

Pedestrian Crossing Protection - Adelaide Street East and Ontario Street

Date: May 9, 2022

To: Toronto and East York Community Council

From: Director, Traffic Management, Transportation Services

Wards: Ward 13 - Toronto Centre

SUMMARY

This staff report is about a matter that Community Council has delegated authority from City Council to make a final decision.

Transportation Services has reviewed the need for pedestrian crossing protection at the intersection of Adelaide Street East and Ontario Street. Based on the assessment undertaken, Transportation Services is recommending the installation of traffic control signals at the east intersection of Adelaide Street East and Ontario Street. The traffic control signals will provide enhanced safety for vulnerable road users.

RECOMMENDATIONS

The Director, Traffic Management, Transportation Services recommends that:

1. Toronto and East York Community Council authorize the installation of traffic control signals at the intersection of Adelaide Street East and Ontario Street (east intersection).

FINANCIAL IMPACT

The estimated cost for installing traffic control signals at Adelaide Street East and Ontario Street is \$250,000. Funding would be subject to availability and competing priorities within the Transportation Services 2023 Capital Budget.

DECISION HISTORY

This report addresses a new initiative.

COMMENTS

Transportation Services staff was requested by the Ward Councillor, on behalf of area residents, to review the need for pedestrian crossing protection on Adelaide Street East at Ontario Street. This request is to address increased vehicular traffic and pedestrians crossing Adelaide Street East in this area, and enhance safety for transit users crossing at this intersection destined to the Toronto Transit Commission (TTC) stops on King Street East.

Existing Conditions

Adelaide Street East is characterized by the following conditions:

- It is a four-lane, east-west, major arterial roadway
- It operates one-way eastbound traffic on a pavement width of approximately 14 metres
- It provide three lanes for general traffic as well a bike lane on the south side of the street
- The daily one-way traffic volume is approximately 19,600 vehicles
- The speed limit is 40 km/h
- Heavy trucks are permitted at all times
- There is no TTC service provided
- There are sidewalks located on both sides of the street
- Pay-and-display parking is provided on the north side of the street

Ontario Street is characterized by the following conditions:

- It is a two-lane, north-south, local roadway
- It operates one-way southbound traffic on a pavement width of approximately 7.3 metres
- The daily one-way traffic volume is approximately 1,000 vehicles
- The speed limit is 30 km/h
- Heavy trucks are permitted at all times
- There is no TTC service provided
- There are sidewalks located on both sides of the street
- Pay-and-display parking is provided on the east side of the street

Southbound traffic on Ontario Street is stop-controlled at its intersection with Adelaide Street East and the north and south legs are offset by approximately 20 metres. Eastbound traffic on Adelaide Street East is free-flow. The adjacent land use in this area is a mix of residential, business and commercial.

The closest adjacent traffic controls are located approximately 180 metres to the west at Sherbourne Street in the form of traffic control signals and approximately 120 metres to the east at Berkeley Street in the form of traffic control signals.

A map of the area is shown in Attachment 1.

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.

Pedestrian Crossover (PXO)

To determine the need for a PXO at Adelaide Street East and Ontario Street, 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 Adelaide Street East, the warrants require a minimum of 274 pedestrians crossing over eight hours. Also, based on the pedestrian crossing volume, at least 92 pedestrians must be delayed more than 10 seconds.

An eight-hour pedestrian volume and delay study was conducted on March 2, 2022 which recorded the total volume and delays of pedestrians crossing at Adelaide Street East and Ontario 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 269; of these, 109 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 Adelaide Street East and Ontario Street

Justification	Compliance
Pedestrian Volume	98 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 not technically justified as the compliance levels did not meet the minimum requirements.

In addition to the technical criteria, consideration is given to the surrounding area and the collision history and in some cases engineering judgement may be applied to recommend a PXO even if the number of pedestrians does not meet the threshold of the technical warrants.

Staff's review of the collision history and surrounding area did not disclose any other environmental factors that would warrant a PXO at this location. Collision statistics provided by the Toronto Police Service for the three-year period ending March 31, 2022 disclosed no collisions at the area of Adelaide Street East and Ontario Street that involved crossing pedestrians.

Based on the above results, the installation of a PXO at this location is not justified due to insufficient pedestrian volume.

Traffic Control Signals

To determine the need for traffic control signals at the intersection of Adelaide Street East and Ontario 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 March 2, 2022 at the subject intersection. Collision history provided by the Toronto Police Service for the three-year period ending March 31, 2022 disclosed no 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 2. The "Collision hazard" criterion is based on the number of collisions potentially preventable by the installation of traffic control signals.

Table 2: Warrant Compliance - Adelaide Street East and Ontario Street

Justification	Compliance level
Minimum vehicular volume	23%
Delay to cross traffic (pedestrians and vehicles)	100%
Collision hazard	0%

To meet the technical justification criteria for the installation of traffic control signals, one of the justifications must be 100 percent satisfied or both the minimum vehicular volume and delay to cross traffic justifications must be at least 80 percent satisfied. Based on the results in Table 2, the installation of traffic control signals is justified.

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

- the long spacing between pedestrian crossing protection on Adelaide Street East

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

Other Considerations

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

- There will be a loss of approximately six paid parking spaces on Adelaide Street East and approximately two paid parking spaces on Ontario Street associated with the installation of traffic control signals at this intersection.
- The bike lane will be switched from the south side to the north side of Adelaide Street East as part of the longer term corridor change. The installation of this proposed traffic control signals will need to be coordinated with the cycling work.

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

CONTACT

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SIGNATURE

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

ATTACHMENTS

Attachment 1: Map - Traffic Control Signals - Adelaide Street East and Ontario Street

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