

Traffic Control Signals Review - McLevin Avenue and Greenspire Road, McLevin Avenue and Malvern Street

Date: January 15, 2020

To: Scarborough Community Council

From: Acting Director, Traffic Management, Transportation Services

Wards: Ward 23 – Scarborough North

SUMMARY

As the Toronto Transit Commission (TTC) operates transit service on McLevin Avenue, City Council approval of this report is required.

This report recommends that City Council authorize the installation of traffic control signals at the intersections of McLevin Avenue and Greenspire Road and McLevin Avenue and Malvern Street, as the existing conditions warrant the installation of such a traffic control device. Currently, as McLevin Avenue, is designated as a through highway between Markham Road and Tapscott Road, there is a stop control facing the northbound approach on Greenspire Road at McLevin Avenue, and on Malvern Street at McLevin Avenue.

Although, the technical warrants for the installation of Traffic Control Signals are not met, installation of Traffic Control Signals is recommended due to other relevant factors/operating conditions identified in this report.

RECOMMENDATIONS

The Acting Director, Traffic Management, Transportation Services recommends that:

1. City Council authorize the installation of traffic control signals at the intersection of McLevin Avenue and Greenspire Road.
2. City Council authorize the installation of traffic control signals at the intersection of McLevin Avenue and Malvern Street.

FINANCIAL IMPACT

The estimated cost of installing traffic control signals at the intersection of McLevin Avenue and Greenspire Road is \$200,000. The estimated cost of installing traffic control signals at the intersection of McLevin Avenue and Malvern Street is \$200,000. These installations will be considered in 2021, subject to availability of funding and competing priorities.

DECISION HISTORY

This report addresses a new initiative.

COMMENTS

As a result of a request from a member of the public, Transportation Services staff reviewed the feasibility of installing traffic control signals on McLevin Avenue at Greenspire Road and on McLevin Avenue at Malvern Street.

Existing Conditions

The following characteristics describe the intersection of McLevin Avenue at Greenspire Road and McLevin Avenue at Malvern Street:

- The intersections are located east of Markham Road, west of Tapscott Road, and north of Sheppard Avenue East.
- McLevin Avenue is a four-lane minor arterial road with a regulatory speed limit of 50 km/h. Greenspire Road is a two-lane local road with a regulatory speed limit of 40 km/h. Malvern Street is a two-lane collector road with a regulatory speed limit of 40 km/h.
- Northbound traffic on Greenspire Road is required to stop at McLevin Avenue. A private driveway is located on the north side of McLevin Avenue, immediately west of the intersection.
- Northbound traffic on Malvern Street is required to stop at McLevin Avenue. There is no through street on the north side of McLevin Avenue opposite Malvern Street.
- Existing traffic control signals are located to the west on McLevin Avenue at Markham Road and to the east on McLevin Avenue at Tapscott Road. The distance between the existing signalized crossings is approximately 1.4 kilometres (see attached drawing for distances between existing and proposed traffic control devices).

- Sidewalks are located on all sides of both intersections.
- Toronto Transit Commission (TTC) operates bus service on McLevin Avenue.
- The land use in the surrounding area consists mainly of residential, commercial, industrial uses, and a place of worship.

Analysis

Traffic Control Signal Justification Study

Using traffic volumes recorded during the peak eight hours on Wednesday, November 15, 2017 at McLevin Avenue and Greenspire Road, the following results were obtained:

Traffic Control Signal Warrant	Compliance Level
Minimum Vehicular Volume	27%
Delay To Cross Traffic	39%
Collision Hazard	7%

Using traffic volumes recorded during the peak eight hours on Thursday, June 9, 2017 at McLevin Avenue and Malvern Street, the following results were obtained:

Traffic Control Signal Warrant	Compliance Level
Minimum Vehicular Volume	51%
Delay To Cross Traffic	65%
Collision Hazard	27%

These studies have been evaluated using the updated warrant calculations as adopted by City Council on July 16, 17 and 18, 2019 in the Vision Zero 2.0 Road Safety Plan report (Item IE6.8). The results of our studies indicated that the technical warrants for the installation of a traffic control signals are not met.

In order to meet the warrant for Traffic Control Signals, 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.

In addition to the numerical justification for traffic control signals, other factors relevant to the traffic control signal warrant were also considered. The assessment included consideration of road width, posted speed limit, operating speeds, adjacent land uses, presence of transit stops, sight lines, and distance between existing signalized crossings.

Although the numerical requirements of the traffic control signal warrants are not met, based on an assessment of relevant factors and by applying engineering judgement, Transportation Services staff recommend the installation of traffic control signals at the intersections of McLevin Avenue at Greenspire Road and McLevin Avenue at Malvern Street.

A review of the Toronto Police Service collision records revealed that during the three-year period ending December 31, 2016, there was one preventable collision reported at McLevin Avenue and Greenspire Road and there were four preventable collisions reported at McLevin Avenue and Malvern Street.

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SIGNATURE

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ATTACHMENTS

1. Attachment 1 - Location Plan (Traffic Control Signals Review McLevin Avenue and Greenspire Road, McLevin Avenue and Malvern Street)

Attachment 1 - Location Plan (Traffic Control Signals Review McLevin Avenue and Greenspire Road, McLevin Avenue and Malvern Street)

