

## **Pedestrian Crossing Protection - Dundas Street East and Mutual Street**

**Date:** August 23, 2021

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

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

**Wards:** Ward 13, Toronto Centre

### **SUMMARY**

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

Transportation Services is recommending the installation of traffic control signals at the intersection of Dundas Street East and Mutual Street. The traffic control signals will provide enhanced safety for vulnerable road users and is justified based on the assessment undertaken.

### **RECOMMENDATIONS**

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

1. City Council authorize the installation of traffic control signals at the intersection of Dundas Street East and Mutual Street.

### **FINANCIAL IMPACT**

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The estimated cost for installing traffic control signals at Dundas Street East and Mutual Street is \$200,000. Funding would be subject to availability and competing priorities within the Transportation Services 2022 Capital Budget.

### **DECISION HISTORY**

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This report addresses a new initiative.

## COMMENTS

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Transportation Services staff was requested through 311 to review the need for pedestrian crossing protection on Dundas Street East at Mutual Street.

### Existing Conditions

Dundas Street East is characterized by the following conditions:

- It is a four-lane, east-west, major arterial roadway
- It operates two-way traffic on a pavement width of approximately 12.5 metres
- The daily two-way traffic volume is approximately 19,000 vehicles
- The posted speed limit is 40 km/h
- Heavy trucks are permitted at all times
- There is TTC service provided by the 505 Dundas streetcar
- There are sidewalks located on both sides of the street

Mutual Street is characterized by the following conditions:

- It is a two-lane, north-south, collector roadway between Dundas Street East and Gerrard Street East and local roadway between Dundas Street East and Queen Street East
- It operates two-way traffic on a pavement width of approximately 10 metres
- The daily two-way traffic volume is approximately 2,700 vehicles
- The posted speed limit is 40 km/h between Dundas Street East and Gerrard Street East, and 30 km/h between Dundas Street East and Queen Street East
- Heavy trucks are permitted at all times
- There is no TTC service on Mutual Street
- There are sidewalks located on both sides of the street

East-west traffic on Dundas Street East is free-flow and north-south traffic on Mutual Street is stop-controlled. The adjacent land use in this area is a mix of residential, business and commercial. The closest adjacent traffic controls are located approximately 125 metres to the west at Church Street in the form of traffic control signals and approximately 90 metres to the east at Jarvis Street in the form of traffic control signals.

A map of the area is shown in Attachment 2.

Transportation Services has reviewed the need for either a Pedestrian Crossover (PXO) or traffic control signals at this location to determine if either device should be recommended as an appropriate pedestrian crossing protection measure.

## **Pedestrian Crossover (PXO)**

To determine the need for a PXO at Dundas Street East and Mutual Street, staff rely on the justification criteria as outlined in the Ontario Traffic Manual (OTM) Book 15. 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 Dundas Street East, the warrants require a minimum of 274 pedestrians' crossing over eight hours. Also, based on the pedestrian crossing volume, at least 75 pedestrians must be delayed more than 10 seconds.

An eight-hour pedestrian volume and delay study was conducted on October 24, 2018 which recorded the total volume and delays of pedestrians crossing on Dundas Street East at Mutual Street. 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 303; of these, 213 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 Dundas Street East and Mutual Street.

<b>Justification</b>	<b>Compliance</b>
Pedestrian Volume	100 percent
Pedestrian Delay	100 percent

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.

Staff also reviewed the collision history at this location. Collision statistics provided by the Toronto Police Service for the three-year period ending June 30, 2021 disclosed no (0) collisions at the area of Dundas Street East and Mutual Street that involved crossing pedestrians.

Environmental safety characteristics were also evaluated to ensure that the installation of a PXO would be appropriate at this location. Details of the evaluation are included in Attachment 1. Based on the evaluation, a PXO would not be a suitable type of pedestrian crossing protection at this location on basis of substandard spacing, turns and road classification on Dundas Street East. Therefore, traffic control signals are recommended at this location rather than a pedestrian crossover.

