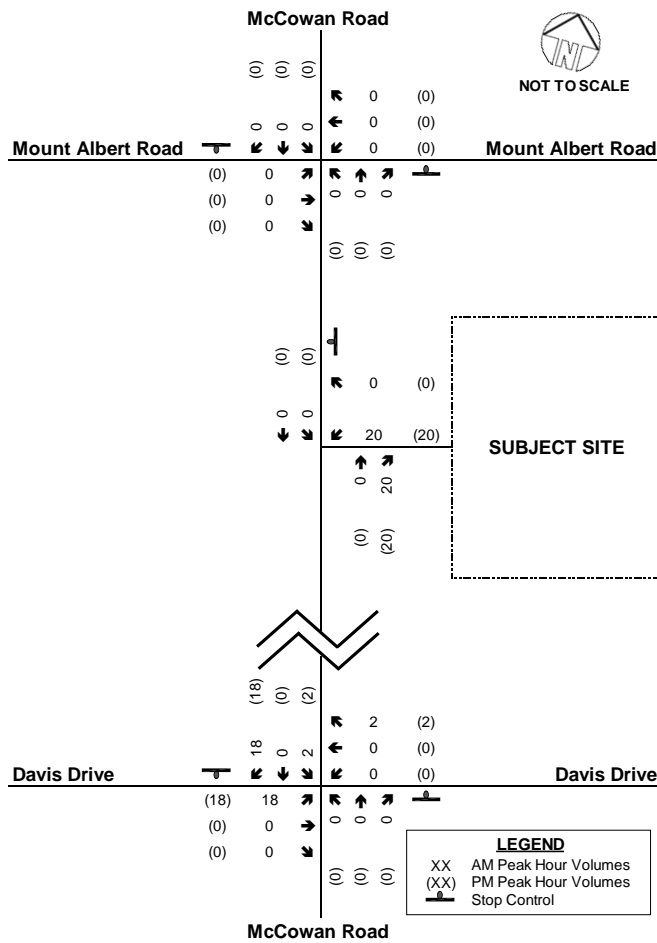


Figure 7 Site Traffic Volumes

7. Total Traffic

In order to estimate the traffic impacts due to the introduction of site-related trips, the background traffic flows are combined with the estimated site trips. The total traffic volumes are shown in Figure 8.

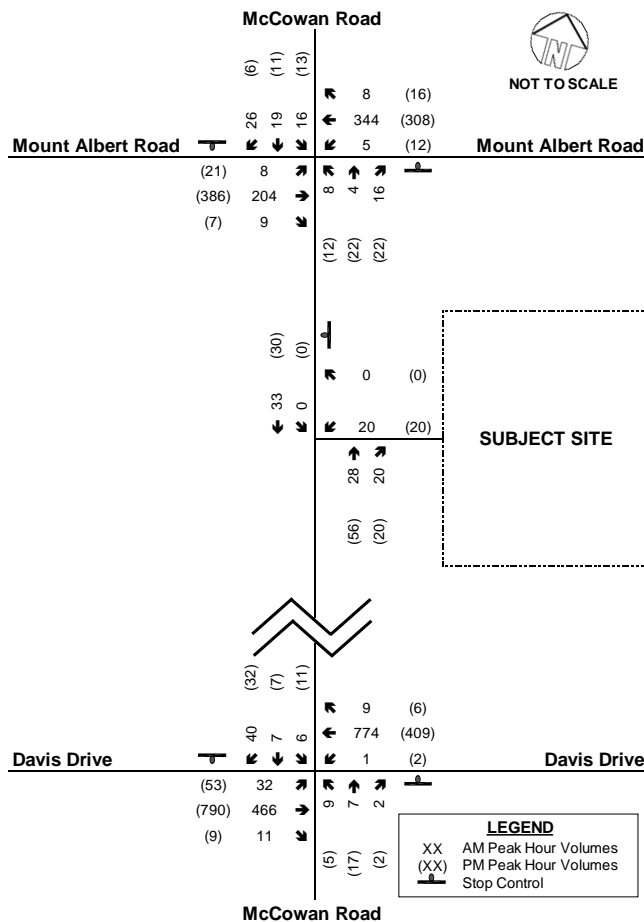


Figure 8 Total Traffic Volumes

8. Traffic Impact Review

8.1 Intersection Capacity

This section presents the traffic impact analysis and summarizes the operations of the existing and future road network before and after introduction of the estimated subject site generated traffic.

Measuring existing traffic volumes and projecting future traffic volumes quantifies traffic flow within the study area. To assess quality of flow, roadway capacity analyses were conducted with respect to existing and future traffic volume conditions, assuming the proposed development is constructed.

The effectiveness of an intersection’s operations is measured in terms of Level-of-Service (LOS). LOS ranges from LOS ‘A’ to LOS ‘F’, with LOS ‘A’ being the best level of operation for an intersection representing free flow conditions where the general level of comfort and convenience experienced by motorists is excellent, and LOS ‘F’ representing an at-capacity condition with congestion, and occasionally severe delays and queuing.

These capacity analyses are based on the methodology contained in the Highway Capacity Manual, which assigns an intersection Level of Service (LOS) based on the average control delay



experienced by each vehicle passing through that intersection. Synchro version 9.0 was utilized to conduct the analysis.

For analysis purposes, ‘critical’ intersection movements are defined as traffic movements where:

- Volume to capacity (V/C) ratio of through movement or shared through/turning movement exceeds 0.85; or
- Volume to capacity (V/C) ratio of an exclusive turning movement exceeds 1.0.

8.2 Existing Traffic Conditions

The existing balanced traffic volumes (Figure 6) were subjected to intersection capacity analysis under the existing lane configurations (Figure 4).

Results of the intersection capacity analysis under existing traffic conditions are shown in Table 3. Appendix B contains the existing intersection capacity analysis summaries.

Table 3 Existing Traffic Conditions

Intersection	AM Peak Hour			PM Peak Hour		
	Overall v/c (LOS) Delay in Seconds	Critical Key Movements v/c (LOS) Delay in Seconds	95th Percentile Queues (m)	Overall v/c (LOS) Delay in Seconds	Critical Key Movements v/c (LOS) Delay in Seconds	95th Percentile Queues (m)
Mount Albert Road / McCowan Road	SBTLR 0.14 (B) 14	EBTLR = 0.01 (A) 0 WBTLR = 0.00 (A) 0 NBTLR = 0.06 (B) 13 SBTLR = 0.14 (B) 14	EBTLR = 5 m WBTLR = 5 m NBTLR = 5 m SBTLR = 5 m	SBTLR 0.10 (C) 18	EBTLR = 0.02 (A) 1 WBTLR = 0.01 (A) 0 NBTLR = 0.16 (C) 16 SBTLR = 0.10 (C) 18	EBTLR = 5 m WBTLR = 5 m NBTLR = 5 m SBTLR = 5 m
Site Access / McCowan Road	NBTR 0.02 (A) 0	WBLR = 0.00 (A) 0 NBTR = 0.02 (A) 0 SBTL = 0.00 (A) 0	WBLR = 0 m NBTR = 0 m SBTL = 0 m	NBTR 0.03 (A) 0	WBLR = 0.00 (A) 0 NBTR = 0.03 (A) 0 SBTL = 0.00 (A) 0	WBLR = 0 m NBTR = 0 m SBTL = 0 m
Davis Drive / McCowan Road	NBTLR 0.15 (E) 37	EBTL = 0.02 (A) 0 EBR = 0.01 (A) 0 WBTL = 0.00 (A) 0 WBR = 0.00 (A) 0 NBTLR = 0.15 (E) 37 SBTLR = 0.17 (D) 26	EBTL = 5 m EBR = 0 m WBTL = 0 m WBR = 0 m NBTLR = 5 m SBTLR = 5 m	NBTLR 0.17 (D) 34	EBTL = 0.03 (A) 1 EBR = 0.01 (A) 0 WBTL = 0.00 (A) 0 WBR = 0.00 (A) 0 NBTLR = 0.17 (D) 34 SBTLR = 0.16 (D) 27	EBTL = 5 m EBR = 0 m WBTL = 5 m WBR = 0 m NBTLR = 5 m SBTLR = 5 m

Mount Albert Road / McCowan Road & Site Access / McCowan Road

Under existing traffic conditions, the McCowan Road intersections with Mount Albert Road and the site access are operating well within capacity. There are no critical movements to report.

Davis Drive / McCowan Road

Under existing traffic conditions, the northbound movement at this unsignalized intersection has LOS ‘E’ during the AM peak hour. However, the movement is operating within capacity with acceptable v/c ratio of 0.15. The intersection is operating without significant issues under existing traffic conditions.



8.3 Background Traffic Conditions

The background traffic volumes (Figure 7) were subjected to intersection capacity analysis using the existing lane configurations (Figure 4). Table 4 summarizes the background traffic operation for the study intersections. The background intersection capacity analysis reports are attached in Appendix C.

Table 4 Background Traffic Conditions

Intersection	AM Peak Hour			PM Peak Hour		
	Overall v/c (LOS) Delay in Seconds	Critical Key Movements v/c (LOS) Delay in Seconds	95th Percentile Queues (m)	Overall v/c (LOS) Delay in Seconds	Critical Key Movements v/c (LOS) Delay in Seconds	95th Percentile Queues (m)
Mount Albert Road / McCowan Road	SBTLR 0.15 (B) 15	EBTLR = 0.01 (A) 0 WBTLR = 0.00 (A) 0 NBTLR = 0.07 (B) 13 SBTLR = 0.15 (B) 15	EBTLR = 5 m WBTLR = 5 m NBTLR = 5 m SBTLR = 5 m	SBTLR 0.11 (C) 19	EBTLR = 0.02 (A) 1 WBTLR = 0.01 (A) 0 NBTLR = 0.17 (C) 17 SBTLR = 0.11 (C) 19	EBTLR = 5 m WBTLR = 5 m NBTLR = 5 m SBTLR = 5 m
Site Access / McCowan Road	NBTR 0.02 (A) 0	WBLR = 0.00 (A) 0 NBTR = 0.02 (A) 0 SBTL = 0.00 (A) 0	WBLR = 0 m NBTR = 0 m SBTL = 0 m	NBTR 0.04 (A) 0	WBLR = 0.00 (A) 0 NBTR = 0.04 (A) 0 SBTL = 0.00 (A) 0	WBLR = 0 m NBTR = 0 m SBTL = 0 m
Davis Drive / McCowan Road	NBTLR 0.17 (E) 42	EBTL = 0.02 (A) 0 EBR = 0.01 (A) 0 WBTL = 0.00 (A) 0 WBR = 0.00 (A) 0 NBTLR = 0.17 (E) 42 SBTLR = 0.19 (D) 28	EBTL = 5 m EBR = 0 m WBTL = 0 m WBR = 0 m NBTLR = 5 m SBTLR = 5 m	NBTLR 0.19 (E) 38	EBTL = 0.04 (A) 1 EBR = 0.01 (A) 0 WBTL = 0.00 (A) 0 WBR = 0.00 (A) 0 NBTLR = 0.19 (E) 38 SBTLR = 0.18 (D) 29	EBTL = 5 m EBR = 0 m WBTL = 5 m WBR = 0 m NBTLR = 5 m SBTLR = 5 m

Mount Albert Road / McCowan Road & Site Access / McCowan Road

Under background traffic conditions, the McCowan Road intersections with Mount Albert Road and the site access are operating well within capacity. There are no critical movements to report.

Davis Drive / McCowan Road

Under background traffic conditions, the northbound movement at this unsignalized intersection has LOS 'E' during the AM and PM peak hours. However, the movement is operating within capacity with acceptable v/c ratio of 0.17 and 0.19 during the AM and PM peak hours, respectively. The intersection is operating without significant issues under background traffic conditions.

8.4 Total Traffic Conditions

This section presents the total traffic impact analysis and summarizes the operations of the study intersections with the introduction of the estimated site generated traffic.

The future total scenario was subjected to intersection capacity analysis based on the same methodologies utilized for existing and background conditions using Synchro 9 analysis software.

Table 5 summarizes the future total traffic operations of the study intersections. Detailed intersection capacity analysis reports can be found in Appendix D.



Table 5 Total Traffic Conditions

Intersection	AM Peak Hour			PM Peak Hour		
	Overall v/c (LOS) Delay in Seconds	Critical Key Movements v/c (LOS) Delay in Seconds	95th Percentile Queues (m)	Overall v/c (LOS) Delay in Seconds	Critical Key Movements v/c (LOS) Delay in Seconds	95th Percentile Queues (m)
McCowan Road / Mount Albert Road	SBTLR 0.15 (B) 14	EBTLR = 0.01 (A) 0 WBTLR = 0.00 (A) 0 NBTLR = 0.07 (B) 13 SBTLR = 0.15 (B) 14	EBTLR = 5 m WBTLR = 5 m NBTLR = 5 m SBTLR = 5 m	SBTLR 0.11 (C) 19	EBTLR = 0.02 (A) 1 WBTLR = 0.01 (A) 0 NBTLR = 0.17 (C) 18 SBTLR = 0.11 (C) 19	EBTLR = 5 m WBTLR = 5 m NBTLR = 5 m SBTLR = 5 m
McCowan Road / Site Access	WBLR 0.03 (B) 10	WBLR = 0.03 (B) 10 NBTR = 0.03 (A) 0 SBTL = 0.00 (A) 0	WBLR = 5 m NBTR = 0 m SBTL = 0 m	WBLR 0.03 (B) 10	WBLR = 0.03 (B) 10 NBTR = 0.05 (A) 0 SBTL = 0.00 (A) 0	WBLR = 5 m NBTR = 0 m SBTL = 0 m
McCowan Road / Davis Drive	NBTLR 0.21 (F) 52	EBTL = 0.06 (A) 2 EBR = 0.01 (A) 0 WBTL = 0.00 (A) 0 WBR = 0.01 (A) 0 NBTLR = 0.21 (F) 52 SBTLR = 0.33 (D) 34	EBTL = 5 m EBR = 0 m WBTL = 0 m WBR = 0 m NBTLR = 5 m SBTLR = 10 m	NBTLR 0.21 (E) 42	EBTL = 0.06 (A) 2 EBR = 0.01 (A) 0 WBTL = 0.00 (A) 0 WBR = 0.00 (A) 0 NBTLR = 0.21 (E) 42 SBTLR = 0.28 (D) 30	EBTL = 5 m EBR = 0 m WBTL = 5 m WBR = 0 m NBTLR = 5 m SBTLR = 10 m

Mount Albert Road / McCowan Road & Site Access / McCowan Road

Under total traffic conditions, the McCowan Road intersections with Mount Albert Road and the site access are operating well within capacity. There are no critical movements to report.

Davis Drive / McCowan Road

Under total traffic conditions, the northbound movement at this unsignalized intersection has LOS ‘F’ during the AM peak hour and LOS ‘E’ during the PM peak hour. However, the movement is operating within capacity with an acceptable v/c ratio of 0.21 during both the AM and PM peak hours. Given that the v/c ratios are well under capacity and the traffic volumes are low for the northbound movements (less than 30 vehicles in both peak hours), delays to the northbound movements are expected. The intersection is operating without significant issues under total traffic conditions.

Comparing Tables 4 and 5, the site generated volumes will have little to no impact on the study intersections. There are no improvements needed to the existing road and intersection lane configurations due to the subject site, based on the intersection capacity analyses.

8.5 Total Traffic Conditions – Sensitivity Analysis

For purely analytical purposes, a “what-if” scenario was assessed as a sensitivity analysis, with peaking factor of 2.0 to represent a hypothetical surge of fill material. The analysis was conducted to test the resilience of the study intersections with respect to an increase in site traffic. It also assesses the site traffic under extreme peaking behaviors that while it does not reflect what the intersections will experience in reality but is worthwhile to analyze as an absolute worst-case scenario.

Figure 9 shows the doubled site traffic volumes distributed within the traffic network.

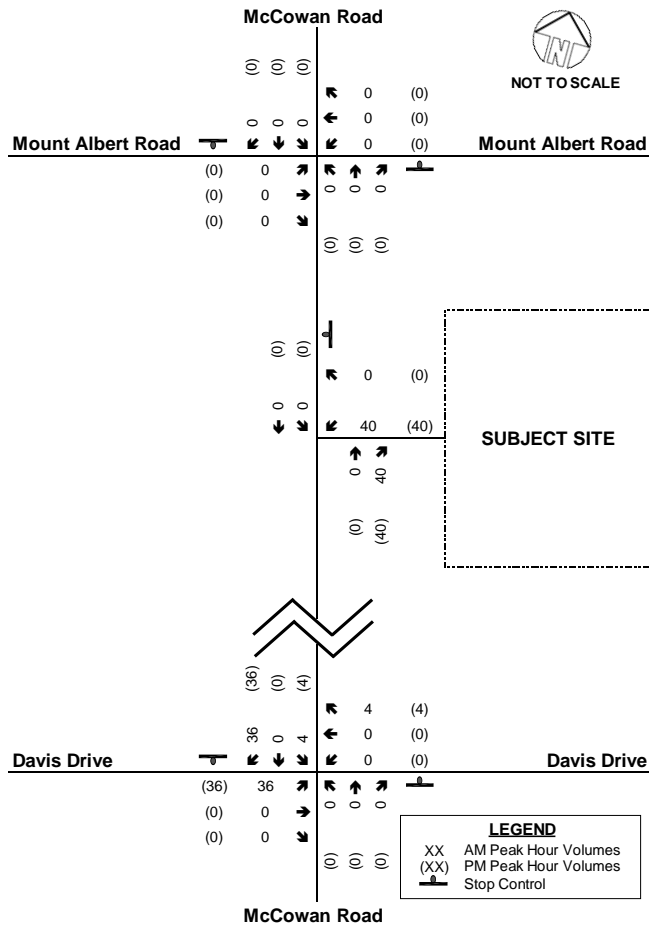


Figure 9 Site Traffic Volumes – Sensitivity Analysis

The Site Traffic Volume – Sensitivity Analysis (Figure 9) is added to the background traffic volumes (Figure 6) to produce Total Traffic Volume – Sensitivity Analysis as shown in Figure 10.

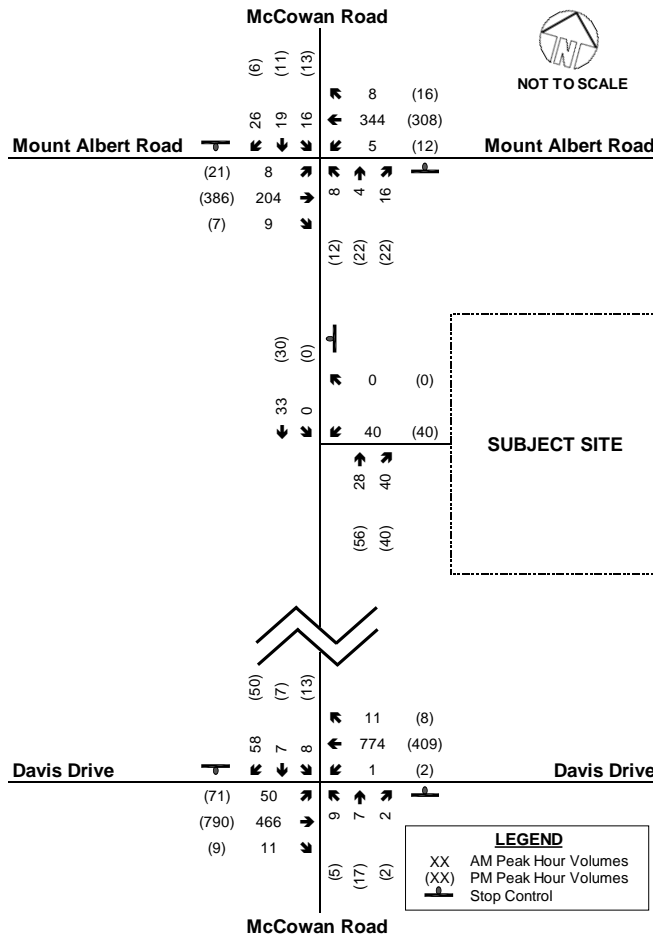


Figure 10 Total Traffic Volumes – Sensitivity Analysis

The Total Traffic Volumes – Sensitivity Analysis (Figure 10) were subjected to intersection capacity analysis based on the same methodologies as Section 8.4 Total Traffic Conditions. Table 6 summarizes the intersection capacities under future total traffic conditions – sensitivity analysis. Detailed intersection capacity analysis reports can be found in Appendix E.

Table 6 Total Traffic Conditions – Sensitivity Analysis

Intersection	AM Peak Hour			PM Peak Hour		
	Overall v/c (LOS) Delay in Seconds	Critical Key Movements v/c (LOS) Delay in Seconds	95th Percentile Queues (m)	Overall v/c (LOS) Delay in Seconds	Critical Key Movements v/c (LOS) Delay in Seconds	95th Percentile Queues (m)
McCowan Road / Mount Albert Road	SBTLR 0.15 (B) 14	EBTLR = 0.01 (A) 0 WBTLR = 0.00 (A) 0 NBTLR = 0.07 (B) 13 SBTLR = 0.15 (B) 14	EBTLR = 5 m WBTLR = 5 m NBTLR = 5 m SBTLR = 5 m	SBTLR 0.11 (C) 19	EBTLR = 0.02 (A) 1 WBTLR = 0.01 (A) 0 NBTLR = 0.17 (C) 18 SBTLR = 0.11 (C) 19	EBTLR = 5 m WBTLR = 5 m NBTLR = 5 m SBTLR = 5 m
McCowan Road / Site Access	WBLR 0.06 (B) 10	WBLR = 0.06 (B) 10 NBTR = 0.04 (A) 0 SBTL = 0.00 (A) 0	WBLR = 5 m NBTR = 0 m SBTL = 0 m	WBLR 0.06 (B) 10	WBLR = 0.06 (B) 10 NBTR = 0.06 (A) 0 SBTL = 0.00 (A) 0	WBLR = 5 m NBTR = 0 m SBTL = 0 m
McCowan Road / Davis Drive	NBTLR 0.25 (F) 65	EBTL = 0.10 (A) 3 EBR = 0.01 (A) 0 WBTL = 0.00 (A) 0 WBR = 0.01 (A) 0 NBTLR = 0.25 (F) 65 SBTLR = 0.47 (E) 42	EBTL = 5 m EBR = 0 m WBTL = 0 m WBR = 0 m NBTLR = 10 m SBTLR = 20 m	NBTLR 0.23 (E) 47	EBTL = 0.09 (A) 2 EBR = 0.01 (A) 0 WBTL = 0.00 (A) 0 WBR = 0.01 (A) 0 NBTLR = 0.23 (E) 47 SBTLR = 0.38 (D) 33	EBTL = 5 m EBR = 0 m WBTL = 5 m WBR = 0 m NBTLR = 10 m SBTLR = 15 m



Mount Albert Road / McCowan Road & Site Access / McCowan Road

Under total traffic sensitivity conditions, the McCowan Road intersections with Mount Albert Road and the site access are operating well within capacity. There are no critical movements to report.

Davis Drive / McCowan Road

Under total traffic conditions, the northbound movement at this unsignalized intersection has LOS 'F' during the AM peak hour and LOS 'E' during the PM peak hour. However, the movement is operating within capacity with an acceptable v/c ratio of 0.25 and 0.23 during the AM and PM peak hours, respectively. Given that the v/c ratios are well under capacity and the traffic volumes for the northbound movement are low (less than 30 in both peak hours), delays to northbound movements are expected. The intersection is operating without significant issues under total traffic conditions.

Comparing Tables 5 and 6, the increased site trips will have little to no impact on the study intersections. As shown in Table 6, even if the site experiences unlikely high number of site traffic, the study intersections will be able to operate well without issues.

9. Turning Lanes

In discussion with the Region of York to improve the truck route, the following exclusive turning lanes are proposed for the study intersections:

- Northbound right-turn taper at proposed intersection of Site Access / McCowan Road
- Eastbound and Westbound exclusive left-turn lanes at the existing intersection of Davis Drive / McCowan Road

The Synchro analysis for the intersection of Davis Drive / McCowan Road was reassessed to include turning lanes as part of this analysis. The results are shown in Table 7. Detailed capacity analysis results are shown in Appendix F.

