

## Traffic Control Signals - Main Street

**Date:** June 6, 2023

**To:** Toronto and East York Community Council

**From:** Director, Traffic Management, Transportation Services

**Wards:** Ward 19, Beaches-East York

### SUMMARY

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

Transportation Services is requesting approval to install pedestrian traffic control signals on Main Street, north of Danforth Avenue, adjacent to the Main Street transit station. The proposed traffic control signals will operate as intersection pedestrian signals (IPS). As IPS installations are generally not supported in the City of Toronto under the current policy, this installation will be considered as part of an existing pilot of these controls.

The proposed traffic control signals are intended to facilitate safe pedestrian crossings to and from the Main Street transit station.

### RECOMMENDATIONS

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The Director, Traffic Management, Transportation Services recommends that:

1. City Council authorize the installation of traffic control signals on Main Street at a point approximately 68 metres north of Danforth Avenue.

### FINANCIAL IMPACT

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The estimated cost for installing traffic control signals on Main Street is \$180,000.00. Funding would be subject to availability and competing priorities within the Transportation Services 2023 Capital Budget.

## **DECISION HISTORY**

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On February 16, 2022, Toronto and East York Community Council adopted Item TE31.95, entitled "Road Safety Improvements around Secord Elementary School", directing Transportation Services to investigate the feasibility of a Pedestrian Crossover on Main Street in the vicinity of the Main Street transit station. The Toronto and East York Community Council decision can be found at:

<https://secure.toronto.ca/council/agenda-item.do?item=2022.TE31.95>

## **COMMENTS**

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Toronto and East York Community Council directed Transportation Services to investigate the feasibility of installing a pedestrian crossover on Main Street, north of Danforth Avenue, in the vicinity of the Main Street transit station.

### **Existing Conditions**

Main Street is characterized by the following conditions:

- It is a two-lane, north-south, minor arterial roadway
- It operates two-way traffic on a pavement width of approximately 15 metres, in the vicinity of the Main Street transit station
- The daily two-way traffic volume is approximately 12,000 vehicles
- The speed limit is 40 km/h
- Heavy trucks are prohibited all times
- There are TTC services provided by the 23 Dawes, 62 Mortimer and 87 Cosburn buses and the 506 Carlton streetcars
- There are sidewalks located on both sides of the street

The Main Street transit station is located on the east side of Main Street, approximately 75 metres north of Danforth Avenue. Transit streetcars and buses access the station via a one-way clockwise circular driveway, inbound from the north limit of the station and outbound from the southern limit of the main entrance to the station. Adjacent traffic control signals are located at the intersection of Main Street and Danforth Avenue, about 75 metres to the south of the main entrance to the transit station.

The area is comprised of mixed-uses, with restaurants on the east side of Main Street, south of the station. On the west side of Main Street, there is a daycare facility, Stanley G. Grizzle Park and churches. A walkway through the park connects the west side of Main Street with the adjacent residential neighbourhood via Chisholm Avenue. North of the transit station are single-family residential dwellings on both sides of Main Street.

A map of the area is included in Attachment 2.

## **Pedestrian Crossover (PXO)**

To determine the need for a PXO on Main Street near the transit station, staff rely on the justification criteria as outlined in the Ontario Traffic Manual (OTM) Book 12. The OTM justification criteria includes two main factors: the volume of vehicles and pedestrians; and pedestrian delay to cross traffic. Based on the traffic volume on Main Street, the warrants require a minimum crossing volume of 311 pedestrians over eight hours. Also, based on the pedestrian crossing volume, at least 75 pedestrians must be delayed for more than 10 seconds.

As part of the investigation, staff conducted an eight-hour pedestrian volume and delay study on November 23, 2022, which recorded the total volume and delays of pedestrians crossing Main Street in the vicinity of the Main Street transit station. Seniors, unassisted children and people with disabilities that are observed crossing are given a higher weighting by a factor of two. The adjusted volume of pedestrians observed crossing was 705; of these, 234 experienced a delay greater than 10 seconds. The compliance level of the study results in relation to the warrant criteria is shown in Table 1 below.

Table 1: Pedestrian Crossover Warrant Criteria and Compliance at Main Street

<b>Justification</b>	<b>Compliance level</b>
Pedestrian volume	100%
Pedestrian delay	100%

In order to meet the warrant criteria, 100 percent compliance is required in both categories. Based on the results of the study, a PXO is technically justified as both the pedestrian volume and delays have met the minimum requirements.

