

Traffic Control Signals Review - Steeles Avenue East and Eastvale Drive (City of Markham)

Date: March 27, 2018
To: Scarborough Community Council
From: Director, Transportation Services, Scarborough District
Wards: Ward 42 – Scarborough-Rouge River

SUMMARY

This report responds to a request from Councillor Neethan Shan to review the feasibility of installing traffic control signals on Steeles Avenue East at Eastvale Drive (City of Markham). Currently, this intersection is controlled by a stop sign for southbound traffic on Eastvale Drive at Steeles Avenue East.

RECOMMENDATIONS

The Director, Transportation Services, Scarborough District recommends that:

1. City Council not authorize the installation of traffic control signals at the intersection of Steeles Avenue East and Eastvale Drive.

FINANCIAL IMPACT

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

DECISION HISTORY

This report addresses a new initiative.

COMMENTS

At the meeting on January 16, 2018, Scarborough Community Council requested the Director, Transportation Services, Scarborough District to report back to the April 4, 2018 meeting of the Scarborough Community Council on the feasibility of installing Traffic Control Signals at the intersection of Steeles Avenue East and Eastvale Drive (City of Markham). Below is the link to this decision.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.SC27.24>

Existing Conditions

The following characteristics describe Steeles Avenue East at Eastvale Drive:

- This intersection is located east of Tapscott Road and west of Staines Road.
- Steeles Avenue East is a two-lane minor arterial road with a regulatory speed limit of 60 km/h.
- Currently, southbound traffic on Eastvale Drive are required to stop at Steeles Avenue East.
- The land use in the surrounding area consists mainly of single family residential dwellings and commercial businesses.
- There are sidewalks on the north side of Steeles Avenue East. There are no sidewalks on the south side of Steeles Avenue East.
- Toronto Transit Commission (TTC) operates revenue bus service on Steeles Avenue East.
- There are westbound and eastbound TTC bus stops located at the intersection. Currently, the eastbound TTC bus stop is out of service. The nearest eastbound TTC bus stop is located at Tapscott Road.
- There is street lighting on the north side of Steeles Avenue East, west of Eastvale Drive.

Analysis

Pedestrian Crossing Protection Warrant Studies

Transportation Services staff conducted a detailed Warrant Study on Steeles Avenue East at Eastvale Drive during the peak eight hours of a typical weekday (Thursday, January 25, 2018). 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 Thursday, January 25, 2018, the following results were obtained:

Traffic Control Signal Warrant	Compliance Level
Minimum Vehicular Volume	52%
Delay To Cross Traffic	46%
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 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-year (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 Thursday, January 25, 2018, the following results were obtained:

Pedestrian Crossing Protection	Compliance Level
Pedestrian Volumes	28%
Pedestrian Delays	38%

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 60 pedestrian crossings and 13,764 vehicles were recorded at this location. For a pedestrian crossover to be numerically justified at this intersection, the required "Pedestrian Volume" must exceed 211 pedestrians crossing Steeles Avenue East during the peak eight hour period.

The eastbound TTC bus stop was recently removed from service by the TTC. To identify existing conditions, a follow up pedestrian count was conducted on Wednesday, March 21, 2018. During the periods from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., there were no pedestrians observed crossing Steeles Avenue East at Eastvale Drive.

Collision History

An updated review of the available Toronto Police Service collision records for the five-year period ending December 31, 2016 are summarized below. The collision records for 2017 is available until September 30, 2017*.

Five-Year Collision Information	Number of Reported Collisions (By Year)						
	2012	2013	2014	2015	2016	2017*	Total
Collisions Potentially Preventable by Traffic Control Signals	1	2	1	0	0	0	4
Collisions Involving Pedestrians Crossing Steeles Avenue East at Eastvale Drive	0	0	0	0	0	0	0

It should be noted that there was a pedestrian fatality at this location on January 7, 2018 and the investigation is ongoing.

In summary, it is not recommended to install traffic control signals at the intersection of Steeles Avenue East and Eastvale Drive. This intersection does not meet the technical warrants for the installation of traffic control signals.

The eastbound TTC bus stop is currently out of service and as noted above, there were no pedestrian crossings of Steeles Avenue East during the morning and afternoon hours. As part of the future Morningside Avenue Extension Project that is expected to be constructed in the next three to five years, a proposed new signalized intersection will be located at Morningside Avenue and Steeles Avenue East, approximately 140 metres east of Eastvale Drive. The TTC has indicated that they will have transit stops at this new intersection, and the remaining westbound stop at Eastvale Drive will be relocated to the Morningside Avenue Extension. The intersection of Steeles Avenue East and Eastvale Drive can be reviewed again for Traffic Control Signals once the Morningside Avenue Extension is opened.