Table 7 Capacity Results for Davis Dr. / McCowan Rd. – with Turning Lanes

Intersection	AM Peak Hour			PM Peak Hour		
	Overall v/c (LOS) Delay in Seconds	Critical Key Movements v/c (LOS) Delay in Seconds	95th Percentile Queues (m)	Overall v/c (LOS) Delay in Seconds	Critical Key Movements v/c (LOS) Delay in Seconds	95th Percentile Queues (m)
McCowan Road / Davis Drive	NBTLR 0.21 (F) 52	EBL = 0.06 (B) 11 EBT = 0.30 (A) 0 EBR = 0.01 (A) 0 WBL = 0.00 (A) 8 WBT = 0.50 (A) 0 WBR = 0.01 (A) 0 NBTLR = 0.21 (F) 52 SBTLR = 0.33 (D) 34	EBL = 5 m EBT = 0 m EBR = 0 m WBL = 0 m WBT = 0 m WBR = 0 m NBTLR = 5 m SBTLR = 10 m	NBTLR 0.21 (E) 42	EBL = 0.06 (A) 9 EBT = 0.50 (A) 0 EBR = 0.01 (A) 0 WBL = 0.00 (A) 10 WBT = 0.26 (A) 0 WBR = 0.00 (A) 0 NBTLR = 0.21 (E) 42 SBTLR = 0.28 (D) 30	EBL = 5 m EBT = 0 m EBR = 0 m WBL = 5 m WBT = 0 m WBR = 0 m NBTLR = 5 m SBTLR = 10 m
McCowan Road / Davis Drive (Sensitivity Analysis)	NBTLR 0.25 (F) 65	EBL = 0.10 (B) 12 EBT = 0.30 (A) 0 EBR = 0.01 (A) 0 WBL = 0.00 (A) 8 WBT = 0.50 (A) 0 WBR = 0.01 (A) 0 NBTLR = 0.25 (F) 65 SBTLR = 0.47 (E) 42	EBL = 5 m EBT = 0 m EBR = 0 m WBL = 0 m WBT = 0 m WBR = 0 m NBTLR = 10 m SBTLR = 20 m	NBTLR 0.23 (E) 47	EBL = 0.09 (A) 10 EBT = 0.50 (A) 0 EBR = 0.01 (A) 0 WBL = 0.00 (A) 10 WBT = 0.26 (A) 0 WBR = 0.01 (A) 0 NBTLR = 0.23 (E) 47 SBTLR = 0.38 (D) 33	EBL = 5 m EBT = 0 m EBR = 0 m WBL = 5 m WBT = 0 m WBR = 0 m NBTLR = 10 m SBTLR = 15 m

As shown in Table 6, the maximum 95th percentile queues are 5 m for both eastbound and westbound left-turn lanes, including the sensitivity analysis. Given these results, the minimum storage length (per the Transportation Association of Canada and the Ontario Geometric Design Manuals) of 15 m is recommended.

Preliminary functional designs for the turning lanes are shown in Appendix G.

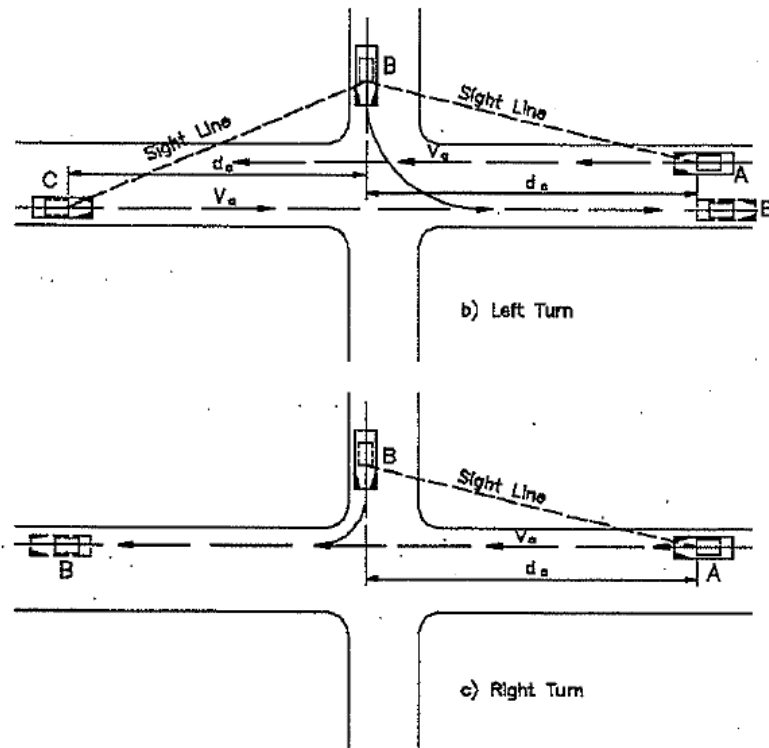
10. Sightlines

10.1 Sightline Distance Requirements

Sightline distance requirements were reviewed based on Ministry of Transportation Ontario's (MTO) and Transportation Association of Canada's (TAC) Geometric Design Manuals. Design speed of 80 km per hour based on the posted speed of 60 km per hour within the vicinity of the site access.

The sightline distance requirements associated with the site access are the turning sight distances for stopped vehicles exiting the site. Although all exiting vehicles from the site are exiting via left turns for intersection capacity analyses, vehicles exiting via both left and right turns will be considered for the sight line analysis.

For vehicles exiting the site via a right turn movement, there is only one sight distance to consider - the sight distance to vehicles approaching from the left. For vehicles exiting the site via a left turn movement, there are two sight distances to consider, one for vehicles approaching from the left and one for vehicles approaching from the right. These sight line distances are shown in Figure 11.



Source: MTO Geometric Design Manual

Figure 11 Turning Sight Distance Diagrams

The turning sight distance requirements are provided in the MTO manual, Figure E3-6, and provided herein in Appendix H.

As shown in Appendix H, the required turning sight distance for a vehicle turning right from the site is 260 m with a vehicle approaching from the left.

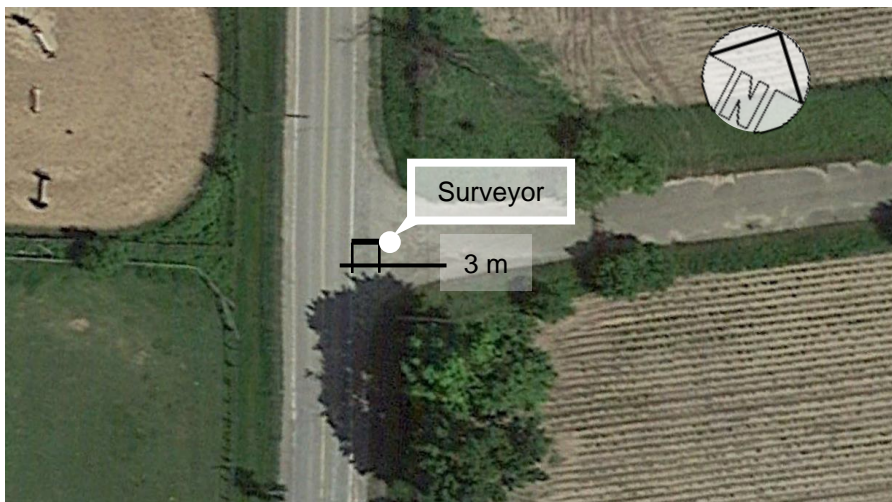
Similarly, the required turning sight distance for a vehicle turning left from the site is 260 m with vehicles approaching from the right and 180 m with a vehicles approaching from the left. By comparison, TAC requirements range between 165 m to 245 m (also provided in Appendix H, Figure 2.3.3.4b) for left turning vehicles with a vehicle approaching from the right. Therefore, to be conservative, the higher requirement from MTO of 260 m was selected.

According to the TAC guideline, a single truck and a combination truck is 2 and 4 seconds slower than passenger cars, respectively, in terms of gap time when turning. The higher gap times amount to an approximate 90 m longer intersection sight distance for a design speed of 80 km per hour. The relevant excerpts of the TAC guidelines can be found in Appendix H.

Using the distance for trucks, the sight distances acquired from MTO manual are adjusted higher for trucks. With the adjustment, the required turning sight distance for a truck turning right from the site is 350 m with a vehicle approaching from the left. Similarly, with the adjustment, the required turning sight distance for a truck turning left from the site is 350 m with vehicles approaching from the right and 270 m with a vehicle approaching from the left.

10.2 Existing Sightlines and Sight Distances

In order to accurately measure sight distances expected to be experienced by the site-generated trips at the Site Access / McCowan Road intersection, a field survey was conducted by GHD. It should be noted that McCowan Road is relatively level within the required sight distance. The sight distances were measured with the surveyor approximately 3 m from the edge of the northbound lane pavement marking as shown in Figure 12.



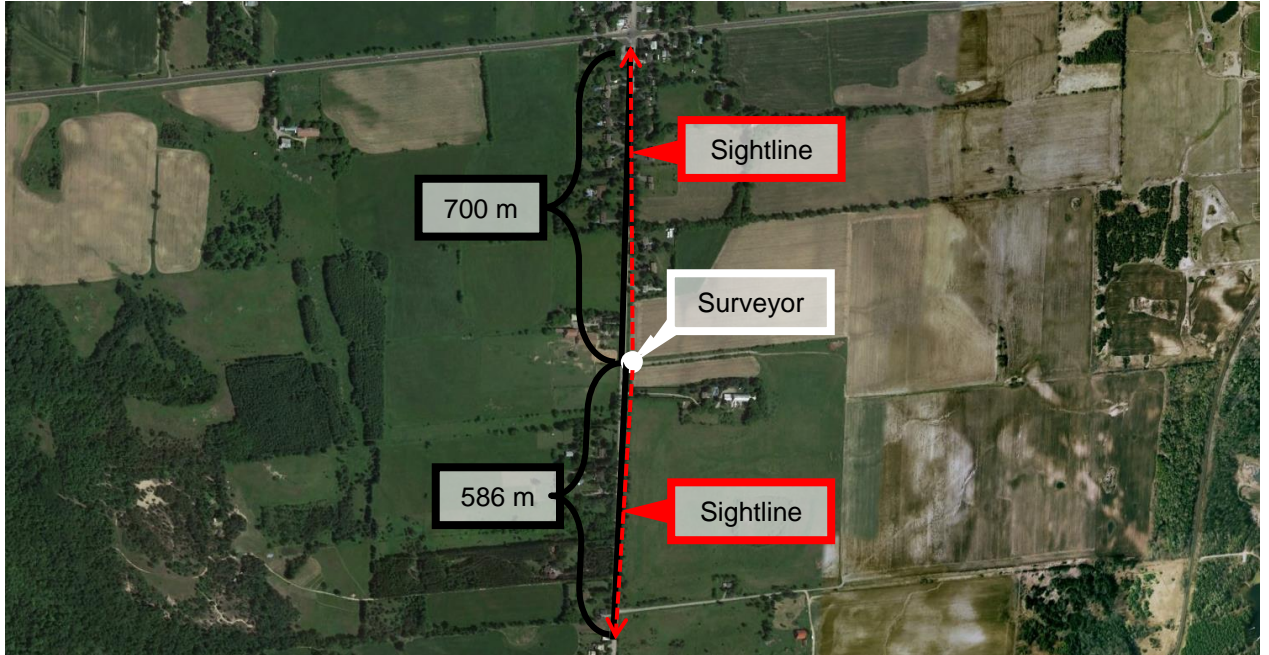
Source: Google Maps

Figure 12 Sightline Survey

The sightline distance measurements were conducted based on a standard height of the driver's eye at 1.05 m and a height of an approaching object along McCowan Road of 1.3 m.

For trucks, the driver’s eye height is in the range of 2.0 m to 2.3 m above the ground. This means that the available sight distances would be longer for truck drivers exiting this site. However, for the purposes of analysis, the standard 1.03 m for the height of the driver’s eye was used as conservative approach.

The measured sight distance is **700 m** of the southbound traffic approaching from the right for vehicles exiting left from the site. The measured sight distance of the northbound traffic approaching from the left of the exiting vehicle is **586 m**. The sight distances are shown in Figure 13.



Source: Google Maps

Figure 13 Measured Sight Distances

10.3 Sightline Distance Review

Comparison of measured and required sight distances are shown in Table 8.

Table 8 Measured and Required Sight Distances for Passenger Cars

	MTO Required Sight Distances (m)				Higher of the Required Sight Distances (m)	Measured Sight Distances (m)	Difference (m)
	Exit via Right Turn		Exit via Left Turn				
	Vehicles	Trucks	Vehicles	Trucks			
for Vehicles Approaching from the Right	0	0	260	350	350	700	+350
for Vehicles Approaching from the Left	260	350	180	270	350	586	+236



As shown in Table 8, the measured sight distances are approximately 350 m longer for vehicles approaching the site from the right (southbound traffic approaching the site access) and 236 m longer for vehicles approaching the site from the left (northbound traffic approaching the site access).

11. York Region Safety Audit

The York Region has completed a safety audit of McCowan Road corridor between Mount Albert Road and Davis Drive (Figure 1), in fall of 2020. The results of the audit (dated January 12, 2021), are as follows:

Data Collection

- Staff has been monitoring this section of McCowan Road, between Davis Drive and Mount Albert Road and have conducted speed, vehicle classification, and traffic volume studies, most recently in 2019 and 2020.
- This section of McCowan Road is a low volume road (less than 900 vehicles daily) and has sufficient capacity, even with increase in trucks

Speeding and Speed Limits

- The speed limit policy evaluation concludes that the current posted speed limits (60 km/h north of Mill Road and 50 km/h south of Mill Road) are appropriate.
- Operating Speed Study conducted in September 2020 and results confirm that the current posted speed limit is appropriate.
- To increase motorists compliance to posted speed limits, the Region has deployed a speed board to this stretch of McCowan Road.

Trucks

- In 2010 McCowan Road between Herald Road and Davis Drive was rehabilitated to accommodate all vehicular traffic, including trucks. The rehabilitation included full depth reclamation with expanded asphalt stabilization and hot mix asphalt paving.
- In 2015, York Region staff conducted a study of load restricted Regional roads and the load restriction was removed between Davis Drive and 500 metres north of Herald Road
- YRP has been engaged to monitor and enforce speeding trucks

McCowan Road and Intersections

- In November 2019, the Region converted McCowan Road and Herald Road intersection to an all way stop including the implementation of pavement markings and additional signage to improve intersection control awareness and increase compliance and conspicuity of the intersection
- Earlier last year the Region implemented an overhead flashing beacon



Railway Crossing

- The Region conducted a railway crossing assessment and improved signage including:
 - o Advisory speed (40 km/h) signs in both direction in advance of approaching the railway crossing
 - o Advisory speed (30 km/h) tab beneath the railway crossing signs in both directions approaching railway crossing
 - o Staff forwarded concerns to the attention of the rail authority to consider rail and road improvements.

McCowan Road Between Mount Albert Road and Herald Road

- In August 2020, the Region recommended roadside improvements including replacement of the existing guiderail on McCowan Road (south of Mill Road). This project is pending prioritization and budget.
- In November 2020, the Region installed School Bus Stop Ahead signs on McCowan Road in both directions approaching the Community of Holt.
- The Region has installed other signage in the past such as “Horse with Rider” and deer sign

A summary of the safety audit, as received from the Region, is provided in Appendix I.

12. Automatic Traffic Recorder Data

Automatic Traffic Recorder (ATR) data was originally collected by Ontario Traffic Inc. (OTI) on two locations along McCowan in May 2018. In addition to the 2018 data, as a result of requests from residents for additional traffic counts, the Town of East Gwillimbury has collected Automatic Traffic Recorder (ATR) data recorded on various locations along McCowan Road, captured throughout 2020. Table 9 summarizes the detailed locations and dates that the data was captured.



Table 9 ATR Data Collection

ATR Location	Date of Data Collection
Pre COVID-19 (2018)	
McCowan Road in front of #18725	May 25 – May 31, 2018
McCowan Road 400 m North of Herald Road	
During COVID-19 (2020)	
McCowan Rd 200 m South of Strada Access	July 9 - July 24, 2020
McCowan Rd 400 m South of Strada Access	
McCowan Rd 200 m North of Strada Access	
McCowan Rd 500 m North of Strada Access	
McCowan Rd 300 m South of Herald Road	
McCowan Rd 300m North of Herald Rd	Oct 30 - Nov 1, Nov 6 -Nov 13, and Nov 20 - Nov 30, 2020
McCowan Rd in front of #18698	

The ATR data was filtered and analysed to determine the average daily traffic volumes. The July 2020 data was reviewed and processed by the Town and the 2018 and October-November 2020 data was reviewed and processed by GHD. The ATR results are as shown in Table 10. The summarized ATR data are shown in Appendix J.



Table 10 ATR Data Collection

ATR Location	Average Daily Traffic Volumes
Pre COVID-19 (2018)	
McCowan Road in front of #18725	732
McCowan Road 400 m North of Herald Road	613
During COVID-19 (2020)	
McCowan Rd 200 m South of Strada Access	468
McCowan Rd 400 m South of Strada Access	462
McCowan Rd 200 m North of Strada Access	486
McCowan Rd 500 m North of Strada Access	487
McCowan Rd 300 m South of Herald Road	493
McCowan Rd 300m North of Herald Rd	446
McCowan Rd in front of #18698	501
Average All Locations (During COVID-19)	478

Typical Rural Arterial Road, as defined by Transportation Association of Canada (TAC) carries up to 12,000 vehicles per day. McCowan Road, due to its posted speed, is estimated to carry up to 7,000 vehicles per day.

As shown in Table 10, the average daily vehicle counts captured pre COVID-19 (2018) along McCowan are 732 and 613. The average daily vehicle counts captured during COVID-19 (2020) is around 478 vehicles per day. Comparing the pre and during COVID-19 conditions, the daily traffic volume along McCowan Road have seen reductions of 35%, approximately. Based on these findings, the data captured in 2018, up to 740 vehicles per day, provides the best representation of daily traffic along McCowan Road. As a result, the addition of 300 trucks (150 trucks per direction), generated by the proposed fill operations, is expected to have nominal impact to the capacity along this section of McCowan Road, as shown in Figure 14 below.

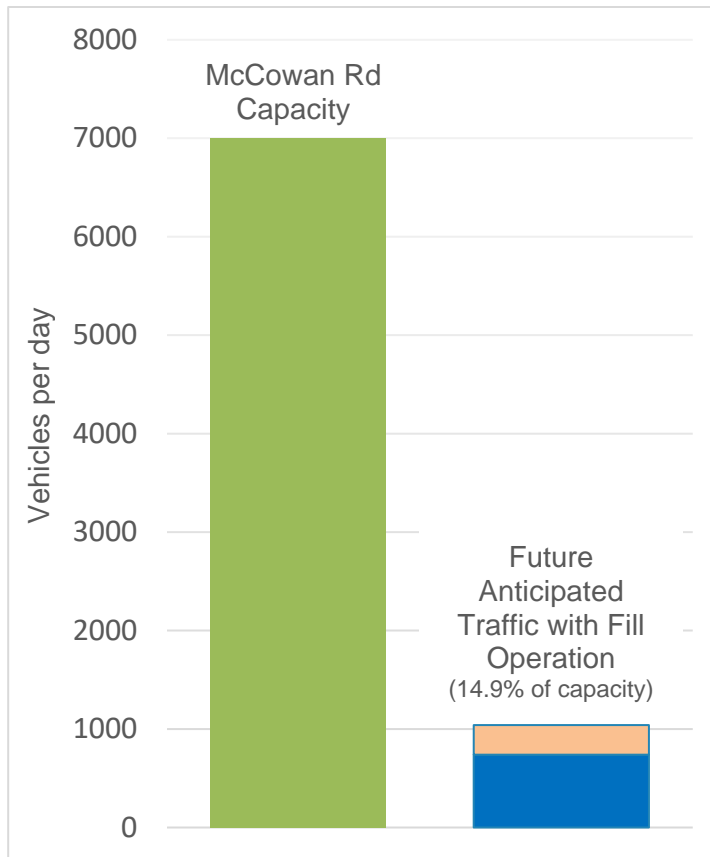


Figure 14 McCowan Road Existing and Anticipated Capacity

13. Summary / Conclusions / Recommendations

Summary

GHD prepared a Traffic Assessment for a proposed Fill Management Plan. The subject site is located on McCowan Road between Herald Road and Mount Albert Road in the Town of East Gwillimbury.

Existing traffic volumes for the study intersections and McCowan Road were recorded by Ontario Traffic Inc. on dates as shown in Table 2.

An annual growth of 1% was adopted.

Conclusions & Recommendations

The Fill Management Plan estimates 1 million m³ to 1.3 million m³ of fill materials are required. It is further estimated that this will generate average of 20 Inbound and 20 outbound trips during both AM and PM peak hours.



As shown in Tables 3 to 5, the study intersections are operating within capacity under existing, background, and total conditions, respectively. The difference shown in Tables 4 and 5 indicate that site-generated truck trips has little to no impact on traffic capacity of the studied intersections.

The intersections were subjected to capacity analysis under extreme conditions of 40 inbound and 40 outbound trips during the peak hours as a sensitivity analysis. As shown in Table 6, the studied intersections are operating well. When compared to future total conditions (Table 5), it is evident that the studied intersections have enough resilience to accommodate even an extreme and highly unlikely number of site trips.

Eastbound and westbound left-turn lanes at Davis Drive / McCowan Road are proposed as improvements for the study intersections. The storage lengths of 15 m was found to be adequate for the expected queues at the exclusive left-turns as shown in Table 7 (5 m).

A northbound right-turn taper is also proposed at the McCowan Road site access. Preliminary designs for the turning lanes are shown in Appendix G.

As shown in Table 8 the measured sight distances are longer by at least 236 m compared to what is required by the MTO manual. Therefore, the site access is appropriately located for the expected vehicles.

Therefore, the study intersections, with the proposed exclusive turning lane improvements, will service the fill operations without any significant issues. The site access satisfies the sightline requirements.

The York Region has provided safety audit of McCowan Road and Herald Road within the vicinity of the site, the results are as summarized in Section 11.

ATR data collected along McCowan Road during 2018 and 2020, confirm that additional truck traffic generated by the proposed fill operations will have nominal impact to the lane capacity along the section of McCowan Road, between the subject site to Davis Drive.

