

## **Traffic Control Signals Review – Steeles Avenue East and Mountcastle Gate**

**Date:** October 17, 2017  
**To:** Scarborough Community Council  
**From:** Acting Director, Transportation Services, Scarborough District  
**Wards:** Ward 39 – Scarborough-Agincourt

### **SUMMARY**

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This report recommends that traffic control signals not be approved at the intersection of Steeles Avenue East and Mountcastle Gate. The assessment concludes that based on current peak vehicular and pedestrian volumes and delays at this intersection, traffic control signals or a pedestrian crossover, are neither justified nor warranted at this time. Currently, this location is unsignalized with a stop control facing Mountcastle Gate.

### **RECOMMENDATIONS**

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The Acting Director, Transportation Services, Scarborough District recommends that:

1. City Council deny the authorization to install traffic control signals at the intersection of Steeles Avenue East and Mountcastle Gate.

### **FINANCIAL IMPACT**

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There is no financial impact associated with this report.

### **DECISION HISTORY**

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This report addresses a new initiative.

## COMMENTS

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As a result of a request from Councillor Jim Karygiannis, Transportation Services staff conducted a traffic control signal and a pedestrian crossing protection review at the intersection of Steeles Avenue East and Mountcastle Gate. The field study was conducted on Tuesday, October 3, 2017. The study observed turning movements and pedestrian volumes and delays at the subject intersection.

### Existing Conditions

The intersection of Steeles Avenue East and Mountcastle Gate is located on Steeles Avenue East, between Warden Avenue and Birchmount Road. Steeles Avenue East is a six-lane major arterial roadway with a posted speed limit of 60 kilometres per hour and a daily traffic volume of approximately 52,421 vehicles per day.

A northbound left turn prohibition in effect during the peak periods from 7:00 to 9:00 a.m., and 4:00 to 6:00 p.m., Monday to Friday. The prohibition was approved by City Council in January 2011 as a mitigating measure for this location being unsignalized.

The land uses on this roadway is mainly rear lot single family residential homes, and a restaurant is located west of Mountcastle Gate on Steeles Avenue East. Single family residential homes are located on Mountcastle Gate. There are sidewalks along both sides of Steeles Avenue East.

### Analysis

#### *Pedestrian Crossing Protection Warrant Studies*

Transportation Services staff conducted a detailed Warrant Study at this intersection. The study provides an assessment of the need for traffic control signals or a pedestrian crossover based on vehicle turning movements and pedestrian crossing volumes and delays, which are expressed in terms of percent compliance with accepted thresholds. The 100% threshold is approximately 158 pedestrian crossings in an eight-hour period.

#### *Traffic Control Signal Justification Study*

Using traffic volumes recorded over the peak eight hours of a typical weekday the following results were obtained.

Traffic Control Signal Warrant	Compliance Level - Tuesday, October 3, 2017
Minimum Vehicular Volume	32%
Delay To Cross Traffic	35%
Collision Hazard	7%

For traffic control signals to be numerically justified, one of the "Minimum Vehicular Volume" or "Delay to Cross Traffic" or Collision Hazard" warrants must be 100% satisfied, or both "Minimum Vehicle Volume" and "Delay to Cross Traffic" must be at least 80% satisfied. Our review of the Collision Hazard at the time was based on the most recent three-year (2014 - 2016) collision history available.

As outlined in the above tables, the traffic volumes do not satisfy the warrants to install traffic control signals.

#### *Pedestrian Crossover Protection Study*

The following Pedestrian Crossover Protection Study results were obtained.

Pedestrian Crossing Protection	Compliance Level - Tuesday, October 3, 2017
Pedestrian Volume	32%
Pedestrian Delays	39%

For pedestrian crossing protection to be numerically justified, both the "Pedestrian Volume" and "Pedestrian Delays" warrants must be 100% satisfied.

As outlined in the above table, the pedestrian volumes and delays do not satisfy the requirements to install a pedestrian crossover at the subject intersection at this time.

For a pedestrian crossover to be numerically justified, the required "Pedestrian Volume" must exceed 158 pedestrians crossing Steeles Avenue East in the peak eight-hour period in this case. There were only 51 pedestrians observed crossing during the study period.

In addition, the 85th percentile traffic speed of 70 km/h along Steeles Avenue East exceeds the guideline of 60 km/h or less for which a pedestrian crossover is considered safe to use. If a crossover had been warranted, staff would have instead recommended the installation of Traffic Control Signals in light of the speed issue.

### *Collision History*

An updated review of the available Toronto Police Service collision records for the five-year period ending December 31, 2016 are summarised below:

Five-Year Collision	2012	2013	2014	2015	2016	Total
Vehicle-Only Collisions potentially Preventable by Traffic Control Signals	0	0	0	0	1	1
Collisions involving Pedestrian Crossings of Steeles Avenue East (at the subject intersection)	0	0	0	0	0	0

As shown in the above table, this collision record is not indicative of a safety problem at this location.