CONTACT

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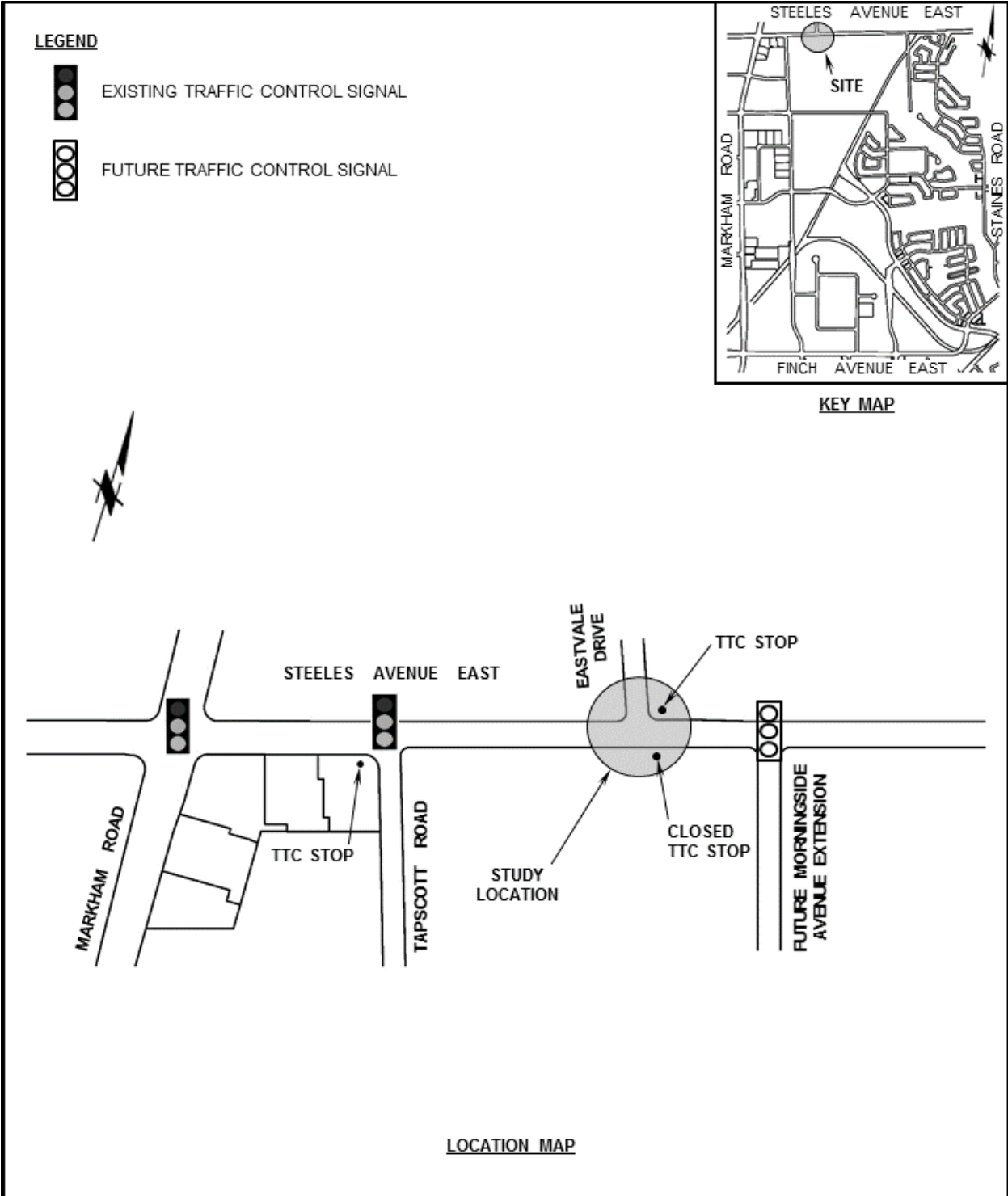
Myles Currie, B.A.
Director, Transportation Services, Scarborough District

MAO:cr

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ATTACHMENTS

1. Location Plan (Traffic Control Signals Review - Steeles Avenue East and Eastvale Drive (City of Markham))



TORONTO TRANSPORTATION SERVICES		TRAFFIC OPERATIONS Scarborough District	
SCALE:	N.T.S.	TRAFFIC CONTROL SIGNALS REVIEW STEELES AVENUE EAST AND EASTVALE DRIVE (CITY OF MARKHAM)	
DATE:	JAN., 2018		
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		ATTACHMENT 1	WARD 42