All of Which is Respectfully Submitted,

GHD

Dominic Cho
Transportation Planner



William Maria, P.Eng.
Senior Project Manager

On behalf of:

Roland Roovers, P.Eng.
Senior Transportation Manager

RR/WM/DC

Appendices

Appendix A Traffic Data

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 7:30:00

To: 8:30:00

Municipality: Mount Albert
Site #: 1819200002
Intersection: Mount Albert Rd & McCowan Rd
TFR File #: 14
Count date: 24-May-18

Weather conditions:
Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Mount Albert Rd runs W/E

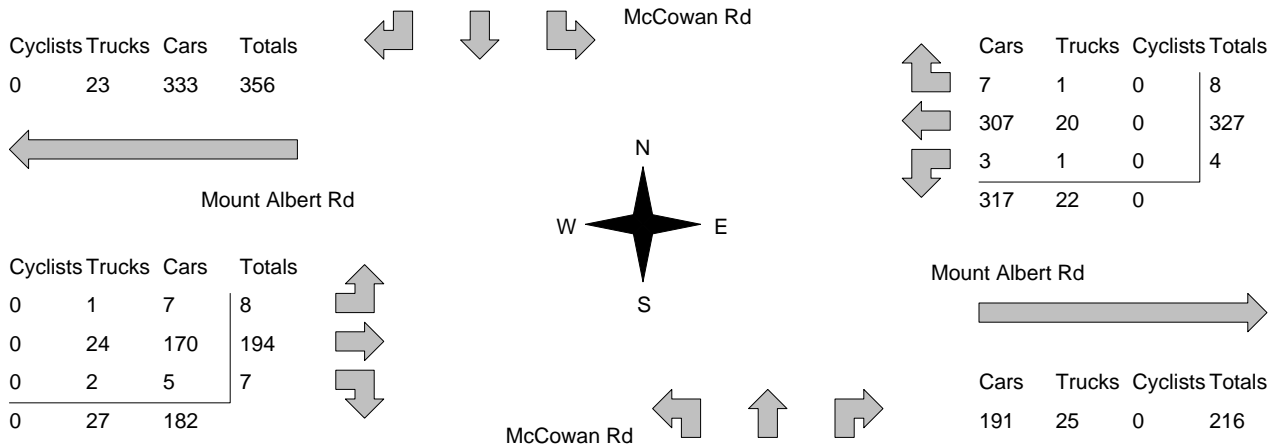
North Leg Total: 72
 North Entering: 54
 North Peds: 0
 Peds Cross: ∇

Cyclists	0	0	0	0
Trucks	1	1	1	3
Cars	24	13	14	51
Totals	25	14	15	



Cyclists	0
Trucks	2
Cars	16
Totals	18

East Leg Total: 555
 East Entering: 339
 East Peds: 0
 Peds Cross: ∇



Peds Cross: ∇
 West Peds: 0
 West Entering: 209
 West Leg Total: 565

Cars	21	Trucks	4	Cyclists	0	Totals	25
Cars	2	Trucks	2	Cyclists	7	Totals	11
Cars	2	Trucks	0	Cyclists	0	Totals	2
Cars	0	Trucks	0	Cyclists	0	Totals	0
Totals	4	2	7				

Peds Cross: ∇
 South Peds: 0
 South Entering: 13
 South Leg Total: 38

Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period

From: 16:00:00
To: 18:00:00

One Hour Peak

From: 16:15:00
To: 17:15:00

Municipality: Mount Albert
Site #: 1819200002
Intersection: Mount Albert Rd & McCowan Rd
TFR File #: 14
Count date: 24-May-18

Weather conditions:
Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Mount Albert Rd runs W/E

North Leg Total: 75
North Entering: 27
North Peds: 0
Peds Cross: \times

Cyclists	0	0	0	0
Trucks	0	0	2	2
Cars	6	9	10	25
Totals	6	9	12	



Cyclists	0
Trucks	4
Cars	44
Totals	48

East Leg Total: 710
East Entering: 318
East Peds: 0
Peds Cross: \times

Cyclists	Trucks	Cars	Totals
0	20	286	306

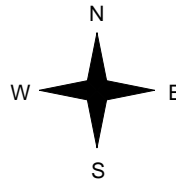


McCowan Rd

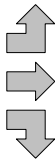
Cars	Trucks	Cyclists	Totals
13	2	0	15
274	19	0	293
9	1	0	10
296	22	0	



Mount Albert Rd



Cyclists	Trucks	Cars	Totals
0	2	18	20
0	18	349	367
0	0	7	7
0	20	374	



Mount Albert Rd



Peds Cross: \times
West Peds: 0
West Entering: 394
West Leg Total: 700

Cars	25	Cars	6	13	11	30
Trucks	1	Trucks	1	0	2	3
Cyclists	0	Cyclists	0	0	0	0
Totals	26	Totals	7	13	13	



McCowan Rd



Peds Cross: \times
South Peds: 0
South Entering: 33
South Leg Total: 59

Comments

Ontario Traffic Inc.

Total Count Diagram

Municipality: Mount Albert
Site #: 1819200002
Intersection: Mount Albert Rd & McCowan Rd
TFR File #: 14
Count date: 24-May-18

Weather conditions:
Person(s) who counted:

**** Non-Signalized Intersection ****

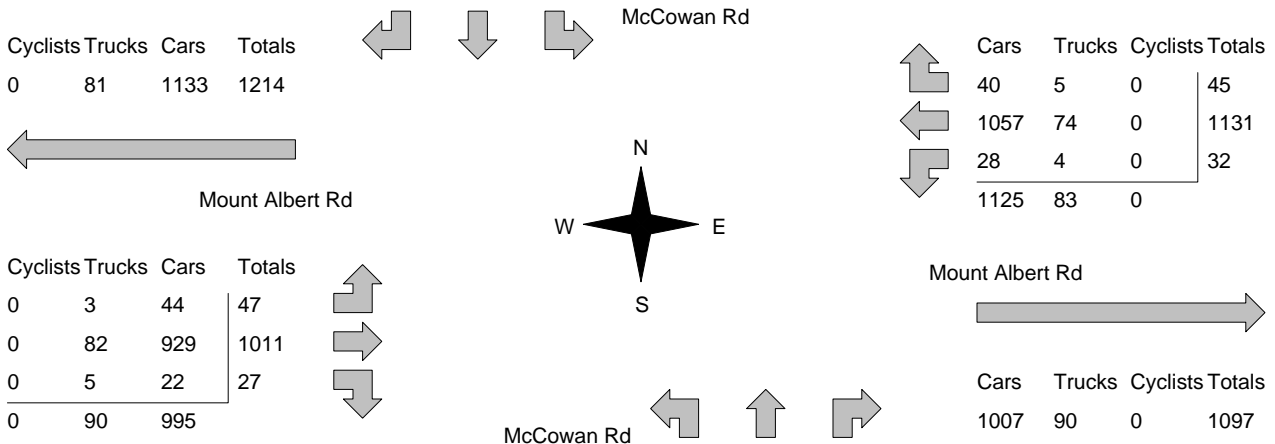
Major Road: Mount Albert Rd runs W/E

North Leg Total: 275
 North Entering: 153
 North Peds: 0
 Peds Cross: \nless

Cyclists	0	0	0	0
Trucks	3	3	6	12
Cars	59	41	41	141
Totals	62	44	47	

Cyclists	0
Trucks	8
Cars	114
Totals	122

East Leg Total: 2305
 East Entering: 1208
 East Peds: 0
 Peds Cross: \nless



Peds Cross: \nless
 West Peds: 0
 West Entering: 1085
 West Leg Total: 2299

Cars	91
Trucks	12
Cyclists	0
Totals	103

Cars	17	30	37	84
Trucks	4	0	2	6
Cyclists	0	0	0	0
Totals	21	30	39	

Peds Cross: \nless
 South Peds: 0
 South Entering: 90
 South Leg Total: 193

Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: Mount Albert Rd & McCowan Rd		Count Date: 24-May-18		Municipality: Mount Albert								
North Approach Totals						South Approach Totals						
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds	North/South Total Approaches	Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	11	16	23	50	0	60	8:00:00	2	1	7	10	0
9:00:00	15	11	24	50	0	65	9:00:00	4	5	6	15	0
16:00:00	0	0	0	0	0	0	16:00:00	0	0	0	0	0
17:00:00	12	10	7	29	0	62	17:00:00	8	11	14	33	0
18:00:00	9	7	8	24	0	56	18:00:00	7	13	12	32	0
Totals:	47	44	62	153	0	243		21	30	39	90	0
East Approach Totals						West Approach Totals						
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds	East/West Total Approaches	Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	7	302	3	312	0	513	8:00:00	7	187	7	201	0
9:00:00	7	307	10	324	0	493	9:00:00	4	161	4	169	0
16:00:00	0	2	0	2	0	2	16:00:00	0	0	0	0	0
17:00:00	10	274	17	301	0	676	17:00:00	17	351	7	375	0
18:00:00	8	245	15	268	0	605	18:00:00	19	309	9	337	0
Totals:	32	1130	45	1207	0	2289		47	1008	27	1082	0
Calculated Values for Traffic Crossing Major Street												
Hours Ending:	7:00	8:00	9:00	16:00		17:00	18:00	18:00	18:00			
Crossing Values:	0	29	30	0		31	336	29	336			

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 7:30:00

To: 8:30:00

Municipality: Mount Albert
Site #: 1819200001
Intersection: Davis Dr & McCowan Rd
TFR File #: 1
Count date: 24-May-18

Weather conditions:
Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Davis Dr runs W/E

North Leg Total: 46
 North Entering: 31
 North Peds: 1
 Peds Cross: \bowtie

Heavys	1	1	1	3
Trucks	1	1	2	4
Cars	18	5	1	24
Totals	20	7	4	



Heavys 0
 Trucks 2
 Cars 13
 Totals 15

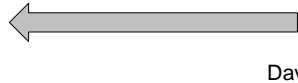
East Leg Total: 1190
 East Entering: 741
 East Peds: 1
 Peds Cross: \bowtie

Heavys	Trucks	Cars	Totals
1	36	728	765

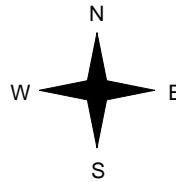


McCowan Rd

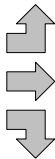
Cars	Trucks	Heavys	Totals
2	2	0	4
703	33	0	736
1	0	0	1
706	35	0	



Davis Dr



Heavys	Trucks	Cars	Totals
0	0	7	7
0	78	365	443
0	0	10	10
0	78	382	



Davis Dr



Cars	Trucks	Heavys	Totals
368	80	1	449

Peds Cross: \bowtie
 West Peds: 0
 West Entering: 460
 West Leg Total: 1225

Cars	16
Trucks	1
Heavys	1
Totals	18



Cars	7	4	2	13
Trucks	2	0	0	2
Heavys	0	0	0	0
Totals	9	4	2	

Peds Cross: \bowtie
 South Peds: 0
 South Entering: 15
 South Leg Total: 33

Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period

From: 16:00:00
To: 18:00:00

One Hour Peak

From: 16:00:00
To: 17:00:00

Municipality: Mount Albert
Site #: 1819200001
Intersection: Davis Dr & McCowan Rd
TFR File #: 1
Count date: 24-May-18

Weather conditions:
Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Davis Dr runs W/E

North Leg Total: 48
North Entering: 19
North Peds: 0
Peds Cross: \times

Heavys	0	0	0	0
Trucks	1	0	1	2
Cars	7	5	5	17
Totals	8	5	6	



Heavys	0
Trucks	6
Cars	23
Totals	29

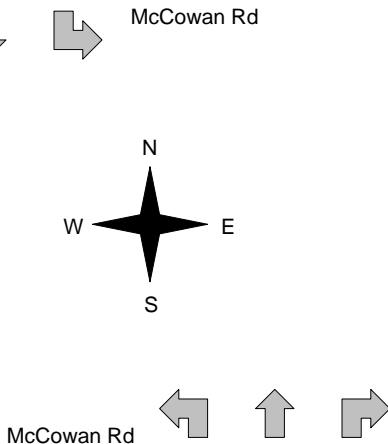
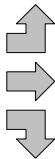
East Leg Total: 1153
East Entering: 393
East Peds: 2
Peds Cross: \times

Heavys	Trucks	Cars	Totals
0	30	372	402



Davis Dr

Heavys	Trucks	Cars	Totals
0	4	14	18
0	44	708	752
0	0	9	9
0	48	731	



Cars	Trucks	Heavys	Totals
1	1	0	2
360	29	0	389
2	0	0	2
363	30	0	

Davis Dr



Cars	Trucks	Heavys	Totals
715	45	0	760

Peds Cross: \times
West Peds: 0
West Entering: 779
West Leg Total: 1181

Cars	16
Trucks	0
Heavys	0
Totals	16



Cars	5	8	2	15
Trucks	0	1	0	1
Heavys	0	0	0	0
Totals	5	9	2	

Peds Cross: \times
South Peds: 1
South Entering: 16
South Leg Total: 32

Comments

Ontario Traffic Inc.

Total Count Diagram

Municipality: Mount Albert
Site #: 1819200001
Intersection: Davis Dr & McCowan Rd
TFR File #: 1
Count date: 24-May-18

Weather conditions:
Person(s) who counted:

**** Non-Signalized Intersection ****

Major Road: Davis Dr runs W/E

North Leg Total: 200
 North Entering: 107
 North Peds: 1
 Peds Cross: \bowtie

Heavys	1	1	1	3
Trucks	7	2	7	16
Cars	56	22	10	88
Totals	64	25	18	



Heavys	0
Trucks	9
Cars	84
Totals	93

East Leg Total: 4375
 East Entering: 2186
 East Peds: 8
 Peds Cross: \bowtie

Heavys	Trucks	Cars	Totals
2	150	2103	2255

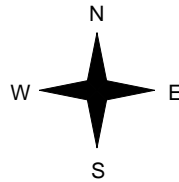


McCowan Rd

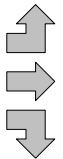
Cars	Trucks	Heavys	Totals
9	4	0	13
2025	140	1	2166
6	1	0	7
2040	145	1	



Davis Dr



Heavys	Trucks	Cars	Totals
0	4	55	59
0	181	1986	2167
0	0	33	33
0	185	2074	



Davis Dr



Cars	Trucks	Heavys	Totals
2000	188	1	2189

Peds Cross: \bowtie
 West Peds: 4
 West Entering: 2259
 West Leg Total: 4514

Cars	61
Trucks	3
Heavys	1
Totals	65



Cars	22	20	4	46
Trucks	3	1	0	4
Heavys	0	0	0	0
Totals	25	21	4	

Peds Cross: \bowtie
 South Peds: 1
 South Entering: 50
 South Leg Total: 115

Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: Davis Dr & McCowan Rd

Count Date: 24-May-18

Municipality: Mount Albert

North Approach Totals						South Approach Totals						
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds	North/South Total Approaches	Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	5	11	25	41	1	52	8:00:00	6	3	2	11	0
9:00:00	3	8	15	26	0	36	9:00:00	8	2	0	10	0
16:00:00	0	0	0	0	0	0	16:00:00	0	0	0	0	0
17:00:00	6	5	8	19	0	35	17:00:00	5	9	2	16	1
18:00:00	4	1	16	21	0	34	18:00:00	6	7	0	13	0
Totals:	18	25	64	107	1	157		25	21	4	50	1
East Approach Totals						West Approach Totals						
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds	East/West Total Approaches	Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	2	715	5	722	4	1100	8:00:00	9	358	11	378	4
9:00:00	1	635	3	639	1	1059	9:00:00	10	403	7	420	0
16:00:00	0	3	0	3	0	3	16:00:00	0	0	0	0	0
17:00:00	2	389	2	393	2	1172	17:00:00	18	752	9	779	0
18:00:00	2	423	3	428	1	1110	18:00:00	22	654	6	682	0
Totals:	7	2165	13	2185	8	4444		59	2167	33	2259	4
Calculated Values for Traffic Crossing Major Street												
Hours Ending:	0:00	0:00	7:00	8:00			9:00	16:00	17:00	18:00		
Crossing Values:	0	0	0	30			20	0	22	18		

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 2
 Station ID: T14
 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/25/18	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	0	0	0	0	0	0	0	1	0	0	0	3
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
06:00	2	12	1	0	1	0	0	1	0	0	0	0	0	17
07:00	0	19	0	0	1	0	0	1	0	1	0	0	0	22
08:00	1	16	4	1	4	0	0	2	0	0	0	0	0	28
09:00	0	13	1	0	1	0	1	0	0	0	0	0	0	16
10:00	0	14	3	0	4	0	0	0	1	0	0	0	0	22
11:00	0	12	3	1	7	1	0	1	0	0	0	0	0	25
12 PM	0	31	3	1	5	0	0	2	0	0	0	0	0	42
13:00	0	15	2	0	5	0	0	1	0	0	0	0	0	23
14:00	3	25	7	2	5	0	0	2	0	0	0	0	0	44
15:00	0	27	9	1	7	0	0	4	0	0	0	0	0	48
16:00	4	32	8	1	4	0	0	2	0	0	0	0	0	51
17:00	1	32	6	0	7	0	0	3	1	0	0	0	0	50
18:00	1	17	2	0	2	0	0	1	0	0	0	0	0	23
19:00	0	20	2	0	3	0	0	1	0	0	0	0	0	26
20:00	0	19	2	0	1	0	0	0	0	0	0	0	0	22
21:00	0	7	7	0	2	0	0	0	0	0	0	0	0	16
22:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8
23:00	1	4	1	0	1	0	0	0	0	0	0	0	0	7
Day Total	13	328	63	7	60	1	1	21	2	2	0	0	0	498
Percent	2.6%	65.9%	12.7%	1.4%	12.0%	0.2%	0.2%	4.2%	0.4%	0.4%	0.0%	0.0%	0.0%	
AM Peak	06:00	07:00	08:00	08:00	11:00	11:00	09:00	08:00	10:00	04:00				08:00
Vol.	2	19	4	1	7	1	1	2	1	1				28
PM Peak	16:00	16:00	15:00	14:00	15:00			15:00	17:00					16:00
Vol.	4	32	9	2	7			4	1					51

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 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/26/18	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	1	2	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
03:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
06:00	0	1	0	0	2	0	0	0	0	0	0	0	0	3
07:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
08:00	0	10	5	0	3	0	0	0	0	0	0	0	0	18
09:00	1	25	2	0	1	0	0	0	0	0	0	0	0	29
10:00	0	29	4	0	4	0	0	1	0	0	0	0	0	38
11:00	0	20	2	0	7	1	0	1	0	0	0	0	0	31
12 PM	1	20	5	0	2	0	0	1	0	0	0	0	0	29
13:00	2	24	4	0	2	0	0	0	0	0	0	0	0	32
14:00	3	12	2	0	2	0	0	0	0	0	0	0	0	19
15:00	0	22	4	0	5	0	0	0	0	0	0	0	0	31
16:00	0	24	1	0	3	0	0	0	0	0	0	0	0	28
17:00	0	15	3	0	5	0	0	0	0	0	0	0	0	23
18:00	1	12	2	0	0	0	0	0	0	0	0	0	0	15
19:00	0	11	1	0	4	0	0	0	0	0	0	0	0	16
20:00	0	6	1	0	1	0	0	0	0	0	0	0	0	8
21:00	0	5	2	0	2	0	0	0	0	0	0	0	0	9
22:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
23:00	0	6	0	0	1	0	0	0	0	0	0	0	0	7
Day Total	9	259	41	0	47	1	0	3	0	0	0	0	0	360
Percent	2.5%	71.9%	11.4%	0.0%	13.1%	0.3%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	01:00	10:00	08:00		11:00	11:00		10:00						10:00
Vol.	1	29	5		7	1		1						38
PM Peak	14:00	13:00	12:00		15:00			12:00						13:00
Vol.	3	24	5		5			1						32

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Site Code: 2
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 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/28/18	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	0	0	0	0	0	0	0	1	0	0	0	3
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	17	0	0	0	1	0	2	0	0	0	0	0	20
07:00	1	23	2	0	0	0	1	1	0	0	0	0	0	28
08:00	2	13	0	0	1	0	0	2	0	0	0	0	0	18
09:00	0	18	1	0	1	1	0	3	0	0	0	0	0	24
10:00	0	14	2	0	3	0	0	1	0	0	0	0	0	20
11:00	3	9	3	0	4	0	0	5	0	1	0	0	0	25
12 PM	1	12	1	1	2	0	0	2	0	0	0	0	0	19
13:00	0	19	4	1	7	0	0	2	0	0	0	0	0	33
14:00	1	27	4	1	3	0	0	2	0	1	0	0	0	39
15:00	2	23	5	2	5	0	0	0	0	0	0	0	0	37
16:00	0	38	10	1	5	0	0	1	0	0	0	0	0	55
17:00	1	32	3	0	9	0	0	0	0	0	0	0	0	45
18:00	0	13	7	0	3	0	0	0	0	0	0	0	0	23
19:00	0	16	4	0	0	0	0	0	0	0	0	0	0	20
20:00	0	16	2	0	0	0	0	0	0	0	0	0	0	18
21:00	2	3	0	0	1	0	0	0	0	0	0	0	0	6
22:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
23:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
Day Total	13	304	48	6	47	2	1	21	0	3	0	0	0	445
Percent	2.9%	68.3%	10.8%	1.3%	10.6%	0.4%	0.2%	4.7%	0.0%	0.7%	0.0%	0.0%	0.0%	
AM Peak	11:00	07:00	11:00		11:00	06:00	07:00	11:00		04:00				07:00
Vol.	3	23	3		4	1	1	5		1				28
PM Peak	15:00	16:00	16:00	15:00	17:00			12:00		14:00				16:00
Vol.	2	38	10	2	9			2		1				55

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 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/29/18	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	1	0	1	0	0	0	0	0	1	0	0	0	3
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
06:00	1	21	1	0	0	0	0	0	0	0	0	0	0	23
07:00	0	21	1	0	0	0	0	2	0	0	0	0	0	24
08:00	0	9	0	0	0	0	1	0	0	0	0	0	0	10
09:00	0	18	1	0	2	0	0	0	0	0	0	0	0	21
10:00	1	14	0	0	1	0	0	1	0	0	0	0	0	17
11:00	1	14	0	0	1	0	1	0	0	1	0	0	0	18
12 PM	0	25	5	0	2	0	1	1	0	0	0	0	0	34
13:00	0	19	5	0	2	0	0	1	0	1	0	0	0	28
14:00	4	21	4	0	3	1	0	0	0	0	0	0	0	33
15:00	0	31	4	0	6	0	0	5	0	0	0	0	0	46
16:00	0	41	9	1	2	0	0	1	0	1	0	0	0	55
17:00	1	20	5	0	1	0	1	2	0	1	0	0	0	31
18:00	0	18	3	0	2	0	0	0	1	0	0	0	0	24
19:00	0	11	2	0	0	0	0	1	0	0	0	0	0	14
20:00	1	9	2	1	1	0	0	0	0	0	0	0	0	14
21:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
22:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
23:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
Day Total	9	311	43	3	24	1	4	14	1	5	0	0	0	415
Percent	2.2%	74.9%	10.4%	0.7%	5.8%	0.2%	1.0%	3.4%	0.2%	1.2%	0.0%	0.0%	0.0%	
AM Peak	06:00	06:00	06:00	04:00	09:00		08:00	07:00		04:00				07:00
Vol.	1	21	1	1	2		1	2		1				24
PM Peak	14:00	16:00	16:00	16:00	15:00	14:00	12:00	15:00	18:00	13:00				16:00
Vol.	4	41	9	1	6	1	1	5	1	1				55

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 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
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NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/30/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	13	1	0	2	0	0	0	0	0	0	0	0	16
07:00	1	20	2	0	2	0	0	2	0	0	0	0	0	27
08:00	0	15	2	0	0	0	0	0	0	0	0	0	0	17
09:00	0	11	1	0	1	1	0	0	0	0	0	0	0	14
10:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
11:00	0	11	1	0	1	0	0	2	0	0	0	0	0	15
12 PM	1	18	0	0	2	1	0	1	0	0	0	0	0	23
13:00	0	25	3	2	3	0	1	3	0	0	0	0	0	37
14:00	0	28	4	0	1	1	0	0	0	1	0	0	0	35
15:00	1	28	8	0	5	2	0	1	0	0	0	0	0	45
16:00	1	30	7	0	5	1	0	4	0	0	0	0	0	48
17:00	0	37	5	1	6	1	0	3	0	1	0	0	0	54
18:00	1	23	6	0	3	0	0	1	0	0	0	0	0	34
19:00	1	23	0	0	0	0	0	1	0	0	0	0	0	25
20:00	0	13	1	0	3	0	0	0	0	0	0	0	0	17
21:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
22:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
23:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Day Total	6	320	44	3	34	7	1	18	0	2	0	0	0	435
Percent	1.4%	73.6%	10.1%	0.7%	7.8%	1.6%	0.2%	4.1%	0.0%	0.5%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	07:00		06:00	09:00		07:00						07:00
Vol.	1	20	2		2	1		2						27
PM Peak	12:00	17:00	15:00	13:00	17:00	15:00	13:00	16:00		14:00				17:00
Vol.	1	37	8	2	6	2	1	4		1				54

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 McCowan Rd
 Date Start: 25-May-18
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 Date Start: 25-May-18

