

Traffic Control Signals Review - Ellesmere Road and Grangeway Avenue

Date: June 7, 2018
To: Scarborough Community Council
From: Director, Transportation Services, Scarborough District
Wards: Ward 38 – Scarborough Centre

SUMMARY

This report responds to a request from the Scarborough Community Council to review the feasibility of installing traffic control signals on Ellesmere Road at Grangeway Avenue. Currently, this intersection is controlled by a stop sign for southbound traffic on Grangeway Avenue at Ellesmere Road.

RECOMMENDATIONS

The Director, Transportation Services, Scarborough District recommends that:

1. City Council refuse to authorize the installation of traffic control signals at the intersection of Ellesmere Road and Grangeway Avenue.

FINANCIAL IMPACT

There would be no financial impact associated with the staff recommendation.

DECISION HISTORY

At the meeting on May 2, 2018, the Scarborough Community Council requested the Director, Transportation Services, Scarborough District to report back to the July 4, 2018 meeting of the Scarborough Community Council on the feasibility of installing Traffic Control Signals at the intersection of Ellesmere Road and Grangeway Avenue.

Below is the link to this decision:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.SC30.18>

COMMENTS

Further to an original request from Councillor Glenn De Baeremaeker, and the subsequent request from the Scarborough Community Council, staff studied this location to determine if traffic control signals are needed.

Existing Conditions

The following characteristics describe Ellesmere Road at Grangeway Avenue:

- This intersection is located east of McCowan Road and west of Bellamy Road.
- Ellesmere Road is a four-lane major arterial road with a regulatory speed limit of 60 km/h.
- Currently, southbound traffic on Grangeway Avenue is required to stop at Ellesmere Road.
- The land uses in the surrounding area consist mainly of single and multi-family residential dwellings and commercial businesses.
- There are sidewalks on the both sides of Ellesmere Road and also on both sides of Grangeway Avenue.
- Toronto Transit Commission (TTC) operates revenue bus service on Ellesmere Road.
- There are no TTC bus stops at this intersection: However, the nearest westbound and eastbound TTC bus stops are located at the signalized intersections of Ellesmere Road and McCowan Road, approximately 200 metres west and Ellesmere Road at Parkington Crescent, approximately 200 metres east of the subject intersection.
- There is street lighting on both sides of the subject roads.

Pedestrian Crossing Protection Warrant Studies

Transportation Services staff conducted a detailed Warrant Study on Ellesmere Road at Grangeway Avenue during the peak eight hours of a typical weekday (Tuesday, October 24, 2017). 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.

Traffic Control Signal Justification Study

Using traffic volumes recorded during the peak eight hours on Tuesday, October 24, 2017, the following results were obtained:

Traffic Control Signal Warrant	Compliance Level
Minimum Vehicular Volume	50%
Delay To Cross Traffic	58%
Collision Hazard	13%

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 the “Minimum Vehicular Volume” and “Delay to Cross Traffic” warrants must be at least 80% satisfied. Our review of the Collision Hazard is based on the previous three-years at the time of the study (2014 – 2016) collision history available.

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

Pedestrian Crossing Protection Study

Using traffic volumes recorded during the peak eight hours on Tuesday, October 24, 2017, the following results were obtained:

Pedestrian Crossing Protection	Compliance Level
Pedestrian Volumes	7%
Pedestrian Delays	11%

For a pedestrian crossover 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.

During the peak eight hour study period, a total of 14 pedestrian crossings and 15,146 vehicles were recorded at this location. For a pedestrian crossover to be numerically justified at this intersection, the required "Pedestrian Volume" must exceed 198 pedestrians crossing Ellesmere Road during the peak eight hour period. All 14 pedestrians were delayed more than 10 seconds.

Even if a PXO were justified, staff would recommend full traffic control signals since Ellesmere Road is too wide having five lanes. The maximum number of lanes for a PXO is four lanes.

Collision History

An updated review of the available Toronto Police Service collision records for the three-year period ending December 31, 2017 are summarized below.

Five-Year Collision Information	Number of Reported Collisions (By Year)			
	2015	2016	2017	Total
Collisions Potentially Preventable by Traffic Control Signals	0	1	0	1
Collisions Involving Pedestrians Crossing Ellesmere Road at Grangeway Avenue	0	0	0	0

In summary, it is not recommended to install traffic control signals at the intersection of Ellesmere Road and Grangeway Avenue. This intersection does not meet the technical warrants for the installation of traffic control signals. The TTC has been consulted and concurs with these findings. However, should such Traffic Control Signals be justified in the future, this would be a suitable location.