In addition to these technical justifications, staff completed an Environmental Audit to assess any deficiencies in the operational and physical suitability of a potential PXO at this location. The result of the review indicated that this location is unsuitable for a pedestrian crossover. The proximity of surrounding driveways and substantial road width will result in operational safety concerns between turning traffic and pedestrian crossings, as well as crossing distance for pedestrians. Based on the PXO environmental audit, the criteria for the proximity of driveways, road width and adjacent traffic control signals have not been met. Details of the evaluation are included in Attachment 2.

In considering the above environmental factors, Transportation Services recommends the installation of traffic control signals on Main Street in the vicinity of Main Street transit station to improve pedestrian connectivity in this area and enhance safety for pedestrians. The proposed traffic control signals would be closely co-ordinated with the existing traffic control signals at Main Street and Danforth Avenue.

Collision statistics provided by the Toronto Police Service for the three-year period ending January 1, 2023 disclosed one collision on Main Street in the vicinity of the transit station. Further review of this collision noted that it could have been prevented by the installation of pedestrian crossing protection, additionally there were no collisions that involved pedestrians or cyclists.

The Toronto Transit Commission (TTC) has been consulted in regards to the proposed traffic control signals installation on Main Street, north of Danforth Avenue. The TTC have indicated that their preferred location for traffic control signals would be just north of the southerly driveway access to the transit station. This location would have the least impact on transit service.

As this traffic control is intended to serve pedestrians crossing Main Street to and from the transit station, the southerly access to the station will not be included in the traffic control signals. The proposed traffic control signals will alternate the right-of-way between north-south traffic on Main Street and pedestrians crossing Main Street, who will face a "Walk" indication. TTC vehicles exiting the station can proceed when there are gaps in north-south traffic on Main Street (as they do presently) or during the east-west "Walk" phase, when north-south traffic is stopped.

This type of operation is known as intersection pedestrian signals (IPS). The Province of Ontario permits the installation of IPS's and they have been used in other jurisdictions. In the City of Toronto, the current policies and practices do not support IPS installations. Notwithstanding, there are a number of existing IPS installations in the City. These installations are considered to be a pilot to test the effectiveness and appropriateness of IPS's in the City of Toronto.

## **Other Considerations**

It should be noted that the installation of pedestrian traffic control signals will have the following additional impacts:

- The short spacing between to the adjacent traffic signals at Danforth Avenue and Main Street (about 70 metres) may result in vehicle queues exceeding the available storage
- Due to the short spacing, the traffic control signals at Danforth Avenue and Main Street and the proposed IPS will need to be co-ordinated to avoid motorist confusion
- There is potential for increase in delays to motorists and transit service on Main Street

The Ward Councillor has been advised of the recommendation in this report.

## **CONTACT**

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Dan Clement, CET, Manager Traffic Operations (Area 1), Transportation Services  
416-397-5021 [Dan.Clement@toronto.ca](mailto:Dan.Clement@toronto.ca)

## **SIGNATURE**

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for

Roger Browne, M.A.Sc., P. Eng.  
Director, Traffic Management, Transportation Services

## **ATTACHMENTS**

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Attachment 1: Environmental Safety Audit - PXO - Main Street  
Attachment 2: Map - Traffic Control Signals - Main Street

Attachment 1: Environmental Safety Audit - PXO - Main Street

Standard	Comments	Standard Met/Not Met
Vehicle operating speed less than 60 km/h	No S/V data at this specific segment of Main St., however, other studies along Main St. revealed an operating speed of less than 60 km/h	Met
Not more than four lanes wide on a two-way street or more than three lanes wide on a one-way street	Two lanes, however, the road width is approximately 15m that can potentially accommodate four lanes of travel	Not met
Traffic volume not more than 35,000 vehicles per day	Main Street carries approximately 12,000 vehicles per day	Met
No significant volume of turning movements	TTC station entrances and the two public laneways adjacent to the station	Not met
No visibility problems exist for either pedestrians or motorists	sightlines are clear	Met
No loading zones (including TTC) in the immediate area	Loading and unloading takes place within the station, off Main St	Met
No driveways or entrances nearby	TTC station entrances and the two public laneways adjacent to the station	Not met
Spacing is not less than 200 metres to another pedestrian crossover or traffic control signal	Existing TCS at Danforth Avenue is approximately 80 metres to the south	Not met

Attachment 1: Map - Traffic Control Signals - Main Street