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/31/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
06:00	1	16	1	0	1	0	0	0	0	0	0	0	0	19
07:00	0	18	2	0	0	0	0	0	0	0	0	0	0	20
08:00	1	11	1	3	1	0	0	2	0	0	0	0	0	19
09:00	1	13	0	0	2	0	0	0	0	0	0	0	0	16
10:00	0	11	1	2	3	0	0	4	0	0	0	0	0	21
11:00	2	15	3	0	4	0	0	3	0	0	0	0	0	27
12 PM	3	15	4	1	2	0	0	2	0	1	0	0	0	28
13:00	0	19	5	2	2	0	0	2	0	0	0	0	0	30
14:00	0	20	5	5	10	0	0	1	0	1	0	0	0	42
15:00	1	37	10	1	7	0	0	1	0	0	0	0	0	57
16:00	4	23	4	1	6	0	0	1	0	0	0	0	0	39
17:00	1	28	5	0	2	0	0	1	0	0	0	0	0	37
18:00	6	27	5	0	7	0	0	0	0	0	0	0	0	45
19:00	1	20	3	0	4	0	0	0	0	0	0	0	0	28
20:00	0	18	1	0	3	0	0	0	0	0	0	0	0	22
21:00	0	11	0	0	3	0	0	0	0	0	0	0	0	14
22:00	0	5	0	0	1	0	0	0	0	0	0	0	0	6
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Day Total	21	310	50	15	58	0	0	17	0	2	0	0	0	473
Percent	4.4%	65.5%	10.6%	3.2%	12.3%	0.0%	0.0%	3.6%	0.0%	0.4%	0.0%	0.0%	0.0%	
AM Peak	11:00	07:00	11:00	08:00	11:00			10:00						11:00
Vol.	2	18	3	3	4			4						27
PM Peak	18:00	15:00	15:00	14:00	14:00			12:00		12:00				15:00
Vol.	6	37	10	5	10			2		1				57
Grand Total	84	2101	331	34	306	12	7	96	3	14	0	0	0	2988
Percent	2.8%	70.3%	11.1%	1.1%	10.2%	0.4%	0.2%	3.2%	0.1%	0.5%	0.0%	0.0%	0.0%	

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 2
 Station ID: T14
 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/25/18	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
05:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
06:00	0	21	3	1	1	0	1	0	1	0	0	0	0	28
07:00	0	23	4	1	3	0	0	0	0	0	0	0	0	31
08:00	0	15	6	1	0	0	0	1	0	0	0	0	0	23
09:00	0	9	3	0	1	0	0	0	0	0	0	0	0	13
10:00	0	8	1	0	3	0	0	0	0	0	0	0	0	12
11:00	1	12	2	0	2	0	0	2	0	0	0	0	0	19
12 PM	1	15	7	1	2	0	0	0	0	0	0	0	0	26
13:00	0	9	2	0	3	0	0	1	0	0	0	0	0	15
14:00	1	16	3	0	1	0	0	0	1	0	0	0	0	22
15:00	1	13	5	1	1	1	0	0	1	1	0	0	0	24
16:00	1	18	2	1	0	0	0	0	0	0	0	0	0	22
17:00	0	9	1	1	3	1	0	1	0	0	0	0	0	16
18:00	0	8	2	2	3	1	0	0	0	0	0	0	0	16
19:00	1	7	1	0	1	0	0	0	0	0	0	0	0	10
20:00	0	14	0	0	1	0	0	1	0	0	0	0	0	16
21:00	0	3	3	0	0	0	0	0	0	0	0	0	0	6
22:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
23:00	1	3	1	0	0	0	0	0	0	0	0	0	0	5
Day Total	7	211	48	9	27	3	1	6	3	1	0	0	0	316
Percent	2.2%	66.8%	15.2%	2.8%	8.5%	0.9%	0.3%	1.9%	0.9%	0.3%	0.0%	0.0%	0.0%	
AM Peak	11:00	07:00	08:00	06:00	07:00		06:00	11:00	06:00					07:00
Vol.	1	23	6	1	3		1	2	1					31
PM Peak	12:00	16:00	12:00	18:00	13:00	15:00		13:00	14:00	15:00				12:00
Vol.	1	18	7	2	3	1		1	1	1				26

Ontario Traffic, Inc.
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Site Code: 2
 Station ID: T14
 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/26/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
07:00	0	4	3	0	0	0	0	1	0	0	0	0	0	8
08:00	0	11	4	0	1	0	0	1	0	0	0	0	0	17
09:00	0	13	2	0	4	0	0	2	0	0	0	0	0	21
10:00	0	19	2	0	2	0	0	0	0	0	0	0	0	23
11:00	0	7	6	0	3	0	0	0	0	0	0	0	0	16
12 PM	0	14	3	0	3	0	0	1	0	0	0	0	0	21
13:00	0	11	3	0	1	0	0	0	0	0	0	0	0	15
14:00	0	10	3	0	1	0	0	0	0	0	0	0	0	14
15:00	1	17	1	0	3	0	0	1	0	0	0	0	0	23
16:00	0	20	1	0	2	0	0	0	0	0	0	0	0	23
17:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
18:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
19:00	0	8	1	0	1	0	0	0	0	0	0	0	0	10
20:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
21:00	0	3	1	0	2	0	0	0	0	0	0	0	0	6
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Day Total	1	166	32	0	24	0	0	6	0	0	0	0	0	229
Percent	0.4%	72.5%	14.0%	0.0%	10.5%	0.0%	0.0%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		10:00	11:00		09:00			09:00						10:00
Vol.		19	6		4			2						23
PM Peak	15:00	16:00	12:00		12:00			12:00						15:00
Vol.	1	20	3		3			1						23

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Site Code: 2
 Station ID: T14
 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/27/18	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
07:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
08:00	1	4	1	0	3	0	0	0	0	0	0	0	0	9
09:00	0	11	4	0	3	0	0	0	0	0	0	0	0	18
10:00	1	10	2	0	2	0	0	0	0	0	0	0	0	15
11:00	0	13	3	0	4	0	0	0	0	0	0	0	0	20
12 PM	1	37	10	2	5	1	0	2	0	0	0	0	0	58
13:00	1	31	9	0	7	0	0	1	1	0	0	0	0	50
14:00	1	16	0	0	1	0	0	0	0	0	0	0	0	18
15:00	2	17	4	0	3	0	0	0	0	0	0	0	0	26
16:00	2	15	1	0	2	0	0	0	0	0	0	0	0	20
17:00	1	10	4	0	2	0	0	0	0	0	0	0	0	17
18:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11
19:00	2	13	0	0	1	0	0	0	0	0	0	0	0	16
20:00	0	5	0	0	1	0	0	0	0	0	0	0	0	6
21:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Day Total	12	217	39	2	35	1	0	3	1	0	0	0	0	310
Percent	3.9%	70.0%	12.6%	0.6%	11.3%	0.3%	0.0%	1.0%	0.3%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	09:00		11:00									11:00
Vol.	1	13	4		4									20
PM Peak	15:00	12:00	12:00	12:00	13:00	12:00		12:00	13:00					12:00
Vol.	2	37	10	2	7	1		2	1					58

Ontario Traffic, Inc.
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Site Code: 2
 Station ID: T14
 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/28/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	2	0	1	0	0	0	0	0	0	0	0	0	3
06:00	1	22	2	1	0	0	0	0	0	0	0	0	0	26
07:00	0	20	4	2	2	2	0	0	0	0	0	0	0	30
08:00	2	11	0	2	2	1	0	0	0	0	0	0	0	18
09:00	0	14	5	1	4	1	0	0	0	0	0	0	0	25
10:00	2	10	1	0	2	1	0	0	0	0	0	0	0	16
11:00	0	7	3	2	1	2	0	0	0	0	0	0	0	15
12 PM	0	7	1	3	1	0	0	0	0	0	0	0	0	12
13:00	0	14	2	2	2	1	0	1	0	0	0	0	0	22
14:00	1	17	5	1	3	1	0	0	0	0	0	0	0	28
15:00	0	16	5	0	1	1	0	0	0	0	0	0	0	23
16:00	0	13	2	0	5	0	0	2	0	0	0	0	0	22
17:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
18:00	0	13	2	0	2	0	0	0	0	0	0	0	0	17
19:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
20:00	0	7	0	0	1	0	0	0	0	0	0	0	0	8
21:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
22:00	1	2	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Day Total	7	198	36	15	26	10	0	3	0	0	0	0	0	295
Percent	2.4%	67.1%	12.2%	5.1%	8.8%	3.4%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	06:00	09:00	07:00	09:00	07:00								07:00
Vol.	2	22	5	2	4	2								30
PM Peak	14:00	14:00	14:00	12:00	16:00	13:00		16:00						14:00
Vol.	1	17	5	3	5	1		2						28

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Site Code: 2
 Station ID: T14
 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/29/18	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
06:00	0	17	4	1	1	0	0	0	0	0	0	0	0	23
07:00	0	26	2	1	1	1	0	3	0	0	0	0	0	34
08:00	0	30	4	1	0	0	0	0	0	0	0	0	0	35
09:00	0	15	5	1	4	0	0	0	0	0	0	0	0	25
10:00	1	15	2	0	3	1	0	1	0	0	0	0	0	23
11:00	0	12	3	4	3	1	0	0	0	0	0	0	0	23
12 PM	0	12	3	0	0	1	0	1	0	0	0	0	0	17
13:00	0	11	3	1	1	0	0	0	0	0	0	0	0	16
14:00	3	8	2	0	1	1	0	0	1	0	0	0	0	16
15:00	0	10	2	0	2	0	0	4	0	0	0	0	0	18
16:00	0	12	2	0	3	1	0	1	0	1	0	0	0	20
17:00	1	11	2	0	3	2	0	3	0	1	0	0	0	23
18:00	0	11	1	0	0	1	0	0	1	0	0	0	0	14
19:00	0	9	2	0	0	0	0	1	0	0	0	0	0	12
20:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
21:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
Day Total	5	229	40	9	22	9	0	14	2	2	0	0	0	332
Percent	1.5%	69.0%	12.0%	2.7%	6.6%	2.7%	0.0%	4.2%	0.6%	0.6%	0.0%	0.0%	0.0%	
AM Peak	10:00	08:00	09:00	11:00	09:00	07:00		07:00						08:00
Vol.	1	30	5	4	4	1		3						35
PM Peak	14:00	12:00	12:00	13:00	16:00	17:00		15:00	14:00	16:00				17:00
Vol.	3	12	3	1	3	2		4	1	1				23

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Site Code: 2
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 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/30/18	0	5	3	0	0	0	0	0	0	0	0	0	0	8
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
06:00	0	18	5	0	1	0	0	0	0	0	0	0	0	24
07:00	3	22	3	0	1	1	0	0	0	0	0	0	0	30
08:00	0	22	6	0	3	0	0	1	0	0	0	0	0	32
09:00	0	13	4	1	2	1	0	1	0	0	0	0	0	22
10:00	2	7	5	2	5	0	0	4	0	0	0	0	0	25
11:00	0	16	2	3	3	0	0	0	0	0	0	0	0	24
12 PM	1	14	5	0	4	1	0	2	0	0	0	0	0	27
13:00	0	10	3	2	1	0	0	0	0	0	0	0	0	16
14:00	0	12	6	0	1	0	0	0	0	0	0	0	0	19
15:00	0	12	4	0	4	1	0	1	0	0	0	0	0	22
16:00	1	11	3	0	2	1	0	0	0	0	0	0	0	18
17:00	0	6	1	1	2	0	1	0	0	1	0	0	0	12
18:00	0	9	2	0	1	0	0	0	0	0	0	0	0	12
19:00	0	9	2	0	0	1	0	0	0	0	0	0	0	12
20:00	0	11	1	0	1	0	0	0	0	0	0	0	0	13
21:00	0	10	1	0	1	0	0	0	0	0	0	0	0	12
22:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Day Total	7	227	57	9	32	6	1	9	0	1	0	0	0	349
Percent	2.0%	65.0%	16.3%	2.6%	9.2%	1.7%	0.3%	2.6%	0.0%	0.3%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	08:00	11:00	10:00	07:00		10:00						08:00
Vol.	3	22	6	3	5	1		4						32
PM Peak	12:00	12:00	14:00	13:00	12:00	12:00	17:00	12:00		17:00				12:00
Vol.	1	14	6	2	4	1	1	2		1				27

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 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
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 Date Start: 25-May-18

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/31/18	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
06:00	0	14	3	0	1	0	0	0	0	0	0	0	0	18
07:00	0	29	6	0	2	0	0	1	1	0	0	0	0	39
08:00	1	17	7	2	4	3	0	0	0	0	0	0	0	34
09:00	0	22	2	0	4	0	0	0	0	0	0	0	0	28
10:00	0	22	2	2	4	0	0	4	0	0	0	0	0	34
11:00	0	8	0	0	4	1	0	1	0	0	0	0	0	14
12 PM	2	12	5	2	1	0	0	0	0	1	0	0	0	23
13:00	0	3	0	2	1	0	0	1	0	0	0	0	0	7
14:00	1	13	4	2	2	1	0	0	0	0	0	0	0	23
15:00	0	12	3	0	6	0	0	1	0	1	0	0	0	23
16:00	0	13	1	0	0	1	0	1	0	0	0	0	0	16
17:00	0	9	1	0	1	0	0	0	0	0	0	0	0	11
18:00	0	14	0	0	5	0	0	0	0	0	0	0	0	19
19:00	0	13	3	0	2	0	0	0	0	0	0	0	0	18
20:00	0	7	2	0	1	0	0	0	0	0	0	0	0	10
21:00	0	5	2	0	1	0	0	0	0	0	0	0	0	8
22:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	4	228	42	10	39	6	0	9	1	2	0	0	0	341
Percent	1.2%	66.9%	12.3%	2.9%	11.4%	1.8%	0.0%	2.6%	0.3%	0.6%	0.0%	0.0%	0.0%	
AM Peak	08:00	07:00	08:00	08:00	08:00	08:00		10:00	07:00					07:00
Vol.	1	29	7	2	4	3		4	1					39
PM Peak	12:00	18:00	12:00	12:00	15:00	14:00		13:00		12:00				12:00
Vol.	2	14	5	2	6	1		1		1				23
Grand Total	43	1476	294	54	205	35	2	50	7	6	0	0	0	2172
Percent	2.0%	68.0%	13.5%	2.5%	9.4%	1.6%	0.1%	2.3%	0.3%	0.3%	0.0%	0.0%	0.0%	

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 2
 Station ID: T14
 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB, SB														
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/25/18	0	1	1	0	0	0	0	0	0	0	0	0	0	2
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	3	0	0	1	0	0	0	0	1	0	0	0	5
05:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
06:00	2	33	4	1	2	0	1	1	1	0	0	0	0	45
07:00	0	42	4	1	4	0	0	1	0	1	0	0	0	53
08:00	1	31	10	2	4	0	0	3	0	0	0	0	0	51
09:00	0	22	4	0	2	0	1	0	0	0	0	0	0	29
10:00	0	22	4	0	7	0	0	0	1	0	0	0	0	34
11:00	1	24	5	1	9	1	0	3	0	0	0	0	0	44
12 PM	1	46	10	2	7	0	0	2	0	0	0	0	0	68
13:00	0	24	4	0	8	0	0	2	0	0	0	0	0	38
14:00	4	41	10	2	6	0	0	2	1	0	0	0	0	66
15:00	1	40	14	2	8	1	0	4	1	1	0	0	0	72
16:00	5	50	10	2	4	0	0	2	0	0	0	0	0	73
17:00	1	41	7	1	10	1	0	4	1	0	0	0	0	66
18:00	1	25	4	2	5	1	0	1	0	0	0	0	0	39
19:00	1	27	3	0	4	0	0	1	0	0	0	0	0	36
20:00	0	33	2	0	2	0	0	1	0	0	0	0	0	38
21:00	0	10	10	0	2	0	0	0	0	0	0	0	0	22
22:00	0	8	2	0	1	0	0	0	0	0	0	0	0	11
23:00	2	7	2	0	1	0	0	0	0	0	0	0	0	12
Day Total	20	539	111	16	87	4	2	27	5	3	0	0	0	814
Percent	2.5%	66.2%	13.6%	2.0%	10.7%	0.5%	0.2%	3.3%	0.6%	0.4%	0.0%	0.0%	0.0%	
AM Peak	06:00	07:00	08:00	08:00	11:00	11:00	06:00	08:00	06:00	04:00				07:00
Vol.	2	42	10	2	9	1	1	3	1	1				53
PM Peak	16:00	16:00	15:00	12:00	17:00	15:00		15:00	14:00	15:00				16:00
Vol.	5	50	14	2	10	1		4	1	1				73

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 2
 Station ID: T14
 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB, SB														
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/26/18	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	1	2	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
03:00	0	1	1	0	1	0	0	0	0	0	0	0	0	3
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
06:00	0	5	0	0	2	0	0	0	0	0	0	0	0	7
07:00	0	13	4	0	0	0	0	1	0	0	0	0	0	18
08:00	0	21	9	0	4	0	0	1	0	0	0	0	0	35
09:00	1	38	4	0	5	0	0	2	0	0	0	0	0	50
10:00	0	48	6	0	6	0	0	1	0	0	0	0	0	61
11:00	0	27	8	0	10	1	0	1	0	0	0	0	0	47
12 PM	1	34	8	0	5	0	0	2	0	0	0	0	0	50
13:00	2	35	7	0	3	0	0	0	0	0	0	0	0	47
14:00	3	22	5	0	3	0	0	0	0	0	0	0	0	33
15:00	1	39	5	0	8	0	0	1	0	0	0	0	0	54
16:00	0	44	2	0	5	0	0	0	0	0	0	0	0	51
17:00	0	23	3	0	6	0	0	0	0	0	0	0	0	32
18:00	1	20	3	0	0	0	0	0	0	0	0	0	0	24
19:00	0	19	2	0	5	0	0	0	0	0	0	0	0	26
20:00	0	11	1	0	1	0	0	0	0	0	0	0	0	13
21:00	0	8	3	0	4	0	0	0	0	0	0	0	0	15
22:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
23:00	0	7	0	0	1	0	0	0	0	0	0	0	0	8
Day Total	10	425	73	0	71	1	0	9	0	0	0	0	0	589
Percent	1.7%	72.2%	12.4%	0.0%	12.1%	0.2%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	01:00	10:00	08:00		11:00	11:00		09:00						10:00
Vol.	1	48	9		10	1		2						61
PM Peak	14:00	16:00	12:00		15:00			12:00						15:00
Vol.	3	44	8		8			2						54

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 2
 Station ID: T14
 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB, SB														
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/27/18	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	3	0	0	2	0	0	0	0	0	0	0	0	5
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	6	0	0	1	0	0	0	0	0	0	0	0	7
07:00	0	16	2	0	0	0	0	0	0	0	0	0	0	18
08:00	1	14	3	0	5	0	0	0	0	0	0	0	0	23
09:00	2	28	9	0	7	0	0	1	0	0	0	0	0	47
10:00	1	19	5	0	4	0	0	0	0	0	0	0	0	29
11:00	1	32	6	0	11	0	0	1	0	0	0	0	0	51
12 PM	3	55	10	2	7	1	0	2	0	0	0	0	0	80
13:00	2	57	13	0	10	0	0	1	1	0	0	0	0	84
14:00	2	37	8	0	7	0	0	0	0	0	0	0	0	54
15:00	5	53	10	0	5	0	0	0	0	0	0	0	0	73
16:00	3	43	5	0	6	0	0	0	0	0	0	0	0	57
17:00	1	33	4	0	2	0	0	0	0	0	0	0	0	40
18:00	1	24	2	0	0	0	0	0	0	0	0	0	0	27
19:00	2	27	1	0	1	0	0	0	0	0	0	0	0	31
20:00	0	15	1	0	3	0	0	0	0	0	0	0	0	19
21:00	1	10	2	0	0	0	0	0	0	0	0	0	0	13
22:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
23:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
Day Total	25	486	81	2	71	1	0	5	1	0	0	0	0	672
Percent	3.7%	72.3%	12.1%	0.3%	10.6%	0.1%	0.0%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	09:00		11:00			09:00						11:00
Vol.	2	32	9		11			1						51
PM Peak	15:00	13:00	13:00	12:00	13:00	12:00		12:00	13:00					13:00
Vol.	5	57	13	2	10	1		2	1					84

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
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 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 2
 Station ID: T14
 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB, SB														
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/28/18	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	4	0	0	0	0	0	0	0	1	0	0	0	5
05:00	0	4	0	1	0	0	0	0	0	0	0	0	0	5
06:00	1	39	2	1	0	1	0	2	0	0	0	0	0	46
07:00	1	43	6	2	2	2	1	1	0	0	0	0	0	58
08:00	4	24	0	2	3	1	0	2	0	0	0	0	0	36
09:00	0	32	6	1	5	2	0	3	0	0	0	0	0	49
10:00	2	24	3	0	5	1	0	1	0	0	0	0	0	36
11:00	3	16	6	2	5	2	0	5	0	1	0	0	0	40
12 PM	1	19	2	4	3	0	0	2	0	0	0	0	0	31
13:00	0	33	6	3	9	1	0	3	0	0	0	0	0	55
14:00	2	44	9	2	6	1	0	2	0	1	0	0	0	67
15:00	2	39	10	2	6	1	0	0	0	0	0	0	0	60
16:00	0	51	12	1	10	0	0	3	0	0	0	0	0	77
17:00	1	40	4	0	9	0	0	0	0	0	0	0	0	54
18:00	0	26	9	0	5	0	0	0	0	0	0	0	0	40
19:00	0	24	6	0	0	0	0	0	0	0	0	0	0	30
20:00	0	23	2	0	1	0	0	0	0	0	0	0	0	26
21:00	2	6	1	0	1	0	0	0	0	0	0	0	0	10
22:00	1	5	0	0	1	0	0	0	0	0	0	0	0	7
23:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
Day Total	20	502	84	21	73	12	1	24	0	3	0	0	0	740
Percent	2.7%	67.8%	11.4%	2.8%	9.9%	1.6%	0.1%	3.2%	0.0%	0.4%	0.0%	0.0%	0.0%	
AM Peak	08:00	07:00	07:00	07:00	09:00	07:00	07:00	11:00		04:00				07:00
Vol.	4	43	6	2	5	2	1	5		1				58
PM Peak	14:00	16:00	16:00	12:00	16:00	13:00		13:00		14:00				16:00
Vol.	2	51	12	4	10	1		3		1				77

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
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 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 2
 Station ID: T14
 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB, SB														
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/29/18	0	1	1	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	2	0	1	0	0	0	0	0	1	0	0	0	4
05:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
06:00	1	38	5	1	1	0	0	0	0	0	0	0	0	46
07:00	0	47	3	1	1	1	0	5	0	0	0	0	0	58
08:00	0	39	4	1	0	0	1	0	0	0	0	0	0	45
09:00	0	33	6	1	6	0	0	0	0	0	0	0	0	46
10:00	2	29	2	0	4	1	0	2	0	0	0	0	0	40
11:00	1	26	3	4	4	1	1	0	0	1	0	0	0	41
12 PM	0	37	8	0	2	1	1	2	0	0	0	0	0	51
13:00	0	30	8	1	3	0	0	1	0	1	0	0	0	44
14:00	7	29	6	0	4	2	0	0	1	0	0	0	0	49
15:00	0	41	6	0	8	0	0	9	0	0	0	0	0	64
16:00	0	53	11	1	5	1	0	2	0	2	0	0	0	75
17:00	2	31	7	0	4	2	1	5	0	2	0	0	0	54
18:00	0	29	4	0	2	1	0	0	2	0	0	0	0	38
19:00	0	20	4	0	0	0	0	2	0	0	0	0	0	26
20:00	1	15	3	1	1	0	0	0	0	0	0	0	0	21
21:00	0	12	2	0	0	0	0	0	0	0	0	0	0	14
22:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
23:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
Day Total	14	540	83	12	46	10	4	28	3	7	0	0	0	747
Percent	1.9%	72.3%	11.1%	1.6%	6.2%	1.3%	0.5%	3.7%	0.4%	0.9%	0.0%	0.0%	0.0%	
AM Peak	10:00	07:00	09:00	11:00	09:00	07:00	08:00	07:00		04:00				07:00
Vol.	2	47	6	4	6	1	1	5		1				58
PM Peak	14:00	16:00	16:00	13:00	15:00	14:00	12:00	15:00	18:00	16:00				16:00
Vol.	7	53	11	1	8	2	1	9	2	2				75