Alternate Recommendation

If, despite the findings above, the City Council determines that 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 Ellesmere Road and Grangeway Avenue.

However, if traffic control signals were to be approved at the subject intersection, then the financial cost of the installation would be approximately \$200,000.00. The funding for such has not been requested in the Transportation Services Division's 2018 Capital Budget, and would be subject to competing priorities and installation demands. Such an installation might also impact two trees on the south side of Ellesmere Road, requiring their potential removal and replacement.

CONTACT

Marko A. Oinonen, B.A.Sc., DPA, P.Eng.
Manager, Traffic Operations, Scarborough District
Tel: 416-396-7148
Fax: 416-396-5641
E-Mail: marko.oinonen@toronto.ca

SIGNATURE

Myles Currie, B.A.
Director, Transportation Services, Scarborough District

FL:cr

sc1855
D17-8313695

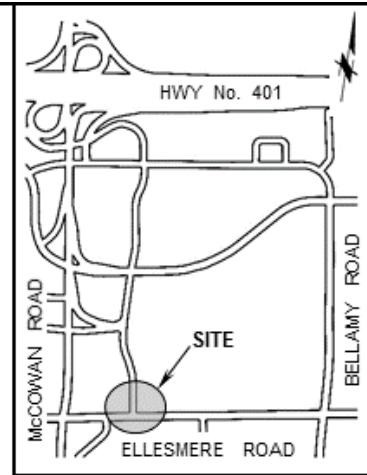
ATTACHMENTS

1. Location Plan (Traffic Control Signals Review - Ellesmere Road and Grangeway Avenue)

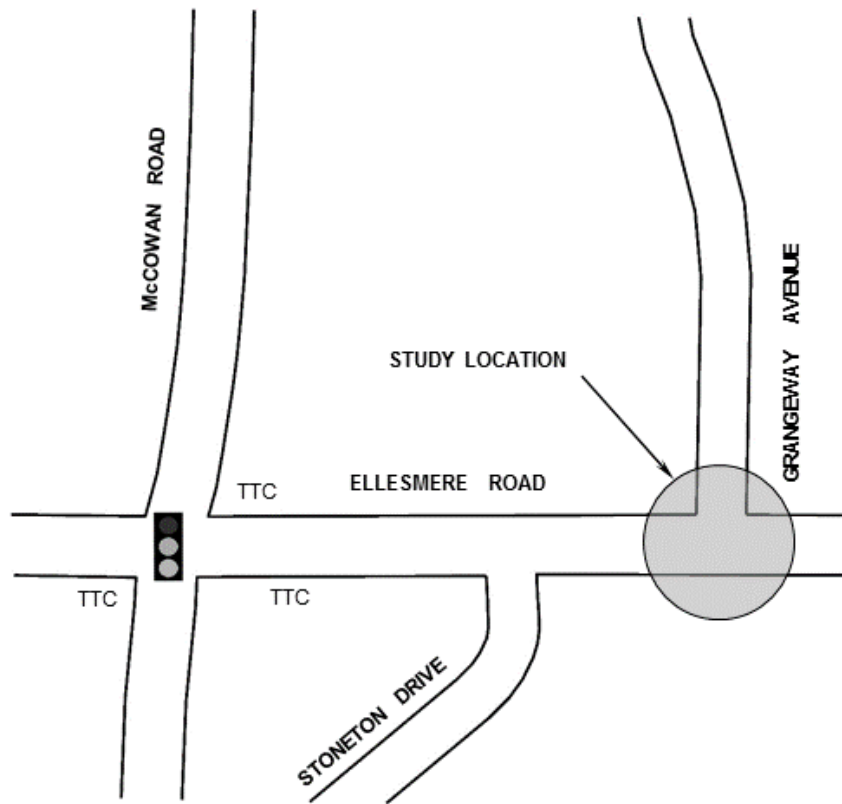
LEGEND



EXISTING TRAFFIC CONTROL SIGNAL



KEY MAP



LOCATION MAP



TRANSPORTATION SERVICES

TRAFFIC OPERATIONS
Scarborough District

SCALE:	N.T.S.	TRAFFIC CONTROL SIGNAL REVIEW ELLESMERE ROAD AND GRANGEWAY AVENUE	FILE NUMBER: D17-8313695	
DATE:	MAY, 2018		ATTACHMENT	WARD
DRAFTING:	O.K.		1	38