On the basis of the foregoing studies and analyses, it is recommended that Traffic Control Signals not be installed at the intersection of Steeles Avenue East and Mountcastle Gate at this time. However, should such signals be justified in the future, this would be a suitable location from a traffic signal spacing and operations perspective. The nearest traffic control signals are at Birchmount Road located to the east and at Warden Avenue located to the west.

As a result of angle collisions at this location, a 2011 Council Report approved the installation of a northbound left turn prohibition, between 7:00 a.m. and 9:00 a.m. and 4:00 p.m. and 6:00 p.m., Monday to Friday. This prohibition is still in effect.

The signalization of this intersection would require rescinding the current northbound left turn prohibition.

### **Alternate Recommendation**

If, despite the findings above, the Scarborough Community Council determines that a Traffic Control Signals would be beneficial, it may approve the following as to form:

1. City Council authorize the installation of traffic control signals at the intersection of Steeles Avenue East and Mountcastle Gate.
2. City Council rescind the existing northbound left turn prohibition in effect from 7:00 a.m. to 9:00 a.m., and 4:00 p.m. to 6:00 p.m., Monday to Friday.

However, should City Council approve the installation of traffic control signals, the cost would be approximately \$200,000.00. Funding for such traffic control signals has not been requested in the Transportation Services Capital Budget and would be subject to competing priorities.

## **CONTACT**

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## **SIGNATURE**

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Carly Hinks, C.E.T.  
Acting Director, Transportation Services, Scarborough District

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D17-8062905

## **ATTACHMENTS**

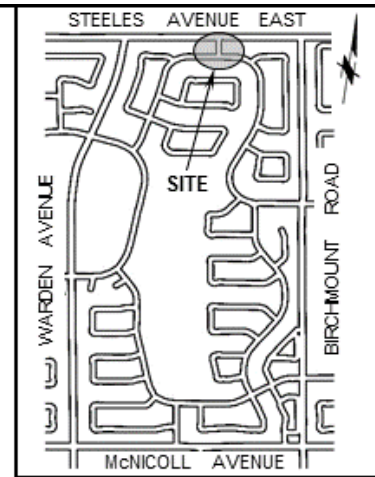
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1. Location Plan (Traffic Control Signals Review - Steeles Avenue East and Mountcastle Gate)

# **LEGEND**

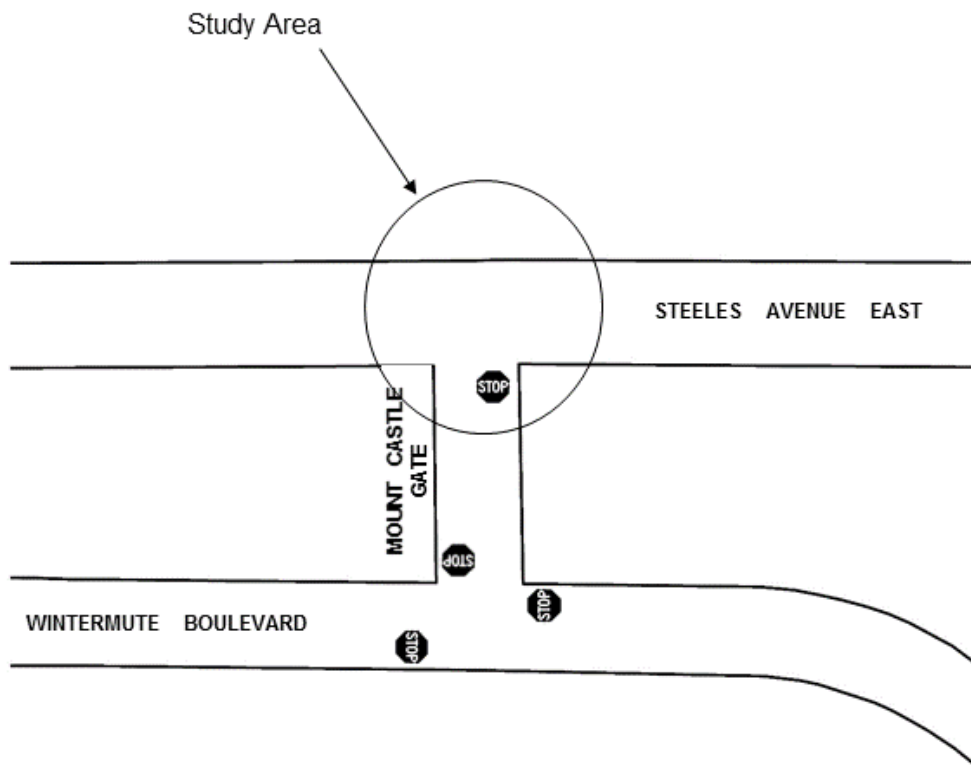


EXISTING STOP SIGN



**KEY MAP**

Study Area



**LOCATION MAP**



TRANSPORTATION SERVICES

TRAFFIC OPERATIONS  
Scarborough District

SCALE:	N.T.S.	TRAFFIC CONTROL SIGNALS REVIEW STEELES AVENUE EAST AND MOUNTCASTLE GATE	FILE NUMBER: D17-8062905	
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