Ontario Traffic, Inc.
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 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 2
 Station ID: T14
 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB, SB														
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/30/18	0	5	3	0	0	0	0	0	0	0	0	0	0	8
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
05:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
06:00	0	31	6	0	3	0	0	0	0	0	0	0	0	40
07:00	4	42	5	0	3	1	0	2	0	0	0	0	0	57
08:00	0	37	8	0	3	0	0	1	0	0	0	0	0	49
09:00	0	24	5	1	3	2	0	1	0	0	0	0	0	36
10:00	2	17	5	2	5	0	0	4	0	0	0	0	0	35
11:00	0	27	3	3	4	0	0	2	0	0	0	0	0	39
12 PM	2	32	5	0	6	2	0	3	0	0	0	0	0	50
13:00	0	35	6	4	4	0	1	3	0	0	0	0	0	53
14:00	0	40	10	0	2	1	0	0	0	1	0	0	0	54
15:00	1	40	12	0	9	3	0	2	0	0	0	0	0	67
16:00	2	41	10	0	7	2	0	4	0	0	0	0	0	66
17:00	0	43	6	2	8	1	1	3	0	2	0	0	0	66
18:00	1	32	8	0	4	0	0	1	0	0	0	0	0	46
19:00	1	32	2	0	0	1	0	1	0	0	0	0	0	37
20:00	0	24	2	0	4	0	0	0	0	0	0	0	0	30
21:00	0	17	2	0	1	0	0	0	0	0	0	0	0	20
22:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
23:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
Day Total	13	547	101	12	66	13	2	27	0	3	0	0	0	784
Percent	1.7%	69.8%	12.9%	1.5%	8.4%	1.7%	0.3%	3.4%	0.0%	0.4%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	08:00	11:00	10:00	09:00		10:00						07:00
Vol.	4	42	8	3	5	2		4						57
PM Peak	12:00	17:00	15:00	13:00	15:00	15:00	13:00	16:00		17:00				15:00
Vol.	2	43	12	4	9	3	1	4		2				67

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 2
 Station ID: T14
 McCowan Rd immediately north of 18725
 McCowan Rd
 Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB, SB														
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/31/18	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
06:00	1	30	4	0	2	0	0	0	0	0	0	0	0	37
07:00	0	47	8	0	2	0	0	1	1	0	0	0	0	59
08:00	2	28	8	5	5	3	0	2	0	0	0	0	0	53
09:00	1	35	2	0	6	0	0	0	0	0	0	0	0	44
10:00	0	33	3	4	7	0	0	8	0	0	0	0	0	55
11:00	2	23	3	0	8	1	0	4	0	0	0	0	0	41
12 PM	5	27	9	3	3	0	0	2	0	2	0	0	0	51
13:00	0	22	5	4	3	0	0	3	0	0	0	0	0	37
14:00	1	33	9	7	12	1	0	1	0	1	0	0	0	65
15:00	1	49	13	1	13	0	0	2	0	1	0	0	0	80
16:00	4	36	5	1	6	1	0	2	0	0	0	0	0	55
17:00	1	37	6	0	3	0	0	1	0	0	0	0	0	48
18:00	6	41	5	0	12	0	0	0	0	0	0	0	0	64
19:00	1	33	6	0	6	0	0	0	0	0	0	0	0	46
20:00	0	25	3	0	4	0	0	0	0	0	0	0	0	32
21:00	0	16	2	0	4	0	0	0	0	0	0	0	0	22
22:00	0	6	1	0	1	0	0	0	0	0	0	0	0	8
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Day Total	25	538	92	25	97	6	0	26	1	4	0	0	0	814
Percent	3.1%	66.1%	11.3%	3.1%	11.9%	0.7%	0.0%	3.2%	0.1%	0.5%	0.0%	0.0%	0.0%	
AM Peak	08:00	07:00	07:00	08:00	11:00	08:00		10:00	07:00					07:00
Vol.	2	47	8	5	8	3		8	1					59
PM Peak	18:00	15:00	15:00	14:00	15:00	14:00		13:00		12:00				15:00
Vol.	6	49	13	7	13	1		3		2				80
Grand Total	127	3577	625	88	511	47	9	146	10	20	0	0	0	5160
Percent	2.5%	69.3%	12.1%	1.7%	9.9%	0.9%	0.2%	2.8%	0.2%	0.4%	0.0%	0.0%	0.0%	

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
 Station ID: T1
 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/25/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
06:00	0	2	5	0	1	1	0	1	0	0	0	0	0	10
07:00	0	3	1	1	1	0	0	0	1	0	0	0	0	7
08:00	0	8	4	2	3	0	0	0	0	0	0	0	0	17
09:00	0	7	0	0	1	0	1	1	0	0	0	0	0	10
10:00	0	10	4	0	1	0	0	0	1	0	0	0	0	16
11:00	0	7	6	2	5	1	0	1	0	0	0	0	0	22
12 PM	0	21	0	0	7	0	0	1	0	0	0	0	0	29
13:00	0	8	4	0	3	0	0	0	0	0	0	0	0	15
14:00	2	16	6	1	4	0	0	2	0	0	0	0	0	31
15:00	0	19	11	3	5	0	0	1	0	0	0	0	0	39
16:00	3	28	5	1	2	0	0	1	0	0	0	0	0	40
17:00	0	29	9	0	2	0	0	0	0	0	0	0	0	40
18:00	0	10	2	0	2	0	0	1	0	0	0	0	0	15
19:00	0	19	2	0	2	0	0	1	0	0	0	0	0	24
20:00	1	12	2	0	1	0	0	0	0	0	0	0	0	16
21:00	0	8	6	0	1	0	0	0	0	0	0	0	0	15
22:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
23:00	1	2	0	0	0	0	0	0	0	0	0	0	0	3
Day Total	7	220	69	10	41	2	1	10	2	0	0	0	0	362
Percent	1.9%	60.8%	19.1%	2.8%	11.3%	0.6%	0.3%	2.8%	0.6%	0.0%	0.0%	0.0%	0.0%	
AM Peak		10:00	11:00	08:00	11:00	06:00	09:00	06:00	07:00					11:00
Vol.		10	6	2	5	1	1	1	1					22
PM Peak	16:00	17:00	15:00	15:00	12:00			14:00						16:00
Vol.	3	29	11	3	7			2						40

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
 Station ID: T1
 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/26/18	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	1	3	0	0	0	0	0	0	0	0	0	0	0	4
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	2	0	1	0	0	0	0	0	0	0	0	3
07:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
08:00	1	9	4	0	2	0	0	0	0	0	0	0	0	16
09:00	0	17	1	0	0	0	0	0	0	0	0	0	0	18
10:00	0	10	5	0	4	0	0	2	0	0	0	0	0	21
11:00	0	16	3	0	4	1	0	1	0	0	0	0	0	25
12 PM	1	16	1	0	5	1	0	1	0	0	0	0	0	25
13:00	2	15	5	0	1	0	0	0	0	0	0	0	0	23
14:00	3	7	3	0	1	0	0	0	0	0	0	0	0	14
15:00	0	9	6	0	2	0	0	0	0	0	0	0	0	17
16:00	0	10	3	0	2	0	0	0	0	0	0	0	0	15
17:00	0	11	1	0	4	0	0	0	0	0	0	0	0	16
18:00	0	7	3	0	1	0	0	0	0	0	0	0	0	11
19:00	0	6	1	0	3	0	0	0	0	0	0	0	0	10
20:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
21:00	0	2	3	0	2	0	0	0	0	0	0	0	0	7
22:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
23:00	0	5	0	0	1	0	0	0	0	0	0	0	0	6
Day Total	8	160	44	0	34	2	0	4	0	0	0	0	0	252
Percent	3.2%	63.5%	17.5%	0.0%	13.5%	0.8%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	01:00	09:00	10:00		10:00	11:00		10:00						11:00
Vol.	1	17	5		4	1		2						25
PM Peak	14:00	12:00	15:00		12:00	12:00		12:00						12:00
Vol.	3	16	6		5	1		1						25

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
 Station ID: T1
 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/28/18	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
06:00	0	3	1	0	0	1	0	0	0	0	0	0	0	5
07:00	0	7	2	1	2	0	0	1	0	0	0	0	0	13
08:00	0	4	1	0	1	2	0	14	0	0	0	0	0	22
09:00	0	6	1	1	1	0	0	4	1	0	0	0	0	14
10:00	0	8	1	0	2	1	0	0	0	0	0	0	0	12
11:00	2	5	3	0	3	2	0	1	0	0	0	0	0	16
12 PM	1	7	1	0	3	2	0	1	0	0	0	0	0	15
13:00	0	11	5	1	5	1	0	1	0	0	0	0	0	24
14:00	1	13	4	2	1	0	0	1	0	0	0	0	0	22
15:00	2	21	2	1	6	1	0	1	0	0	0	0	0	34
16:00	0	30	10	1	3	1	0	0	0	0	0	0	0	45
17:00	1	23	3	0	7	0	0	0	0	0	0	0	0	34
18:00	0	13	3	0	3	0	0	0	0	0	0	0	0	19
19:00	0	10	3	0	0	0	0	0	0	0	0	0	0	13
20:00	1	12	1	0	1	0	0	0	0	0	0	0	0	15
21:00	1	3	0	0	1	0	0	0	0	0	0	0	0	5
22:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
23:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
Day Total	9	182	42	7	42	11	0	24	1	0	0	0	0	318
Percent	2.8%	57.2%	13.2%	2.2%	13.2%	3.5%	0.0%	7.5%	0.3%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	10:00	11:00	07:00	11:00	08:00		08:00	09:00					08:00
Vol.	2	8	3	1	3	2		14	1					22
PM Peak	15:00	16:00	16:00	14:00	17:00	12:00		12:00						16:00
Vol.	2	30	10	2	7	2		1						45

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
 Station ID: T1
 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/29/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
06:00	0	6	1	1	0	0	0	0	0	0	0	0	0	8
07:00	0	5	1	0	1	2	0	1	0	0	0	0	0	10
08:00	0	7	1	3	3	3	0	0	0	0	0	0	0	17
09:00	0	6	0	1	1	2	0	0	0	0	0	0	0	10
10:00	0	8	0	2	2	2	0	2	0	0	0	0	0	16
11:00	1	10	3	1	3	2	0	0	0	0	0	0	0	20
12 PM	1	16	0	0	4	4	0	0	0	0	0	0	0	25
13:00	0	12	4	2	3	1	0	0	0	0	0	0	0	22
14:00	1	15	4	3	6	1	0	0	0	0	0	0	0	30
15:00	0	19	7	3	2	2	0	0	0	0	0	0	0	33
16:00	0	26	4	1	3	2	0	7	0	0	0	0	0	43
17:00	0	33	7	1	2	0	0	0	0	0	0	0	0	43
18:00	1	18	10	0	2	0	0	0	0	0	0	0	0	31
19:00	1	10	3	0	4	0	0	0	0	0	0	0	0	18
20:00	0	8	2	0	3	0	0	0	0	0	0	0	0	13
21:00	0	4	0	0	2	0	0	0	0	0	0	0	0	6
22:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
23:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
Day Total	5	214	48	18	42	21	0	10	0	0	0	0	0	358
Percent	1.4%	59.8%	13.4%	5.0%	11.7%	5.9%	0.0%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	08:00	08:00	08:00		10:00						11:00
Vol.	1	10	3	3	3	3		2						20
PM Peak	12:00	17:00	18:00	14:00	14:00	12:00		16:00						16:00
Vol.	1	33	10	3	6	4		7						43

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
 Station ID: T1
 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/30/18	0	4	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
06:00	0	3	2	0	0	0	0	1	0	0	0	0	0	6
07:00	0	6	0	1	1	1	0	4	0	0	0	0	0	13
08:00	0	8	2	1	1	0	0	1	0	0	0	0	0	13
09:00	1	7	2	0	3	0	0	0	0	0	0	0	0	13
10:00	0	10	4	1	6	0	0	1	0	0	0	0	0	22
11:00	1	9	3	0	1	0	0	0	0	0	0	0	0	14
12 PM	0	10	6	0	3	0	0	0	0	0	0	0	0	19
13:00	0	10	2	0	2	2	0	0	0	0	0	0	0	16
14:00	1	11	2	0	5	0	0	0	0	0	0	0	0	19
15:00	0	14	8	1	2	0	0	1	0	0	0	0	0	26
16:00	1	30	8	1	4	0	0	0	0	0	0	0	0	44
17:00	0	26	8	0	10	0	0	0	0	0	0	0	0	44
18:00	0	19	8	0	6	0	0	0	0	0	0	0	0	33
19:00	2	6	6	0	0	0	0	1	0	0	0	0	0	15
20:00	0	8	1	0	1	0	0	0	0	0	0	0	0	10
21:00	3	11	1	0	3	0	0	0	0	0	0	0	0	18
22:00	0	4	0	0	1	0	0	0	0	0	0	0	0	5
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	9	200	64	5	49	3	0	9	0	0	0	0	0	339
Percent	2.7%	59.0%	18.9%	1.5%	14.5%	0.9%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	10:00	10:00	07:00	10:00	07:00		07:00						10:00
Vol.	1	10	4	1	6	1		4						22
PM Peak	21:00	16:00	15:00	15:00	17:00	13:00		15:00						16:00
Vol.	3	30	8	1	10	2		1						44

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
 Station ID: T1
 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/31/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
06:00	0	3	1	0	1	1	0	1	0	0	0	0	0	7
07:00	1	5	7	0	1	1	0	0	0	0	0	0	0	15
08:00	0	4	1	0	0	1	0	1	0	0	0	0	0	7
09:00	1	8	2	0	1	0	0	1	0	0	0	0	0	13
10:00	0	8	2	0	4	0	0	1	0	0	0	0	0	15
11:00	0	14	1	1	3	1	0	1	0	0	0	0	0	21
12 PM	0	15	6	3	3	0	0	1	0	0	0	0	0	28
13:00	0	8	3	1	1	1	0	0	0	0	0	0	0	14
14:00	1	11	6	2	2	1	0	1	0	0	0	0	0	24
15:00	0	22	7	1	1	0	0	0	0	0	0	0	0	31
16:00	0	19	11	1	4	0	0	2	0	0	0	0	0	37
17:00	0	19	6	0	3	0	0	1	0	0	0	0	0	29
18:00	1	14	6	0	2	0	0	1	0	0	0	0	0	24
19:00	0	9	4	0	1	0	0	0	0	0	0	0	0	14
20:00	0	14	3	0	2	0	0	0	0	0	0	0	0	19
21:00	0	9	1	0	1	0	0	0	0	0	0	0	0	11
22:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
23:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
Day Total	4	192	71	9	31	6	0	11	0	0	0	0	0	324
Percent	1.2%	59.3%	21.9%	2.8%	9.6%	1.9%	0.0%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	11:00	07:00	11:00	10:00	06:00		06:00						11:00
Vol.	1	14	7	1	4	1		1						21
PM Peak	14:00	15:00	16:00	12:00	16:00	13:00		16:00						16:00
Vol.	1	22	11	3	4	1		2						37
Grand Total	49	1339	376	49	269	45	1	69	3	0	0	0	0	2200
Percent	2.2%	60.9%	17.1%	2.2%	12.2%	2.0%	0.0%	3.1%	0.1%	0.0%	0.0%	0.0%	0.0%	

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
 Station ID: T1
 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/25/18	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
06:00	0	8	4	1	2	1	0	0	0	3	0	0	0	19
07:00	0	25	5	3	5	2	0	0	0	0	0	0	0	40
08:00	0	14	7	2	0	0	0	0	0	0	0	0	0	23
09:00	0	8	7	2	0	1	0	1	0	0	0	0	0	19
10:00	0	6	3	0	4	0	0	0	0	0	0	0	0	13
11:00	1	12	2	1	1	0	0	2	0	0	0	0	0	19
12 PM	1	12	5	0	5	0	0	2	0	0	0	0	0	25
13:00	0	8	2	0	3	0	0	0	0	0	0	0	0	13
14:00	1	7	5	0	3	0	0	2	0	0	0	0	0	18
15:00	1	8	4	0	4	0	0	0	0	0	0	0	0	17
16:00	1	19	4	1	3	1	0	0	0	0	0	0	0	29
17:00	0	8	1	0	3	0	0	1	0	0	0	0	0	13
18:00	0	7	4	1	3	0	0	0	1	0	0	0	0	16
19:00	1	5	1	0	2	0	0	0	0	0	0	0	0	9
20:00	0	14	1	0	1	0	0	1	0	0	0	0	0	17
21:00	0	2	3	0	0	0	0	0	0	0	0	0	0	5
22:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
23:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
Day Total	6	174	62	11	40	5	0	9	1	3	0	0	0	311
Percent	1.9%	55.9%	19.9%	3.5%	12.9%	1.6%	0.0%	2.9%	0.3%	1.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	07:00	08:00	07:00	07:00	07:00		11:00		06:00				07:00
Vol.	1	25	7	3	5	2		2		3				40
PM Peak	12:00	16:00	12:00	16:00	12:00	16:00		12:00	18:00					16:00
Vol.	1	19	5	1	5	1		2	1					29

Ontario Traffic, Inc.
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 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
 Station ID: T1
 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/26/18	2	2	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
07:00	0	5	3	0	0	0	0	1	0	0	0	0	0	9
08:00	1	10	3	0	2	0	0	1	0	0	0	0	0	17
09:00	0	16	2	0	4	0	0	3	0	0	0	0	0	25
10:00	0	15	4	0	4	0	0	0	0	0	0	0	0	23
11:00	0	6	5	0	1	0	0	0	0	0	0	0	0	12
12 PM	1	13	5	0	7	0	0	1	0	0	0	0	0	27
13:00	0	7	1	0	4	0	0	0	0	0	0	0	0	12
14:00	0	10	3	0	1	0	0	0	0	0	0	0	0	14
15:00	1	12	4	0	3	0	0	0	0	0	0	0	0	20
16:00	0	18	1	0	4	0	0	0	0	0	0	0	0	23
17:00	0	6	2	0	2	1	0	0	0	0	0	0	0	11
18:00	0	7	0	0	3	0	0	0	0	0	0	0	0	10
19:00	0	6	2	0	2	0	0	0	0	0	0	0	0	10
20:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
21:00	0	2	2	0	2	0	0	0	0	0	0	0	0	6
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Day Total	5	150	40	0	39	1	0	6	0	0	0	0	0	241
Percent	2.1%	62.2%	16.6%	0.0%	16.2%	0.4%	0.0%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	00:00	09:00	11:00		09:00			09:00						09:00
Vol.	2	16	5		4			3						25
PM Peak	12:00	16:00	12:00		12:00	17:00		12:00						12:00
Vol.	1	18	5		7	1		1						27

Ontario Traffic, Inc.
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 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
 Station ID: T1
 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/27/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
07:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
08:00	1	3	2	0	4	0	0	0	0	0	0	0	0	10
09:00	0	8	5	0	5	0	0	1	0	0	0	0	0	19
10:00	0	8	3	0	2	0	0	0	0	0	0	0	0	13
11:00	0	10	3	0	5	0	0	0	0	0	0	0	0	18
12 PM	0	41	7	0	5	0	0	1	0	0	0	0	0	54
13:00	0	27	6	0	5	0	0	0	0	0	0	0	0	38
14:00	0	20	3	0	0	0	0	0	0	0	0	0	0	23
15:00	0	14	6	0	4	0	0	0	0	0	0	0	0	24
16:00	2	12	1	0	1	0	0	0	0	0	0	0	0	16
17:00	1	9	6	0	2	0	0	0	0	0	0	0	0	18
18:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11
19:00	1	12	0	0	1	0	0	0	0	0	0	0	0	14
20:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
21:00	0	6	3	0	0	0	0	0	0	0	0	0	0	9
22:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Day Total	5	203	46	0	36	0	0	2	0	0	0	0	0	292
Percent	1.7%	69.5%	15.8%	0.0%	12.3%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	09:00		09:00			09:00						09:00
Vol.	1	10	5		5			1						19
PM Peak	16:00	12:00	12:00		12:00			12:00						12:00
Vol.	2	41	7		5			1						54

Ontario Traffic, Inc.
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 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
 Station ID: T1
 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/28/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	3	0	1	0	1	0	0	0	0	0	0	0	5
06:00	1	11	3	0	4	0	0	2	0	1	0	0	0	22
07:00	1	22	3	2	8	0	0	1	0	1	0	0	0	38
08:00	0	15	1	12	2	0	0	0	0	0	0	0	0	30
09:00	0	10	7	8	4	0	0	1	0	0	0	0	0	30
10:00	1	9	2	0	4	0	0	1	1	0	0	0	0	18
11:00	0	6	3	0	2	1	0	1	0	0	0	0	0	13
12 PM	0	7	1	1	0	0	0	2	0	0	0	0	0	11
13:00	0	9	5	1	3	0	0	1	0	0	0	0	0	19
14:00	1	9	6	2	3	0	0	1	0	0	0	0	0	22
15:00	1	12	3	2	1	0	0	1	0	0	0	0	0	20
16:00	0	11	4	0	5	0	0	3	0	0	0	0	0	23
17:00	0	8	2	0	2	0	0	0	0	0	0	0	0	12
18:00	0	7	2	0	3	0	0	0	0	0	0	0	0	12
19:00	0	6	3	0	1	0	0	0	0	0	0	0	0	10
20:00	0	6	1	0	1	0	0	0	0	0	0	0	0	8
21:00	0	1	2	0	1	0	0	0	0	0	0	0	0	4
22:00	1	1	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Day Total	6	156	48	29	44	2	0	14	1	2	0	0	0	302
Percent	2.0%	51.7%	15.9%	9.6%	14.6%	0.7%	0.0%	4.6%	0.3%	0.7%	0.0%	0.0%	0.0%	
AM Peak	06:00	07:00	09:00	08:00	07:00	05:00		06:00	10:00	06:00				07:00
Vol.	1	22	7	12	8	1		2	1	1				38
PM Peak	14:00	15:00	14:00	14:00	16:00			16:00						16:00
Vol.	1	12	6	2	5			3						23

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Site Code: 1
 Station ID: T1
 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/29/18	0	1	1	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	6	1	0	2	1	0	0	0	0	0	0	0	10
06:00	0	13	6	0	1	1	0	3	0	0	0	0	0	24
07:00	0	21	4	1	3	0	0	4	0	0	0	0	0	33
08:00	0	10	3	4	4	0	0	3	0	0	0	0	0	24
09:00	1	20	4	1	5	0	0	5	0	0	0	0	0	36
10:00	0	6	4	1	2	0	0	2	0	0	0	0	0	15
11:00	0	9	3	1	7	0	0	4	0	0	0	0	0	24
12 PM	0	7	2	0	1	1	0	2	0	0	0	0	0	13
13:00	1	6	1	0	1	0	0	2	0	0	0	0	0	11
14:00	0	12	2	0	1	0	0	4	0	0	0	0	0	19
15:00	0	7	0	0	4	0	0	2	0	0	0	0	0	13
16:00	0	14	5	7	0	1	0	2	0	0	0	0	0	29
17:00	0	17	0	0	1	0	0	0	0	0	0	0	0	18
18:00	0	10	3	0	2	0	0	0	0	0	0	0	0	15
19:00	0	9	0	0	2	0	0	0	0	0	0	0	0	11
20:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
21:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Day Total	2	181	41	15	37	4	0	33	0	0	0	0	0	313
Percent	0.6%	57.8%	13.1%	4.8%	11.8%	1.3%	0.0%	10.5%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	07:00	06:00	08:00	11:00	05:00		09:00						09:00
Vol.	1	21	6	4	7	1		5						36
PM Peak	13:00	17:00	16:00	16:00	15:00	12:00		14:00						16:00
Vol.	1	17	5	7	4	1		4						29