## Traffic Control Signals

To determine the need for traffic control signals at the intersection of Dundas Street East and Mutual Street, staff rely on justification criteria as outlined in the OTM Book 12. The OTM justification criteria includes factors such as volume of vehicles and pedestrians, delay to cross traffic, and collision history. In addition to these technical justifications, staff consider an environmental checklist which includes consideration of road width, posted speed limit, operating speeds, adjacent land uses, pedestrian desire lines and demographics, presence of a transit stop, sight lines, and distance between existing crossing opportunities.

Staff conducted vehicle and pedestrian counts on October 24, 2018 at the subject intersection. Collision history provided by the Toronto Police Service for the three-year period ending June 30, 2021 disclosed 12 collisions at the subject intersection that were potentially preventable by the installation of traffic control signals. The results of the counts and collision hazard are summarized in Table 1. The "Collision hazard" criterion is based on the number of collisions potentially preventable by the installation of traffic control signals.

Table 2: Warrant Compliance - Dundas Street East and Mutual Street

Justification	Compliance level
Minimum vehicular volume	92%
Delay to cross traffic (pedestrians and vehicles)	98%
Collision hazard	80%

To meet the technical justification criteria for the installation of traffic control signals, one of the justifications must be 100 percent satisfied or any two of the three justifications must be at least 80 percent satisfied. Based on the results in Table 1, the installation of traffic control signals is justified.

In regards to the environmental checklist, staff noted the following environmental factors:

- the pedestrian generators in the immediate area, including residential, business and commercial, that attract pedestrians to cross the street; and
- the four lane cross-section on Dundas Street East.

In considering the above environmental factors, Transportation Services recommends the installation of traffic control signals at the intersection of Dundas Street East and Mutual Street as it will provide enhanced safety for all road users.

The TTC has been advised of the study results and recommendations but has not yet provided comments.

## **Other Considerations**

It should also be noted that the installation of traffic control signals at Dundas Street East and Mutual Street will result in the following impacts:

- There will be no loss of paid parking spaces associated with the installation of traffic control signals at this intersection.
- There is potential for increase in delays to transit service on Dundas Street East.

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

## **CONTACT**

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

## **SIGNATURE**

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

## **ATTACHMENTS**

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Attachment 1: Environmental Safety Audit - PXO - Dundas Street East and Mutual Street

Attachment 2: Map - Traffic Control Signals - Dundas Street East and Mutual Street

Attachment 1: Environment Safety Audit - PXO - Dundas Street East and Mutual Street

<b>Standard</b>	<b>Comments</b>	<b>Standard Met/Not Met</b>
Vehicle operating <b>speed</b> less than 60 km/h	The posted speed limit on Dundas Street East is 40 km/h.	Met
Not more than four lanes <b>wide</b> on a two-way street or more than three lanes wide on a one-way street	Dundas Street East operates with two lanes in each direction.	Met
Traffic <b>volume</b> not more than 35,000 vehicles per day	Dundas Street East carries approximately 19,000 vehicles per day.	Met
No significant volume of <b>turning</b> movements	The volume of traffic turning to/from Dundas Street East is significant (approx. 1605 vehicles over busiest eight hours)	Not Met
No <b>visibility</b> problems exist for either pedestrians or motorists	No vertical or horizontal curves.	Met
No <b>loading</b> zones (including TTC) in the immediate area	No TTC stops are located on Dundas Street East at Mutual Street	Met
No <b>driveways</b> or entrances nearby	No driveways in the vicinity.	Met
<b>Spacing</b> is not less than 200 metres to another pedestrian crossover or traffic control signal	Church St (TCS) - 125 metres west Jarvis St (TCS) - 90 metres east	Not Met

Attachment 2: Map - Traffic Control Signals - Dundas Street East and Mutual Street