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Site Code: 1
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 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/30/18	0	1	1	0	0	0	0	1	0	0	0	0	0	3
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	1	0	1	0	0	0	0	0	0	0	0	3
05:00	0	7	0	0	1	0	0	0	0	0	0	0	0	8
06:00	0	10	4	0	4	0	0	1	1	0	0	0	0	20
07:00	0	26	5	1	6	0	0	4	0	0	0	0	0	42
08:00	0	24	4	2	0	1	0	3	0	0	0	0	0	34
09:00	0	15	8	2	1	0	0	0	0	0	0	0	0	26
10:00	2	17	1	0	5	0	0	1	0	0	0	0	0	26
11:00	0	10	5	0	4	1	0	1	0	0	0	0	0	21
12 PM	1	6	2	0	3	0	0	1	0	0	0	0	0	13
13:00	0	10	4	0	3	1	0	1	0	0	0	0	0	19
14:00	1	13	6	0	1	0	0	1	0	0	0	0	0	22
15:00	0	15	4	2	4	1	0	0	1	0	0	0	0	27
16:00	0	7	5	0	2	0	0	0	1	0	0	0	0	15
17:00	0	13	4	0	4	0	0	1	0	0	0	0	0	22
18:00	1	10	0	0	5	0	0	0	0	0	0	0	0	16
19:00	0	6	4	0	1	0	0	0	0	0	0	0	0	11
20:00	0	7	1	0	2	0	0	0	0	0	0	0	0	10
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Day Total	5	206	59	7	47	4	0	15	3	0	0	0	0	346
Percent	1.4%	59.5%	17.1%	2.0%	13.6%	1.2%	0.0%	4.3%	0.9%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	07:00	09:00	08:00	07:00	08:00		07:00	06:00					07:00
Vol.	2	26	8	2	6	1		4	1					42
PM Peak	12:00	15:00	14:00	15:00	18:00	13:00		12:00	15:00					15:00
Vol.	1	15	6	2	5	1		1	1					27

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 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
 Station ID: T1
 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/31/18	0	1	1	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
06:00	0	11	2	1	2	0	0	0	0	0	0	0	0	16
07:00	1	18	6	1	4	0	0	1	0	0	0	0	0	31
08:00	0	10	2	2	3	0	0	3	0	0	0	0	0	20
09:00	0	8	3	0	4	1	0	1	0	0	0	0	0	17
10:00	0	7	5	1	5	0	0	1	0	0	0	0	0	19
11:00	0	6	3	0	3	0	0	1	0	0	0	0	0	13
12 PM	0	6	6	1	5	1	0	2	0	0	0	0	0	21
13:00	0	13	6	0	5	0	0	1	0	0	0	0	0	25
14:00	0	7	2	0	3	1	0	2	0	0	0	0	0	15
15:00	0	8	4	0	2	0	0	1	0	1	0	0	0	16
16:00	0	11	5	2	6	0	0	0	0	0	0	0	0	24
17:00	0	12	4	0	2	0	0	0	0	0	0	0	0	18
18:00	0	8	1	0	2	0	0	0	0	0	0	0	0	11
19:00	0	6	5	0	0	0	0	1	0	0	0	0	0	12
20:00	0	5	3	0	3	0	0	0	0	0	0	0	0	11
21:00	1	3	3	0	1	0	0	0	0	0	0	0	0	8
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Day Total	2	151	61	8	50	3	0	14	0	1	0	0	0	290
Percent	0.7%	52.1%	21.0%	2.8%	17.2%	1.0%	0.0%	4.8%	0.0%	0.3%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	07:00	08:00	10:00	09:00		08:00						07:00
Vol.	1	18	6	2	5	1		3						31
PM Peak	21:00	13:00	12:00	16:00	16:00	12:00		12:00		15:00				13:00
Vol.	1	13	6	2	6	1		2		1				25
Grand Total	31	1221	357	70	293	19	0	93	5	6	0	0	0	2095
Percent	1.5%	58.3%	17.0%	3.3%	14.0%	0.9%	0.0%	4.4%	0.2%	0.3%	0.0%	0.0%	0.0%	

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 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB, SB														
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/25/18	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
06:00	0	10	9	1	3	2	0	1	0	3	0	0	0	29
07:00	0	28	6	4	6	2	0	0	1	0	0	0	0	47
08:00	0	22	11	4	3	0	0	0	0	0	0	0	0	40
09:00	0	15	7	2	1	1	1	2	0	0	0	0	0	29
10:00	0	16	7	0	5	0	0	0	1	0	0	0	0	29
11:00	1	19	8	3	6	1	0	3	0	0	0	0	0	41
12 PM	1	33	5	0	12	0	0	3	0	0	0	0	0	54
13:00	0	16	6	0	6	0	0	0	0	0	0	0	0	28
14:00	3	23	11	1	7	0	0	4	0	0	0	0	0	49
15:00	1	27	15	3	9	0	0	1	0	0	0	0	0	56
16:00	4	47	9	2	5	1	0	1	0	0	0	0	0	69
17:00	0	37	10	0	5	0	0	1	0	0	0	0	0	53
18:00	0	17	6	1	5	0	0	1	1	0	0	0	0	31
19:00	1	24	3	0	4	0	0	1	0	0	0	0	0	33
20:00	1	26	3	0	2	0	0	1	0	0	0	0	0	33
21:00	0	10	9	0	1	0	0	0	0	0	0	0	0	20
22:00	0	11	1	0	1	0	0	0	0	0	0	0	0	13
23:00	1	3	2	0	0	0	0	0	0	0	0	0	0	6
Day Total	13	394	131	21	81	7	1	19	3	3	0	0	0	673
Percent	1.9%	58.5%	19.5%	3.1%	12.0%	1.0%	0.1%	2.8%	0.4%	0.4%	0.0%	0.0%	0.0%	
AM Peak	11:00	07:00	08:00	07:00	07:00	06:00	09:00	11:00	07:00	06:00				07:00
Vol.	1	28	11	4	6	2	1	3	1	3				47
PM Peak	16:00	16:00	15:00	15:00	12:00	16:00		14:00	18:00					16:00
Vol.	4	47	15	3	12	1		4	1					69

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Site Code: 1
 Station ID: T1
 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB, SB														
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/26/18	2	4	0	0	0	0	0	0	0	0	0	0	0	6
01:00	1	5	0	0	0	0	0	0	0	0	0	0	0	6
02:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
03:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	4	2	0	1	0	0	0	0	0	0	0	0	7
07:00	0	10	5	0	0	0	0	1	0	0	0	0	0	16
08:00	2	19	7	0	4	0	0	1	0	0	0	0	0	33
09:00	0	33	3	0	4	0	0	3	0	0	0	0	0	43
10:00	0	25	9	0	8	0	0	2	0	0	0	0	0	44
11:00	0	22	8	0	5	1	0	1	0	0	0	0	0	37
12 PM	2	29	6	0	12	1	0	2	0	0	0	0	0	52
13:00	2	22	6	0	5	0	0	0	0	0	0	0	0	35
14:00	3	17	6	0	2	0	0	0	0	0	0	0	0	28
15:00	1	21	10	0	5	0	0	0	0	0	0	0	0	37
16:00	0	28	4	0	6	0	0	0	0	0	0	0	0	38
17:00	0	17	3	0	6	1	0	0	0	0	0	0	0	27
18:00	0	14	3	0	4	0	0	0	0	0	0	0	0	21
19:00	0	12	3	0	5	0	0	0	0	0	0	0	0	20
20:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
21:00	0	4	5	0	4	0	0	0	0	0	0	0	0	13
22:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
23:00	0	5	1	0	1	0	0	0	0	0	0	0	0	7
Day Total	13	310	84	0	73	3	0	10	0	0	0	0	0	493
Percent	2.6%	62.9%	17.0%	0.0%	14.8%	0.6%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	00:00	09:00	10:00		10:00	11:00		09:00						10:00
Vol.	2	33	9		8	1		3						44
PM Peak	14:00	12:00	15:00		12:00	12:00		12:00						12:00
Vol.	3	29	10		12	1		2						52

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 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB, SB														
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/27/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	0	0	2	0	0	0	0	0	0	0	0	4
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
07:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
08:00	1	10	4	0	5	0	0	0	0	0	0	0	0	20
09:00	1	19	8	0	11	0	0	2	0	0	0	0	0	41
10:00	0	16	6	0	5	0	0	0	0	0	0	0	0	27
11:00	1	21	7	0	9	0	0	0	0	0	0	0	0	38
12 PM	2	47	8	0	7	0	0	1	0	0	0	0	0	65
13:00	0	44	10	0	8	0	0	0	0	0	0	0	0	62
14:00	1	32	9	0	4	0	0	0	0	0	0	0	0	46
15:00	1	33	11	0	6	0	0	0	0	0	0	0	0	51
16:00	2	33	7	0	3	0	0	0	0	0	0	0	0	45
17:00	1	21	6	0	2	0	0	0	0	0	0	0	0	30
18:00	0	22	2	0	0	0	0	0	0	0	0	0	0	24
19:00	1	21	0	0	1	0	0	0	0	0	0	0	0	23
20:00	1	14	0	0	2	0	0	0	0	0	0	0	0	17
21:00	0	8	4	0	0	0	0	0	0	0	0	0	0	12
22:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
23:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
Day Total	12	374	84	0	66	0	0	3	0	0	0	0	0	539
Percent	2.2%	69.4%	15.6%	0.0%	12.2%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	09:00		09:00			09:00						09:00
Vol.	1	21	8		11			2						41
PM Peak	12:00	12:00	15:00		13:00			12:00						12:00
Vol.	2	47	11		8			1						65

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Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB, SB														
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/28/18	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
05:00	0	3	1	1	0	1	0	0	0	0	0	0	0	6
06:00	1	14	4	0	4	1	0	2	0	1	0	0	0	27
07:00	1	29	5	3	10	0	0	2	0	1	0	0	0	51
08:00	0	19	2	12	3	2	0	14	0	0	0	0	0	52
09:00	0	16	8	9	5	0	0	5	1	0	0	0	0	44
10:00	1	17	3	0	6	1	0	1	1	0	0	0	0	30
11:00	2	11	6	0	5	3	0	2	0	0	0	0	0	29
12 PM	1	14	2	1	3	2	0	3	0	0	0	0	0	26
13:00	0	20	10	2	8	1	0	2	0	0	0	0	0	43
14:00	2	22	10	4	4	0	0	2	0	0	0	0	0	44
15:00	3	33	5	3	7	1	0	2	0	0	0	0	0	54
16:00	0	41	14	1	8	1	0	3	0	0	0	0	0	68
17:00	1	31	5	0	9	0	0	0	0	0	0	0	0	46
18:00	0	20	5	0	6	0	0	0	0	0	0	0	0	31
19:00	0	16	6	0	1	0	0	0	0	0	0	0	0	23
20:00	1	18	2	0	2	0	0	0	0	0	0	0	0	23
21:00	1	4	2	0	2	0	0	0	0	0	0	0	0	9
22:00	1	3	0	0	1	0	0	0	0	0	0	0	0	5
23:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
Day Total	15	338	90	36	86	13	0	38	2	2	0	0	0	620
Percent	2.4%	54.5%	14.5%	5.8%	13.9%	2.1%	0.0%	6.1%	0.3%	0.3%	0.0%	0.0%	0.0%	
AM Peak	11:00	07:00	09:00	08:00	07:00	11:00		08:00	09:00	06:00				08:00
Vol.	2	29	8	12	10	3		14	1	1				52
PM Peak	15:00	16:00	16:00	14:00	17:00	12:00		12:00						16:00
Vol.	3	41	14	4	9	2		3						68

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NB, SB														
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/29/18	0	1	1	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	7	1	0	3	1	0	0	0	0	0	0	0	12
06:00	0	19	7	1	1	1	0	3	0	0	0	0	0	32
07:00	0	26	5	1	4	2	0	5	0	0	0	0	0	43
08:00	0	17	4	7	7	3	0	3	0	0	0	0	0	41
09:00	1	26	4	2	6	2	0	5	0	0	0	0	0	46
10:00	0	14	4	3	4	2	0	4	0	0	0	0	0	31
11:00	1	19	6	2	10	2	0	4	0	0	0	0	0	44
12 PM	1	23	2	0	5	5	0	2	0	0	0	0	0	38
13:00	1	18	5	2	4	1	0	2	0	0	0	0	0	33
14:00	1	27	6	3	7	1	0	4	0	0	0	0	0	49
15:00	0	26	7	3	6	2	0	2	0	0	0	0	0	46
16:00	0	40	9	8	3	3	0	9	0	0	0	0	0	72
17:00	0	50	7	1	3	0	0	0	0	0	0	0	0	61
18:00	1	28	13	0	4	0	0	0	0	0	0	0	0	46
19:00	1	19	3	0	6	0	0	0	0	0	0	0	0	29
20:00	0	14	3	0	3	0	0	0	0	0	0	0	0	20
21:00	0	6	0	0	3	0	0	0	0	0	0	0	0	9
22:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
23:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
Day Total	7	395	89	33	79	25	0	43	0	0	0	0	0	671
Percent	1.0%	58.9%	13.3%	4.9%	11.8%	3.7%	0.0%	6.4%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	07:00	06:00	08:00	11:00	08:00		07:00						09:00
Vol.	1	26	7	7	10	3		5						46
PM Peak	12:00	17:00	18:00	16:00	14:00	12:00		16:00						16:00
Vol.	1	50	13	8	7	5		9						72

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Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

NB, SB														
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/30/18	0	5	1	0	0	0	0	1	0	0	0	0	0	7
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	2	1	0	1	0	0	0	0	0	0	0	0	4
05:00	0	7	1	0	1	0	0	0	0	0	0	0	0	9
06:00	0	13	6	0	4	0	0	2	1	0	0	0	0	26
07:00	0	32	5	2	7	1	0	8	0	0	0	0	0	55
08:00	0	32	6	3	1	1	0	4	0	0	0	0	0	47
09:00	1	22	10	2	4	0	0	0	0	0	0	0	0	39
10:00	2	27	5	1	11	0	0	2	0	0	0	0	0	48
11:00	1	19	8	0	5	1	0	1	0	0	0	0	0	35
12 PM	1	16	8	0	6	0	0	1	0	0	0	0	0	32
13:00	0	20	6	0	5	3	0	1	0	0	0	0	0	35
14:00	2	24	8	0	6	0	0	1	0	0	0	0	0	41
15:00	0	29	12	3	6	1	0	1	1	0	0	0	0	53
16:00	1	37	13	1	6	0	0	0	1	0	0	0	0	59
17:00	0	39	12	0	14	0	0	1	0	0	0	0	0	66
18:00	1	29	8	0	11	0	0	0	0	0	0	0	0	49
19:00	2	12	10	0	1	0	0	1	0	0	0	0	0	26
20:00	0	15	2	0	3	0	0	0	0	0	0	0	0	20
21:00	3	12	1	0	3	0	0	0	0	0	0	0	0	19
22:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Day Total	14	406	123	12	96	7	0	24	3	0	0	0	0	685
Percent	2.0%	59.3%	18.0%	1.8%	14.0%	1.0%	0.0%	3.5%	0.4%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	07:00	09:00	08:00	10:00	07:00		07:00	06:00					07:00
Vol.	2	32	10	3	11	1		8	1					55
PM Peak	21:00	17:00	16:00	15:00	17:00	13:00		12:00	15:00					17:00
Vol.	3	39	13	3	14	3		1	1					66

Ontario Traffic, Inc.
 17705 Leslie St., Unit 6
 Newmarket, Ontario L3Y 3E3
 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1
 Station ID: T1
 McCowan Rd 400m north of Herald Rd

Date Start: 25-May-18
 Date End: 31-May-18
 Date Start: 25-May-18

















NB, SB														
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
05/31/18	0	1	1	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	7	0	0	1	0	0	0	0	0	0	0	0	8
06:00	0	14	3	1	3	1	0	1	0	0	0	0	0	23
07:00	2	23	13	1	5	1	0	1	0	0	0	0	0	46
08:00	0	14	3	2	3	1	0	4	0	0	0	0	0	27
09:00	1	16	5	0	5	1	0	2	0	0	0	0	0	30
10:00	0	15	7	1	9	0	0	2	0	0	0	0	0	34
11:00	0	20	4	1	6	1	0	2	0	0	0	0	0	34
12 PM	0	21	12	4	8	1	0	3	0	0	0	0	0	49
13:00	0	21	9	1	6	1	0	1	0	0	0	0	0	39
14:00	1	18	8	2	5	2	0	3	0	0	0	0	0	39
15:00	0	30	11	1	3	0	0	1	0	1	0	0	0	47
16:00	0	30	16	3	10	0	0	2	0	0	0	0	0	61
17:00	0	31	10	0	5	0	0	1	0	0	0	0	0	47
18:00	1	22	7	0	4	0	0	1	0	0	0	0	0	35
19:00	0	15	9	0	1	0	0	1	0	0	0	0	0	26
20:00	0	19	6	0	5	0	0	0	0	0	0	0	0	30
21:00	1	12	4	0	2	0	0	0	0	0	0	0	0	19
22:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
23:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
Day Total	6	343	132	17	81	9	0	25	0	1	0	0	0	614
Percent	1.0%	55.9%	21.5%	2.8%	13.2%	1.5%	0.0%	4.1%	0.0%	0.2%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	07:00	08:00	10:00	06:00		08:00						07:00
Vol.	2	23	13	2	9	1		4						46
PM Peak	14:00	17:00	16:00	12:00	16:00	14:00		12:00		15:00				16:00
Vol.	1	31	16	4	10	2		3		1				61
Grand Total	80	2560	733	119	562	64	1	162	8	6	0	0	0	4295
Percent	1.9%	59.6%	17.1%	2.8%	13.1%	1.5%	0.0%	3.8%	0.2%	0.1%	0.0%	0.0%	0.0%	

Appendix B
Existing Traffic Conditions – Synchro Reports

HCM Unsignalized Intersection Capacity Analysis

1: McCowan Road & Mount Albert Road

9/6/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	194	9	5	327	8	8	4	15	15	17	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	9	218	10	6	367	9	9	4	17	17	19	28
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	376			228			662	629	223	643	629	372
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	376			228			662	629	223	643	629	372
tC, single (s)	4.2			4.3			7.6	6.5	6.2	7.2	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.4			4.0	4.0	3.3	3.6	4.1	3.3
p0 queue free %	99			100			97	99	98	95	95	96
cM capacity (veh/h)	1124			1216			290	397	822	365	388	670
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	237	382	30	64								
Volume Left	9	6	9	17								
Volume Right	10	9	17	28								
cSH	1124	1216	482	466								
Volume to Capacity	0.01	0.00	0.06	0.14								
Queue Length 95th (m)	0.2	0.1	1.5	3.6								
Control Delay (s)	0.4	0.2	13.0	14.0								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.4	0.2	13.0	14.0								
Approach LOS			B	B								
Intersection Summary												
Average Delay			2.0									
Intersection Capacity Utilization			30.4%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

2: McCowan Road & Site Access

9/6/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	27	0	0	31
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	29	0	0	34
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	63	29			29	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	63	29			29	
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			100	
cM capacity (veh/h)	948	1051			1597	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	0	29	34
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1597
Volume to Capacity	0.00	0.02	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		6.7%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

3: McCowan Road & Davis Drive

9/6/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕			↕	
Volume (veh/h)	13	443	10	1	736	7	9	7	2	4	7	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	14	487	11	1	809	8	10	8	2	4	8	22
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	816			498			1352	1334	487	1332	1337	809
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	816			498			1352	1334	487	1332	1337	809
tC, single (s)	4.1			4.1			7.3	6.5	6.2	7.8	6.8	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.7	4.0	3.3	4.2	4.3	3.4
p0 queue free %	98			100			90	95	100	95	94	94
cM capacity (veh/h)	820			1077			102	152	585	88	133	368

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	501	11	810	8	20	34
Volume Left	14	0	1	0	10	4
Volume Right	0	11	0	8	2	22
cSH	820	1700	1077	1700	131	203
Volume to Capacity	0.02	0.01	0.00	0.00	0.15	0.17
Queue Length 95th (m)	0.4	0.0	0.0	0.0	3.9	4.5
Control Delay (s)	0.5	0.0	0.0	0.0	37.3	26.3
Lane LOS	A		A		E	D
Approach Delay (s)	0.5		0.0		37.3	26.3
Approach LOS					E	D

















Intersection Summary

Average Delay		1.4				
Intersection Capacity Utilization		55.5%		ICU Level of Service		B
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

1: McCowan Road & Mount Albert Road

9/6/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	20	367	7	11	293	15	11	21	21	12	10	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	22	399	8	12	318	16	12	23	23	13	11	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	335			407			809	805	403	831	801	327
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	335			407			809	805	403	831	801	327
tC, single (s)	4.2			4.2			7.2	6.5	6.4	7.3	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.3			3.6	4.0	3.4	3.7	4.0	3.3
p0 queue free %	98			99			96	93	96	95	97	99
cM capacity (veh/h)	1181			1110			269	309	620	242	311	719
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	428	347	58	30								
Volume Left	22	12	12	13								
Volume Right	8	16	23	7								
cSH	1181	1110	372	311								
Volume to Capacity	0.02	0.01	0.16	0.10								
Queue Length 95th (m)	0.4	0.2	4.1	2.5								
Control Delay (s)	0.6	0.4	16.5	17.8								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.6	0.4	16.5	17.8								
Approach LOS			C	C								
Intersection Summary												
Average Delay			2.2									
Intersection Capacity Utilization			38.0%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

2: McCowan Road & Site Access

9/6/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	53	0	0	28
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	58	0	0	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	88	58			58	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	88	58			58	
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			100	
cM capacity (veh/h)	918	1014			1560	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	0	58	30			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1560			
Volume to Capacity	0.00	0.03	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			6.7%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

3: McCowan Road & Davis Drive

9/6/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕			↕	
Volume (veh/h)	33	752	9	2	389	4	5	16	2	9	7	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	35	809	10	2	418	4	5	17	2	10	8	13
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	423			818			1319	1306	809	1313	1312	418
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	423			818			1319	1306	809	1313	1312	418
tC, single (s)	4.3			4.1			7.1	6.6	6.2	7.3	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.4			2.2			3.5	4.1	3.3	3.7	4.0	3.4
p0 queue free %	97			100			96	88	99	91	95	98
cM capacity (veh/h)	1037			819			124	148	384	111	154	612

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	844	10	420	4	25	30
Volume Left	35	0	2	0	5	10
Volume Right	0	10	0	4	2	13
cSH	1037	1700	819	1700	149	191
Volume to Capacity	0.03	0.01	0.00	0.00	0.17	0.16
Queue Length 95th (m)	0.8	0.0	0.1	0.0	4.4	4.1
Control Delay (s)	0.9	0.0	0.1	0.0	33.8	27.3
Lane LOS	A		A		D	D
Approach Delay (s)	0.9		0.1		33.8	27.3
Approach LOS					D	D

Intersection Summary

















Average Delay		1.8				
Intersection Capacity Utilization		75.3%		ICU Level of Service		D
Analysis Period (min)		15				

Appendix C
Background Traffic Conditions – Synchro Reports

HCM Unsignalized Intersection Capacity Analysis

1: McCowan Road & Mount Albert Road

9/6/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	204	9	5	344	8	8	4	16	16	19	26
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	9	229	10	6	387	9	9	4	18	18	21	29
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	396			239			694	659	234	675	660	391
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	396			239			694	659	234	675	660	391
tC, single (s)	4.2			4.3			7.6	6.5	6.2	7.2	6.6	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.4			4.0	4.0	3.3	3.6	4.1	3.3
p0 queue free %	99			100			97	99	98	95	94	96
cM capacity (veh/h)	1106			1204			272	381	810	347	372	653
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	248	401	31	69								
Volume Left	9	6	9	18								
Volume Right	10	9	18	29								
cSH	1106	1204	469	445								
Volume to Capacity	0.01	0.00	0.07	0.15								
Queue Length 95th (m)	0.2	0.1	1.6	4.1								
Control Delay (s)	0.4	0.2	13.2	14.6								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.4	0.2	13.2	14.6								
Approach LOS			B	B								
Intersection Summary												
Average Delay			2.1									
Intersection Capacity Utilization			31.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

2: McCowan Road & Site Access

9/6/2018






















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	28	0	0	33
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	30	0	0	36
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	66	30			30	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	66	30			30	
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			100	
cM capacity (veh/h)	944	1050			1595	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	30	36			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1595			
Volume to Capacity	0.00	0.02	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			6.7%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

3: McCowan Road & Davis Drive

















9/6/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	466	11	1	774	7	9	7	2	4	7	22
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	15	512	12	1	851	8	10	8	2	4	8	24
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	858			524			1424	1403	512	1402	1408	851
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	858			524			1424	1403	512	1402	1408	851
tC, single (s)	4.1			4.1			7.3	6.5	6.2	7.8	6.8	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.7	4.0	3.3	4.2	4.3	3.4
p0 queue free %	98			100			89	94	100	94	94	93
cM capacity (veh/h)	791			1053			89	138	566	77	120	348
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	527	12	852	8	20	36						
Volume Left	15	0	1	0	10	4						
Volume Right	0	12	0	8	2	24						
cSH	791	1700	1053	1700	116	190						
Volume to Capacity	0.02	0.01	0.00	0.00	0.17	0.19						
Queue Length 95th (m)	0.5	0.0	0.0	0.0	4.5	5.2						
Control Delay (s)	0.5	0.0	0.0	0.0	42.3	28.3						
Lane LOS	A		A		E	D						
Approach Delay (s)	0.5		0.0		42.3	28.3						
Approach LOS					E	D						
Intersection Summary												
Average Delay			1.5									
Intersection Capacity Utilization			57.5%		ICU Level of Service				B			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis










1: McCowan Road & Mount Albert Road

9/6/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	21	386	7	12	308	16	12	22	22	13	11	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	23	420	8	13	335	17	13	24	24	14	12	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	352			427			851	847	423	874	842	343
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	352			427			851	847	423	874	842	343
tC, single (s)	4.2			4.2			7.2	6.5	6.4	7.3	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.3			3.6	4.0	3.4	3.7	4.0	3.3
p0 queue free %	98			99			95	92	96	94	96	99
cM capacity (veh/h)	1164			1091			250	291	604	223	293	704
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	450	365	61	33								
Volume Left	23	13	13	14								
Volume Right	8	17	24	7								
cSH	1164	1091	350	288								
Volume to Capacity	0.02	0.01	0.17	0.11								
Queue Length 95th (m)	0.5	0.3	4.7	2.9								
Control Delay (s)	0.6	0.4	17.4	19.1								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.6	0.4	17.4	19.1								
Approach LOS			C	C								
Intersection Summary												
Average Delay			2.3									
Intersection Capacity Utilization			39.4%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 2: McCowan Road & Site Access




















9/6/2018

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	56	0	0	30
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	61	0	0	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	93	61			61	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	93	61			61	
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			100	
cM capacity (veh/h)	911	1010			1555	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	61	33			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1555			
Volume to Capacity	0.00	0.04	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			6.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

3: McCowan Road & Davis Drive

9/6/2018

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	790	9	2	409	4	5	17	2	9	7	14
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	38	849	10	2	440	4	5	18	2	10	8	15
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	444			859			1388	1373	849	1380	1378	440
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	444			859			1388	1373	849	1380	1378	440
tC, single (s)	4.3			4.1			7.1	6.6	6.2	7.3	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.4			2.2			3.5	4.1	3.3	3.7	4.0	3.4
p0 queue free %	96			100			95	86	99	90	95	97
cM capacity (veh/h)	1018			791			110	134	364	97	140	595
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	887	10	442	4	26	32						
Volume Left	38	0	2	0	5	10						
Volume Right	0	10	0	4	2	15						
cSH	1018	1700	791	1700	135	181						
Volume to Capacity	0.04	0.01	0.00	0.00	0.19	0.18						
Queue Length 95th (m)	0.9	0.0	0.1	0.0	5.1	4.8						
Control Delay (s)	1.0	0.0	0.1	0.0	37.9	29.2						
Lane LOS	A		A		E	D						
Approach Delay (s)	1.0		0.1		37.9	29.2						
Approach LOS					E	D						
Intersection Summary												
Average Delay			2.0									
Intersection Capacity Utilization			78.5%		ICU Level of Service				D			
Analysis Period (min)			15									

Appendix D
Total Traffic Conditions – Synchro Reports

HCM Unsignalized Intersection Capacity Analysis

1: McCowan Road & Mount Albert Road

08/02/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	204	9	5	344	8	8	4	16	16	19	26
Future Volume (Veh/h)	8	204	9	5	344	8	8	4	16	16	19	26
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	9	229	10	6	387	9	9	4	18	18	21	29
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	396			239			695	660	234	676	660	392
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	396			239			695	660	234	676	660	392
tC, single (s)	4.2			4.3			7.6	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.4			4.0	4.0	3.3	3.6	4.0	3.3
p0 queue free %	99			100			97	99	98	95	94	96
cM capacity (veh/h)	1105			1229			272	381	810	348	374	653
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	248	402	31	68								
Volume Left	9	6	9	18								
Volume Right	10	9	18	29								
cSH	1105	1229	471	446								
Volume to Capacity	0.01	0.00	0.07	0.15								
Queue Length 95th (m)	0.2	0.1	1.6	4.1								
Control Delay (s)	0.4	0.2	13.2	14.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.4	0.2	13.2	14.5								
Approach LOS			B	B								
Intersection Summary												
Average Delay			2.1									
Intersection Capacity Utilization			31.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

2: McCowan Road & Site Access

08/02/2019






















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	0	28	20	0	33
Future Volume (Veh/h)	20	0	28	20	0	33
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)	22	0	30	22	0	36
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	77	41			52	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	77	41			52	
tC, single (s)	7.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	4.4	3.3			2.2	
p0 queue free %	97	100			100	
cM capacity (veh/h)	732	1036			1567	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	22	52	36			
Volume Left	22	0	0			
Volume Right	0	22	0			
cSH	732	1700	1567			
Volume to Capacity	0.03	0.03	0.00			
Queue Length 95th (m)	0.7	0.0	0.0			
Control Delay (s)	10.1	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.1	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

3: McCowan Road & Davis Drive

















08/02/2019

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	32	466	11	1	774	9	9	7	2	6	7	40	
Future Volume (Veh/h)	32	466	11	1	774	9	9	7	2	6	7	40	
Sign Control		Free			Free			Stop			Stop		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Hourly flow rate (vph)	35	512	12	1	851	10	10	8	2	7	8	44	
Pedestrians													
Lane Width (m)													
Walking Speed (m/s)													
Percent Blockage													
Right turn flare (veh)													
Median type		None					None						
Median storage (veh)													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	861			524			1483	1445	512	1441	1447	851	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	861			524			1483	1445	512	1441	1447	851	
tC, single (s)	4.7			4.1			7.3	6.5	6.2	7.9	6.8	6.7	
tC, 2 stage (s)													
tF (s)	2.7			2.2			3.7	4.0	3.3	4.2	4.3	3.8	
p0 queue free %	94			100			86	94	100	90	93	85	
cM capacity (veh/h)	593			1053			71	125	566	67	108	297	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1							
Volume Total	547	12	852	10	20	59							
Volume Left	35	0	1	0	10	7							
Volume Right	0	12	0	10	2	44							
cSH	593	1700	1053	1700	96	180							
Volume to Capacity	0.06	0.01	0.00	0.01	0.21	0.33							
Queue Length 95th (m)	1.4	0.0	0.0	0.0	5.6	10.2							
Control Delay (s)	1.6	0.0	0.0	0.0	51.9	34.3							
Lane LOS	A		A		F	D							
Approach Delay (s)	1.6		0.0		51.9	34.3							
Approach LOS					F	D							
Intersection Summary													
Average Delay			2.7										
Intersection Capacity Utilization			60.8%		ICU Level of Service				B				
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis

1: McCowan Road & Mount Albert Road

08/02/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	386	7	12	308	16	12	22	22	13	11	6
Future Volume (Veh/h)	21	386	7	12	308	16	12	22	22	13	11	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	23	420	8	13	335	17	13	24	24	14	12	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	352			428			852	848	424	876	844	344
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	352			428			852	848	424	876	844	344
tC, single (s)	4.2			4.2			7.3	6.5	6.3	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.3			3.7	4.0	3.4	3.6	4.0	3.3
p0 queue free %	98			99			95	92	96	94	96	99
cM capacity (veh/h)	1164			1100			246	291	605	225	293	704
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	451	365	61	33								
Volume Left	23	13	13	14								
Volume Right	8	17	24	7								
cSH	1164	1100	349	292								
Volume to Capacity	0.02	0.01	0.17	0.11								
Queue Length 95th (m)	0.5	0.3	4.7	2.9								
Control Delay (s)	0.6	0.4	17.5	18.9								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.6	0.4	17.5	18.9								
Approach LOS			C	C								
Intersection Summary												
Average Delay			2.3									
Intersection Capacity Utilization			39.4%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

2: McCowan Road & Site Access

08/02/2019






















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	0	56	20	0	30
Future Volume (Veh/h)	20	0	56	20	0	30
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)	22	0	61	22	0	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	105	72			83	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	105	72			83	
tC, single (s)	7.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	4.4	3.3			2.2	
p0 queue free %	97	100			100	
cM capacity (veh/h)	703	996			1527	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	22	83	33			
Volume Left	22	0	0			
Volume Right	0	22	0			
cSH	703	1700	1527			
Volume to Capacity	0.03	0.05	0.00			
Queue Length 95th (m)	0.7	0.0	0.0			
Control Delay (s)	10.3	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.3	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			14.2%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

3: McCowan Road & Davis Drive

















08/02/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	790	9	2	409	6	5	17	2	11	7	32
Future Volume (Veh/h)	53	790	9	2	409	6	5	17	2	11	7	32
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	57	849	10	2	440	6	5	18	2	12	8	34
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	446			859			1445	1413	849	1418	1417	440
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	446			859			1445	1413	849	1418	1417	440
tC, single (s)	4.6			4.1			7.1	6.6	6.2	7.5	6.5	6.8
tC, 2 stage (s)												
tF (s)	2.6			2.2			3.5	4.1	3.3	3.8	4.0	3.9
p0 queue free %	94			100			95	85	99	85	94	93
cM capacity (veh/h)	905			791			94	123	364	81	129	507
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	906	10	442	6	25	54						
Volume Left	57	0	2	0	5	12						
Volume Right	0	10	0	6	2	34						
cSH	905	1700	791	1700	122	195						
Volume to Capacity	0.06	0.01	0.00	0.00	0.21	0.28						
Queue Length 95th (m)	1.5	0.0	0.1	0.0	5.6	8.2						
Control Delay (s)	1.7	0.0	0.1	0.0	42.1	30.4						
Lane LOS	A		A		E	D						
Approach Delay (s)	1.7		0.1		42.1	30.4						
Approach LOS					E	D						
Intersection Summary												
Average Delay			2.9									
Intersection Capacity Utilization			80.2%	ICU Level of Service		D						
Analysis Period (min)			15									

Appendix E
Total Traffic Conditions – Sensitivity Analysis –
Synchro Reports

HCM Unsignalized Intersection Capacity Analysis
 1: McCowan Road & Mount Albert Road

08/02/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	204	9	5	344	8	8	4	16	16	19	26
Future Volume (Veh/h)	8	204	9	5	344	8	8	4	16	16	19	26
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	9	229	10	6	387	9	9	4	18	18	21	29
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	396			239			695	660	234	676	660	392
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	396			239			695	660	234	676	660	392
tC, single (s)	4.2			4.3			7.6	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.4			4.0	4.0	3.3	3.6	4.0	3.3
p0 queue free %	99			100			97	99	98	95	94	96
cM capacity (veh/h)	1105			1229			272	381	810	348	374	653
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	248	402	31	68								
Volume Left	9	6	9	18								
Volume Right	10	9	18	29								
cSH	1105	1229	471	446								
Volume to Capacity	0.01	0.00	0.07	0.15								
Queue Length 95th (m)	0.2	0.1	1.6	4.1								
Control Delay (s)	0.4	0.2	13.2	14.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.4	0.2	13.2	14.5								
Approach LOS			B	B								
Intersection Summary												
Average Delay			2.1									
Intersection Capacity Utilization			31.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

2: McCowan Road & Site Access

08/02/2019






















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	40	0	28	40	0	33
Future Volume (Veh/h)	40	0	28	40	0	33
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)	43	0	30	43	0	36
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	88	52			73	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	88	52			73	
tC, single (s)	7.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	4.4	3.3			2.2	
p0 queue free %	94	100			100	
cM capacity (veh/h)	721	1022			1540	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	43	73	36			
Volume Left	43	0	0			
Volume Right	0	43	0			
cSH	721	1700	1540			
Volume to Capacity	0.06	0.04	0.00			
Queue Length 95th (m)	1.4	0.0	0.0			
Control Delay (s)	10.3	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.3	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			2.9			
Intersection Capacity Utilization			13.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

















3: McCowan Road & Davis Drive

08/02/2019

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (veh/h)	50	466	11	1	774	11	9	7	2	8	7	58		
Future Volume (Veh/h)	50	466	11	1	774	11	9	7	2	8	7	58		
Sign Control		Free			Free			Stop			Stop			
Grade		0%			0%			0%			0%			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91		
Hourly flow rate (vph)	55	512	12	1	851	12	10	8	2	9	8	64		
Pedestrians														
Lane Width (m)														
Walking Speed (m/s)														
Percent Blockage														
Right turn flare (veh)														
Median type	None					None								
Median storage (veh)														
Upstream signal (m)														
pX, platoon unblocked														
vC, conflicting volume	863		524		1543		1487		512		1481		1487	851
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	863		524		1543		1487		512		1481		1487	851
tC, single (s)	4.8		4.1		7.3		6.5		6.2		8.0		6.8	6.9
tC, 2 stage (s)														
tF (s)	2.8		2.2		3.7		4.0		3.3		4.3		4.3	3.9
p0 queue free %	90		100		82		93		100		85		92	77
cM capacity (veh/h)	549		1053		56		113		566		58		98	279
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1								
Volume Total	567	12	852	12	20	81								
Volume Left	55	0	1	0	10	9								
Volume Right	0	12	0	12	2	64								
cSH	549	1700	1053	1700	79	174								
Volume to Capacity	0.10	0.01	0.00	0.01	0.25	0.47								
Queue Length 95th (m)	2.5	0.0	0.0	0.0	6.9	16.7								
Control Delay (s)	2.8	0.0	0.0	0.0	65.1	42.5								
Lane LOS	A		A		F		E							
Approach Delay (s)	2.7		0.0		65.1		42.5							
Approach LOS					F		E							
Intersection Summary														
Average Delay			4.1											
Intersection Capacity Utilization			77.3%		ICU Level of Service				D					
Analysis Period (min)			15											

HCM Unsignalized Intersection Capacity Analysis
 1: McCowan Road & Mount Albert Road

08/02/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	386	7	12	308	16	12	22	22	13	11	6
Future Volume (Veh/h)	21	386	7	12	308	16	12	22	22	13	11	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	23	420	8	13	335	17	13	24	24	14	12	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	352			428			852	848	424	876	844	344
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	352			428			852	848	424	876	844	344
tC, single (s)	4.2			4.2			7.3	6.5	6.3	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.3			3.7	4.0	3.4	3.6	4.0	3.3
p0 queue free %	98			99			95	92	96	94	96	99
cM capacity (veh/h)	1164			1100			246	291	605	225	293	704
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	451	365	61	33								
Volume Left	23	13	13	14								
Volume Right	8	17	24	7								
cSH	1164	1100	349	292								
Volume to Capacity	0.02	0.01	0.17	0.11								
Queue Length 95th (m)	0.5	0.3	4.7	2.9								
Control Delay (s)	0.6	0.4	17.5	18.9								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.6	0.4	17.5	18.9								
Approach LOS			C	C								
Intersection Summary												
Average Delay			2.3									
Intersection Capacity Utilization			39.4%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

2: McCowan Road & Site Access




















08/02/2019



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	40	0	56	40	0	30
Future Volume (Veh/h)	40	0	56	40	0	30
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)	43	0	61	43	0	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	116	82			104	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	116	82			104	
tC, single (s)	7.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	4.4	3.3			2.2	
p0 queue free %	94	100			100	
cM capacity (veh/h)	692	983			1500	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	43	104	33			
Volume Left	43	0	0			
Volume Right	0	43	0			
cSH	692	1700	1500			
Volume to Capacity	0.06	0.06	0.00			
Queue Length 95th (m)	1.5	0.0	0.0			
Control Delay (s)	10.5	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.5	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			2.5			
Intersection Capacity Utilization			15.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 3: McCowan Road & Davis Drive

08/02/2019






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	790	9	2	409	8	5	17	2	13	7	50
Future Volume (Veh/h)	71	790	9	2	409	8	5	17	2	13	7	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	76	849	10	2	440	9	5	18	2	14	8	54
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	449			859			1503	1454	849	1456	1455	440
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	449			859			1503	1454	849	1456	1455	440
tC, single (s)	4.7			4.1			7.1	6.6	6.2	7.6	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.8			2.2			3.5	4.1	3.3	3.9	4.0	4.0
p0 queue free %	91			100			94	84	99	80	93	89
cM capacity (veh/h)	856			791			79	113	364	70	119	488
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	925	10	442	9	25	76						
Volume Left	76	0	2	0	5	14						
Volume Right	0	10	0	9	2	54						
cSH	856	1700	791	1700	109	201						
Volume to Capacity	0.09	0.01	0.00	0.01	0.23	0.38						
Queue Length 95th (m)	2.2	0.0	0.1	0.0	6.3	12.5						
Control Delay (s)	2.4	0.0	0.1	0.0	47.4	33.4						
Lane LOS	A		A		E	D						
Approach Delay (s)	2.3		0.1		47.4	33.4						
Approach LOS					E	D						
Intersection Summary												
Average Delay			4.0									
Intersection Capacity Utilization			82.5%		ICU Level of Service				E			
Analysis Period (min)			15									

Appendix F
Davis Dr / McCowan Rd with Turning Lanes –
Synchro Reports

HCM Unsignalized Intersection Capacity Analysis

3: McCowan Road & Davis Drive






















08/01/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	466	11	1	774	9	9	7	2	6	7	40
Future Volume (Veh/h)	32	466	11	1	774	9	9	7	2	6	7	40
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	35	512	12	1	851	10	10	8	2	7	8	44
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None					None						
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	861			524			1483	1445	512	1441	1447	851
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	861			524			1483	1445	512	1441	1447	851
tC, single (s)	4.7			4.1			7.3	6.5	6.2	7.9	6.8	6.7
tC, 2 stage (s)												
tF (s)	2.7			2.2			3.7	4.0	3.3	4.2	4.3	3.8
p0 queue free %	94			100			86	94	100	90	93	85
cM capacity (veh/h)	593			1053			71	125	566	67	108	297
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	35	512	12	1	851	10	20	59				
Volume Left	35	0	0	1	0	0	10	7				
Volume Right	0	0	12	0	0	10	2	44				
cSH	593	1700	1700	1053	1700	1700	96	180				
Volume to Capacity	0.06	0.30	0.01	0.00	0.50	0.01	0.21	0.33				
Queue Length 95th (m)	1.4	0.0	0.0	0.0	0.0	0.0	5.6	10.2				
Control Delay (s)	11.4	0.0	0.0	8.4	0.0	0.0	51.9	34.3				
Lane LOS	B			A			F	D				
Approach Delay (s)	0.7			0.0			51.9	34.3				
Approach LOS							F	D				
Intersection Summary												
Average Delay			2.3									
Intersection Capacity Utilization			50.7%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

3: McCowan Road & Davis Drive






















08/01/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	790	9	2	409	6	5	17	2	11	7	32
Future Volume (Veh/h)	53	790	9	2	409	6	5	17	2	11	7	32
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	57	849	10	2	440	6	5	18	2	12	8	34
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None					None						
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	446		859			1445		1413	849	1418	1417	440
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	446		859			1445		1413	849	1418	1417	440
tC, single (s)	4.6		4.1			7.1		6.6	6.2	7.5	6.5	6.8
tC, 2 stage (s)												
tF (s)	2.6		2.2			3.5		4.1	3.3	3.8	4.0	3.9
p0 queue free %	94		100			95		85	99	85	94	93
cM capacity (veh/h)	905		791			94		123	364	81	129	507
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	57	849	10	2	440	6	25	54				
Volume Left	57	0	0	2	0	0	5	12				
Volume Right	0	0	10	0	0	6	2	34				
cSH	905	1700	1700	791	1700	1700	122	195				
Volume to Capacity	0.06	0.50	0.01	0.00	0.26	0.00	0.21	0.28				
Queue Length 95th (m)	1.5	0.0	0.0	0.1	0.0	0.0	5.6	8.2				
Control Delay (s)	9.2	0.0	0.0	9.6	0.0	0.0	42.1	30.4				
Lane LOS	A		A			E		D				
Approach Delay (s)	0.6		0.0			42.1		30.4				
Approach LOS						E		D				
Intersection Summary												
Average Delay			2.2									
Intersection Capacity Utilization			54.7%			ICU Level of Service				A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

3: McCowan Road & Davis Drive






















08/01/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	466	11	1	774	11	9	7	2	8	7	58
Future Volume (Veh/h)	50	466	11	1	774	11	9	7	2	8	7	58
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	55	512	12	1	851	12	10	8	2	9	8	64
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	863			524			1543	1487	512	1481	1487	851
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	863			524			1543	1487	512	1481	1487	851
tC, single (s)	4.8			4.1			7.3	6.5	6.2	8.0	6.8	6.9
tC, 2 stage (s)												
tF (s)	2.8			2.2			3.7	4.0	3.3	4.3	4.3	3.9
p0 queue free %	90			100			82	93	100	85	92	77
cM capacity (veh/h)	549			1053			56	113	566	58	98	279
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	55	512	12	1	851	12	20	81				
Volume Left	55	0	0	1	0	0	10	9				
Volume Right	0	0	12	0	0	12	2	64				
cSH	549	1700	1700	1053	1700	1700	79	174				
Volume to Capacity	0.10	0.30	0.01	0.00	0.50	0.01	0.25	0.47				
Queue Length 95th (m)	2.5	0.0	0.0	0.0	0.0	0.0	6.9	16.7				
Control Delay (s)	12.3	0.0	0.0	8.4	0.0	0.0	65.1	42.5				
Lane LOS	B			A			F	E				
Approach Delay (s)	1.2			0.0			65.1	42.5				
Approach LOS							F	E				
Intersection Summary												
Average Delay			3.5									
Intersection Capacity Utilization			52.6%			ICU Level of Service		A				
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

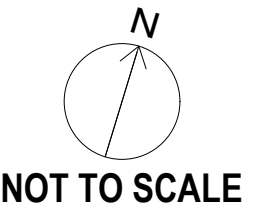
3: McCowan Road & Davis Drive

08/01/2019

																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations																		
Traffic Volume (veh/h)	71	790	9	2	409	8	5	17	2	13	7	50						
Future Volume (Veh/h)	71	790	9	2	409	8	5	17	2	13	7	50						
Sign Control		Free			Free			Stop			Stop							
Grade		0%			0%			0%			0%							
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93						
Hourly flow rate (vph)	76	849	10	2	440	9	5	18	2	14	8	54						
Pedestrians																		
Lane Width (m)																		
Walking Speed (m/s)																		
Percent Blockage																		
Right turn flare (veh)																		
Median type	None					None												
Median storage (veh)																		
Upstream signal (m)																		
pX, platoon unblocked																		
vC, conflicting volume	449			859			1503		1454		849		1456		1455		440	
vC1, stage 1 conf vol																		
vC2, stage 2 conf vol																		
vCu, unblocked vol	449			859			1503		1454		849		1456		1455		440	
tC, single (s)	4.7			4.1			7.1		6.6		6.2		7.6		6.5		7.0	
tC, 2 stage (s)																		
tF (s)	2.8			2.2			3.5		4.1		3.3		3.9		4.0		4.0	
p0 queue free %	91			100			94		84		99		80		93		89	
cM capacity (veh/h)	856			791			79		113		364		70		119		488	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1										
Volume Total	76	849	10	2	440	9	25	76										
Volume Left	76	0	0	2	0	0	5	14										
Volume Right	0	0	10	0	0	9	2	54										
cSH	856	1700	1700	791	1700	1700	109	201										
Volume to Capacity	0.09	0.50	0.01	0.00	0.26	0.01	0.23	0.38										
Queue Length 95th (m)	2.2	0.0	0.0	0.1	0.0	0.0	6.3	12.5										
Control Delay (s)	9.6	0.0	0.0	9.6	0.0	0.0	47.4	33.4										
Lane LOS	A			A			E		D									
Approach Delay (s)	0.8			0.0			47.4		33.4									
Approach LOS							E		D									
Intersection Summary																		
Average Delay	3.0																	
Intersection Capacity Utilization	60.3%			ICU Level of Service					B									
Analysis Period (min)	15																	

Appendix G

Preliminary Functional Design – Turning Lanes



DESIGN SPEED - 100 km / h

CRITERIA	PROPOSED	YR (RDGLs)	MTO	TAC
LEFT-TURN (LT) TAPER	160.0 m	160.0 m	160.0 m	97.5 m
LEFT-TURN (LT) PARALLEL	70.0 m	70.0 m	70.0 m	160.0 m
LEFT-TURN (LT) TOTAL	230.0 m	230.0 m	230.0 m	257.5 m
RIGHT-TURN (RT) TAPER	80.0 m	80.0 m	80.0 m	55.25 m
RIGHT-TURN (RT) PARALLEL	30.0 m	30.0 m	85.0 m	60.0 m
RIGHT-TURN (RT) TOTAL	110.0 m	110.0 m	165.0 m	115.25 m

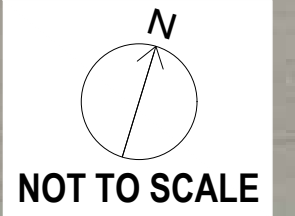


HOLT PIT FILL MANAGEMENT PLAN

TURNING LANES PRELIMINARY DESIGN, DAVIS DRIVE & MCCOWAN ROAD

Figure 1

Project No.	11139891
Date	Jun. 10, 2019



DESIGN SPEED - 80 km / h			
CRITERIA	PROPOSED	MTO	TAC
RIGHT-TURN (RT) TAPER	70.0 m	70.0 m	84.0 m



HOLT PIT FILL MANAGEMENT PLAN
 TURNING LANES PRELIMINARY DESIGN, SITE ACCESS & MCCOWAN ROAD

Figure 2

Project No.	11139891
Date	Jun. 10, 2019

Appendix H
Geometric Design Manuals / Guidelines

GEOMETRIC DESIGN STANDARDS FOR ONTARIO HIGHWAYS



Ministry
of
Transportation

SURVEYS & DESIGN OFFICE
Downsview, Ontario

© 1985, Queen's Printer for Ontario
ISBN 0-7729-2745-6

CHAPTER E

AT-GRADE

INTERSECTIONS

- A - Minimum Stopping Sight Distance, Table E3-1.
- A₁ - Distance travelled in 3 s, Table E3-2.
- B - Safe Sight Distance for P vehicle, crossing 2-lane highway from stop.
- C - Safe Sight Distance for P vehicle, turning left into 2-lane highway across P vehicle approaching from left.
- D - Safe Sight Distance for P vehicle to turn left into 2-lane highway and attain assumed operating speed before being overtaken by P vehicle approaching in same direction at design speed.
- E - Safe Sight Distance for P vehicle to turn right into 2-lane highway and attain assumed operating speed before being overtaken by P vehicle approaching in same direction at design speed.

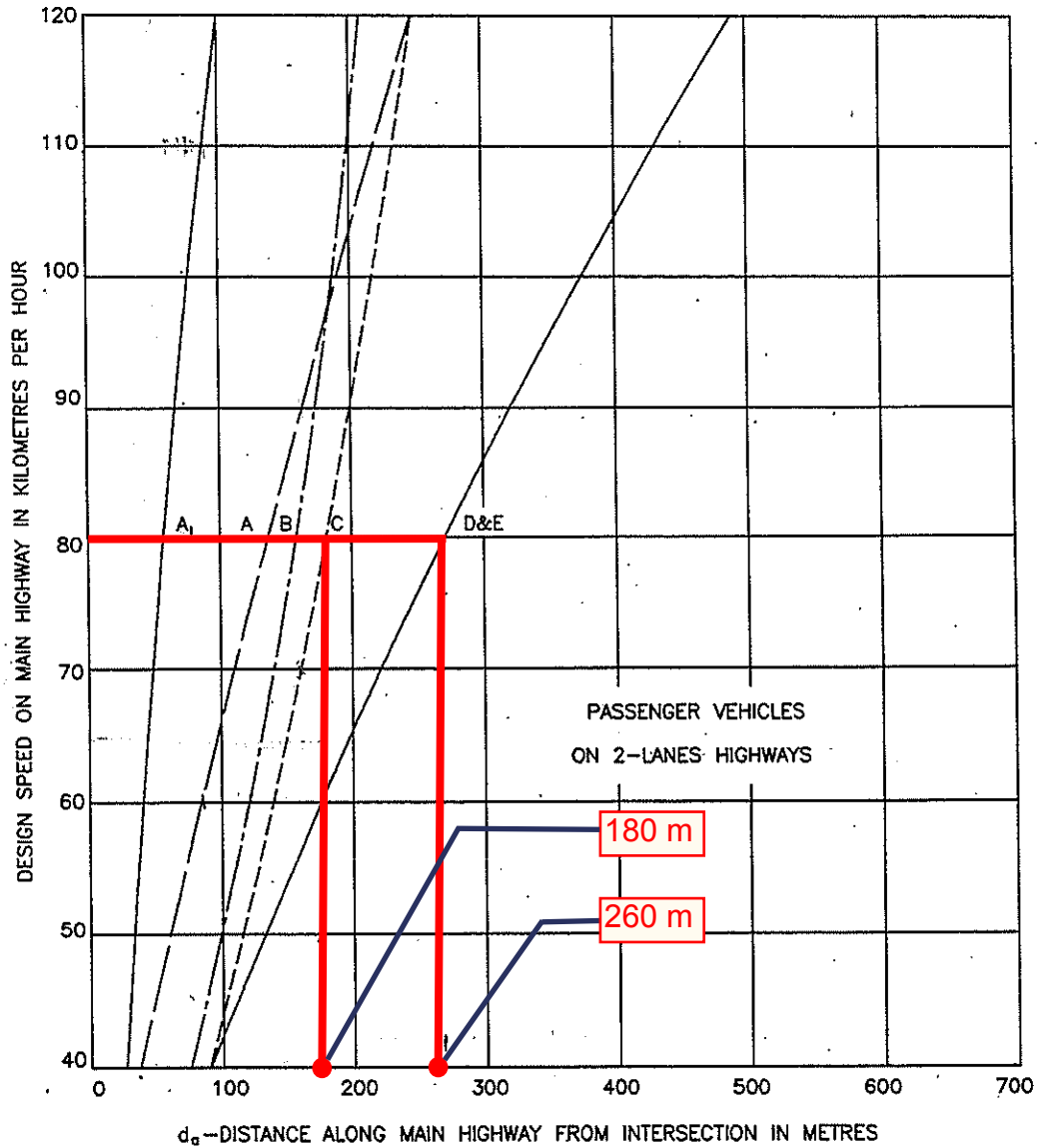


Figure E3-6

Sight Distance Requirements for Stopping
Crossing and Turning Movements


Transportation
Association of
Canada



Geometric
Design
Guide for
Canadian
Roads

Part 2

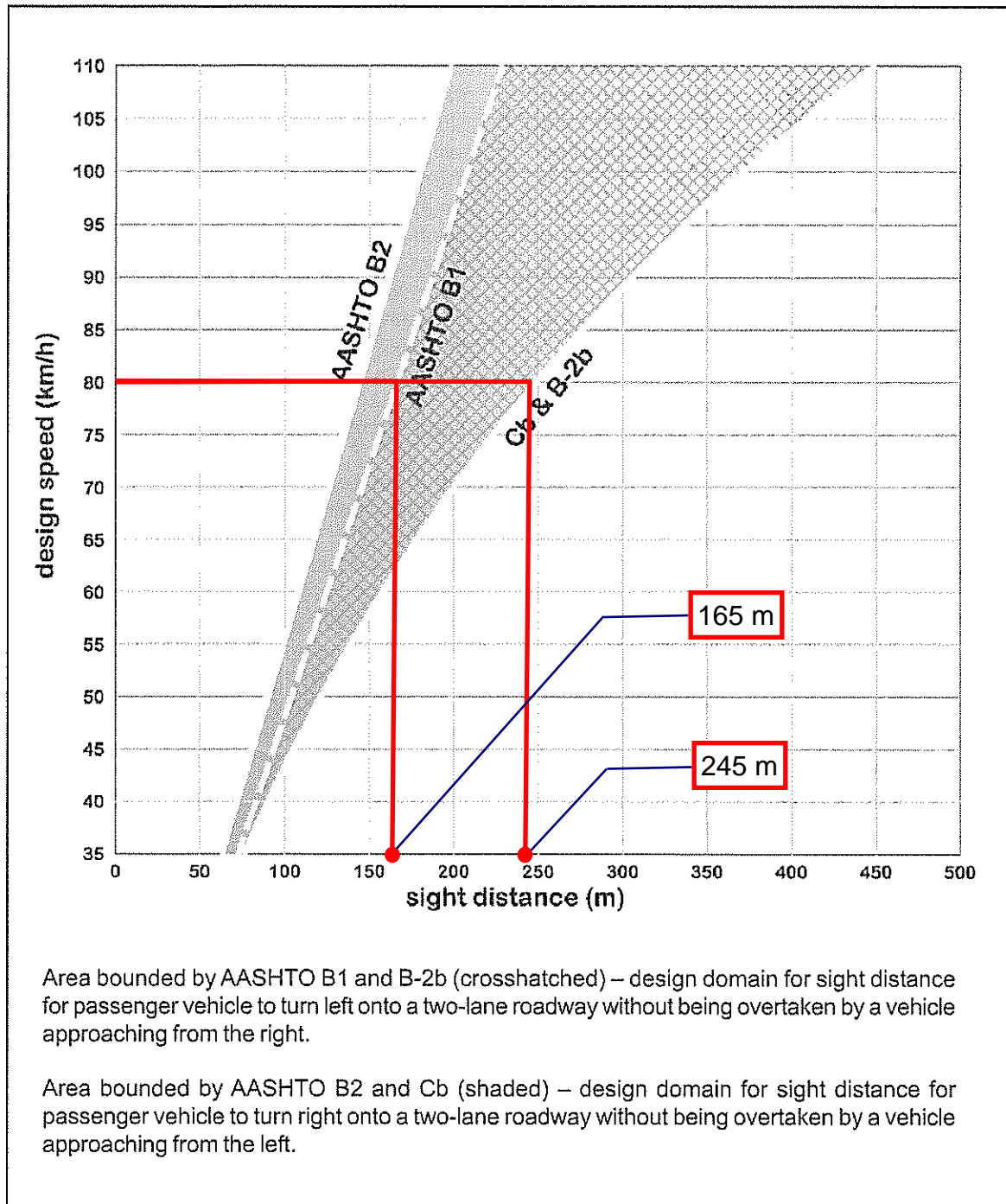
September 1999
Updated December 2011



Intersections

Chapter 2.3

Figure 2.3.3.4b Sight Distance for Turning Movements with Vehicles approaching in the Intended Direction of Travel



b) Turning Sight Distance

Sight distance for turning movements is normally measured from the height of the turning vehicle driver's eye to the top of the approaching vehicle. However, a driver cannot clearly detect the presence of an approaching vehicle until some part of the vehicle is visible. It is prudent to take the sight line to the approaching vehicle at some depth below the top of the vehicle. This depth might vary with distance from the through vehicle. A depth of 150 mm below the top will usually alert the turning driver to the presence of a through vehicle. See Chapter 1.2 for vehicle height. The increased driver height for trucks is beneficial for sight distance on crest curves.

As illustrated in Figure 2.3.3.2, sufficient sight distance must be provided for vehicles turning from the minor road onto the major road under each of the following three scenarios:

- Vehicles turning left onto the major roadway with traffic approaching from the left.
- Vehicles turning left onto the major roadway with traffic approaching from the right.
- Vehicles turning right onto the major roadway with traffic approaching from the left.

The required sight distance under the first scenario is determined using line B-1 in Figure 2.3.3.4a. Sufficient sight distance must be provided such that the turning vehicle will avoid interruption of through traffic approaching from the left.

For divided roadways, the width of the median determines if the left-turn manoeuvre is considered as one or two manoeuvres. If the median width is less than the length of the design vehicle, the sight distance required is based on a single manoeuvre. For this condition, line B-1 would not be sufficient, since it is based on an undivided two-lane roadway. Additional sight distance is needed at a divided highway with a narrow median to account for the extra distance required for the vehicle to cross the additional lanes and the median, as part of the left turn manoeuvre. The sight distance for a passenger vehicle to turn left onto a four-lane roadway

across a passenger vehicle approaching from the left is shown on Figure 2.3.3.4a as a dashed line (B-1-4 lane + median).

The other two turning scenarios require that additional sight distance be provided such that the turning vehicle can attain a desired percentage of the mainline design speed without being overtaken by a vehicle approaching in the intended direction of travel, which is simultaneously assumed to be operating at a slightly reduced speed. The required sight distance under both of these scenarios is determined using a design domain approach. The methodologies used to define both the lower and upper boundaries for the design domain are outlined in the following paragraphs.

Lower Boundary of Design Domain

The lower boundary of the design domain is based on empirical gap acceptance methodology presented in AASHTO's 2001 Policy on Geometric Design of Highways and Streets. Acceptable gaps were determined such that vehicles travelling on the major road need not reduce their speed to less than 70% of their initial speed. Field observations have shown that the values contained in Table 2.3.3.2a provide sufficient time gaps to meet this condition. Table 2.3.3.2a also includes appropriate adjustments to these time gaps to account for vehicle size, number of lanes on the major road, and approach grade on the minor road.

Using the appropriate time gap value, the intersection sight distance along the major roadway (in both directions) is determined by:

$$ISD = (V_{major} \times t_g) / 3.6 \quad (2.3.3)$$

where:

ISD = intersection sight distance

V_{major} = design speed of the major roadway (km/h)

t_g = time gap for turning vehicle from the minor roadway to enter the major roadway (s)

The intersection sight distance requirements for a passenger vehicle turning left onto a two-lane roadway without being overtaken by a vehicle approaching from the right is represented by line AASHTO B1 in Figure 2.3.3.4b. Similarly, the intersection sight distance required for a passenger vehicle to turn right onto a two-lane roadway without being overtaken by a vehicle approaching from the left is represented by line AASHTO B2.

Upper Boundary of Design Domain

The upper boundary of the design domain is based on a more theoretical application of the gap acceptance methodology, which provides more conservative values of sight distance. This methodology assumes that vehicles on the major roadway should not reduce their speed to less than 85% of the design speed, and that a gap of at least 2 seconds must be maintained between the turning vehicle and the approaching vehicle.

To determine sight distance, the first step is to establish the distance travelled by the turning vehicle in order to reach a speed equal to 85% of the mainline speed. Next, the distance that the approaching vehicle would travel in the same time plus 2 seconds (while slowing to 85% of the design speed) is determined. Finally, the required sight distance is calculated as the difference between the total distance traveled by the approaching vehicle and the distance travelled beyond the intersection by the turning vehicle.

Based on this methodology, the intersection sight distance requirements for a passenger vehicle turning left onto a two-lane roadway without being overtaken by a vehicle approaching from the right is represented by line B-2b in Figure 2.3.3.4b. Similarly, the intersection sight distance for a passenger vehicle to turn right onto a two-lane roadway without being overtaken by a vehicle approaching from the left is represented by line Cb.

The upper boundary of the design domain should also be adjusted for vehicles turning left onto divided roadways. A proxy adjustment can be made by substituting the appropriate time adjustments from Table 2.3.3.2a (0.5s or 0.7s) into Equation 2.3.3 and adding the result to the

sight distance determined from line B-2b on Figure 2.3.3.4b.

Heuristics

It is the designer's responsibility to use their discretion to select appropriate sight distance values from the design domain. An effort should be made to incorporate the upper boundary values of the design domain when providing such distance is a feasible option. Consideration should also be given to such factors as the classification of the roadway and the anticipated traffic growth rates. Maximum sight distance is desired on higher class roadways and in areas where high traffic volumes are present.

Table 2.3.3.2a Time Gap for Turning Movements from Stop

Design Vehicle	Time gap t_g (s)	
	Left-turn	Right-turn
Passenger car	7.5	6.5
Single-unit truck	9.5	8.5
Combination truck	11.5	10.5

Note: Time gaps are for a stopped vehicle to turn right or left onto a two-lane highway with no median and grades of 3 percent or less. The table values require adjustment as follows:

For multilane highways: Add 0.5 seconds for passenger cars or 0.7 seconds for trucks for each additional lane, in excess of one, to be crossed by the turning vehicle.

For minor road approach grades: If the approach grade is an upgrade that exceeds 3 percent; add 0.2 seconds for each percent grade for a left turning vehicle or 0.1 seconds for each percent grade for a right turning vehicle.

Note: Gap times should be increased where turning manoeuvres by long combination trucks (length greater than 23m) are common.

Appendix I
The York Region Safety Audit

From: Hertel, Tamas <Tamas.Hertel@york.ca>
Sent: January-12-21 5:06 PM
To: Massadeh, Jamal <JMassadeh@eastgwillimbury.ca>
Subject: RE: McCowan Rd Safety Audit

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi Jamal,

As discussed, please see a summary of recent safety reviews and measures taken on McCowan Road between Davis Drive and Mount Albert Road. These are in addition to the improvements that the Region has requested for the Holt Pit operations and the resultant truck traffic (e.g. turn lanes on Davis Drive at McCowan Road and right turn lane into Holt Pit site).

Data Collection:

- Staff has been monitoring this section of McCowan Road, between Davis Drive and Mount Albert Road and have conducted speed, vehicle classification, and traffic volume studies, most recently in 2019 and 2020.
- This section of McCowan Road is a low volume road (less than 900 vehicles daily) and has sufficient capacity, even with increase in trucks

Speeding and Speed Limits

- The speed limit policy evaluation concludes that the current posted speed limits (60 km/h north of Mill Road and 50 km/h south of Mill Road) are appropriate.
- Operating Speed Study conducted in September 2020 and results confirm that the current posted speed limit is appropriate.
- To increase motorists compliance to posted speed limits, the Region has deployed a speed board to this stretch of McCowan Road.

Trucks

- In 2010 McCowan Road between Herald Road and Davis Drive was rehabilitated to accommodate all vehicular traffic, including trucks. The rehabilitation included full depth reclamation with expanded asphalt stabilization and hot mix asphalt paving.
- In 2015, York Region staff conducted a study of load restricted Regional roads and the load restriction was removed between Davis Drive and 500 metres north of Herald Road
- YRP has been engaged to monitor and enforce speeding trucks

McCowan Road and Herald Road Intersection

- In November 2019, the Region converted McCowan Road and Herald Road intersection to an all way stop including the implementation of pavement markings and additional signage to improve intersection control awareness and increase compliance and conspicuity of the intersection
- Earlier this year the Region implemented an overhead flashing beacon

Railway Crossing

- The Region conducted a railway crossing assessment and improved signage including:
 - Advisory speed (40 km/h) signs in both direction in advance of approaching the railway crossing
 - Advisory speed (30 km/h) tab beneath the railway crossing signs in both directions approaching railway crossing
 - Staff forwarded concerns to the attention of the the rail authority to consider rail and road improvements.

McCowan Road between Mount Albert Road and Herald Road

- In August 2020, the Region recommended roadside improvements including replacement of the existing guiderail on McCowan Road (south of Mill Road). This project is pending prioritization and budget.
- In November 2020, the Region installed School Bus Stop Ahead signs on McCowan Road in both directions approaching the Community of Holt.
- The Region has installed other signage in the past such as “Horse with Rider” and deer sign

Please let me know if you have any further questions or concerns.

Thanks, Tamas

Tamas Hertel MCIP RPP BES | Program Manager, Traffic Safety
Roads and Traffic Operations, Transportation Services

O:1-877-464-9675 ext.76047 M:905-806-5627



[Chat with me in Teams](#)

Our Mission: **Working together to serve our thriving communities – today and tomorrow**

Appendix J
ATR Data

Start Date: 5/25/2018

Site Code: 1

Station ID: T1

Location 1: McCowan Rd immediately north of 18725

Location 2:

Date	Day	All Day	Northbound				Southbound			
			Cars	Trucks	Total	T%	Cars	Trucks	Total	T%
All Day (12:00 AM ~ 11:45 PM)										
May 25 2018	Friday	All Day	341	157	498	32%	218	98	316	31%
May 26 2018	Saturday	All Day	268	92	360	26%	167	62	229	27%
May 27 2018	Sunday	All Day	282	80	362	22%	229	81	310	26%
May 28 2018	Monday	All Day	317	128	445	29%	205	90	295	31%
May 29 2018	Tuesday	All Day	320	95	415	23%	234	98	332	30%
May 30 2018	Wednesday	All Day	326	109	435	25%	234	115	349	33%
May 31 2018	Thursday	All Day	326	109	435	25%	232	109	341	32%
Median (NB + SB)			320	95	415	23%	234	98	332	30%
Average			311	110	421	26%	217	93	310	30%

NB+SB	
Total	

814	Max
589	
672	Median
740	
747	
784	
776	

731 avg

Location 1: McCowan Rd 400m north of Herald Rd

Location 2:

Date	Day	All Day	Northbound				Southbound			
			Cars	Trucks	Total	T%	Cars	Trucks	Total	T%
All Day (12:00 AM ~ 11:45 PM)										
May 25 2018	Friday	All Day	227	135	362	37%	180	131	311	42%
May 26 2018	Saturday	All Day	168	84	252	33%	155	86	241	36%
May 27 2018	Sunday	All Day	178	69	247	28%	208	84	292	29%
May 28 2018	Monday	All Day	191	127	318	40%	162	140	302	46%
May 29 2018	Tuesday	All Day	219	139	358	39%	183	130	313	42%
May 30 2018	Wednesday	All Day	209	130	339	38%	211	135	346	39%
May 31 2018	Thursday	All Day	196	128	324	40%	153	137	290	47%
Median (NB + SB)			191	127	318	40%	162	140	302	46%
Average			198	116	314	37%	179	120	299	40%

NB+SB
Total

673	Median
493	
539	
620	
671	
685	Max
614	

614 avg

Summary of ATR Data Along McCowan Road

Date of Data Collection	ATR Location	Average Daily Traffic (Veh/Day)	Average Daily Cars (Cars/Day)	Average Daily Trucks (Trucks/Day)
July 9 - July 24, 2020	McCowan Rd 200 m South of Strada Access	468	423	45
	McCowan Rd 400 m South of Strada Access	462	416	46
	McCowan Rd 200 m North of Strada Access	486	412	74
	McCowan Rd 500 m North of Strada Access	487	410	77
	McCowan Rd 300 m South of Herald Road	493	449	44
Oct 30 - Nov 1, Nov 6 -Nov 13, Nov 20 - Nov 30, 2020	McCowan Rd 300m North of Herald Rd	446	427	19
	McCowan Rd in front of #18698	501	429	72
All Locations		478	424	48

www.ghd.com

