

Pedestrian Crossing Protection - Dundas Street West and Wembleton Road/Old Oak Drive

Date: May 13, 2022
To: Etobicoke York Community Council
From: Director, Traffic Management, Transportation Services
Wards: Ward 2 - Etobicoke Centre

SUMMARY

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

Transportation Services has reviewed the need for pedestrian crossing protection on Dundas Street West at Wembleton Road/Old Oak Drive. Based on the assessment undertaken, Transportation Services is requesting approval to install traffic control signals at the intersection of Dundas Street West and Wembleton Road/Old Oak Drive. Traffic control signals will provide enhanced safety for vulnerable road users.

RECOMMENDATIONS

The Director, Traffic Management, Transportation Services recommends that:

1. City Council authorize the installation of traffic control signals at the intersection of Dundas Street West and Wembleton Road/Old Oak Drive.

FINANCIAL IMPACT

The estimated cost for installing traffic control signals at the intersection of Dundas Street West and Wembleton Road/Old Oak Drive is \$220,000. Funding would be subject to availability and competing priorities within the Transportation Services 2022 Capital Budget.

DECISION HISTORY

This report addresses a new initiative.

COMMENTS

Transportation Services was requested by the Ward Councillor, on behalf of local residents, to review the need for pedestrian crossing protection at the intersection of Dundas Street West and Wimbleton Road/Old Oak Drive. This request is to address the long distance between protected pedestrian crossings on Dundas Street West which is approximately 630 metres to the east at Kingsway Mills Shopping Centre (4242 Dundas Street West) and approximately 580 metres to the west at Chestnut Hills Crescent, and enhance safety for pedestrians and transit users.

Existing Conditions

Dundas Street West is characterized by the following conditions:

- It is a five-lane, east-west, major arterial roadway
- It operates two-way traffic on a pavement width of approximately 16.5 metres
- The daily two-way traffic volume is approximately 36,000 vehicles
- The speed limit is 50 km/h
- There is TTC service provided by the 40 Junction/Dundas Street West bus route
- Heavy trucks are permitted at all times
- There are sidewalks located on both sides of the street

Wimbleton Road/Old Oak Drive is characterized by the following conditions:

- It is a two-lane, north-south local roadway
- It operates two-way traffic on a pavement width of approximately 8 metres
- The speed limit is 40 km/h
- Heavy trucks are prohibited at all times
- There is no TTC service provided
- There are no sidewalks on Wimbleton Road
- There is a sidewalk located on the east side of Old Oak Drive

Dundas Street West and Wimbleton Road/Old Oak Drive is a four-leg intersection. Wimbleton Road/Old Oak Drive are stop sign controlled while Dundas Street West is free-flow.

The adjacent land use in this area is residential (single and multi-unit dwellings). Humbertown Park is located on the northeast corner and Kingsway College School/St Georges Church on the Hill is located on the northwest corner of the subject intersection. There are eastbound and westbound bus stop/shelters east of the subject intersection.

The closest adjacent traffic control signals are located approximately 630 metres to the east at Kingsway Mills Shopping Centre (4242 Dundas Street West) and approximately 580 metres to the west at Chestnut Hill Crescent. Between these two signalized intersections, there is no pedestrian crossing protection provided on Dundas Street West.

A map of the area is included in Attachment 1.

Transportation Services has reviewed the need for either a pedestrian crossover 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 Dundas Street West and Wimbleton Road/Old Oak Drive, 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 West, the warrants require a minimum crossing volume of 210 pedestrians over eight hours. Also, based on the pedestrian crossing volume, at least 120 pedestrians must be delayed for more than 10 seconds.

An eight-hour pedestrian volume and delay study was conducted on November 30, 2021, which recorded the total volume and delays of pedestrians crossing at Dundas Street West in the vicinity of Wimbleton Road/Old Oak Drive. Seniors, unassisted children and people with disabilities that are observed crossing are given a higher weighting by a factor of two. However, in this case all crossing were recorded as youth/adults. The adjusted volume of pedestrians observed crossing was 50; of these, 40 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 West and Wimbleton Road/Old Oak Drive

Justification	Compliance
Pedestrian Volume	24 percent
Pedestrian Delay	33 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 not justified as both the pedestrian volume and delays have not met the minimum requirements.

In addition to the technical criteria, consideration of the surrounding area is given and in some cases engineering judgement may be applied to recommend a PXO even if the number of pedestrians do not meet the threshold of the technical warrants. Due to the long distance between protected crossings, Transportation Services undertook an environmental safety audit.

Environmental safety characteristics were evaluated to ensure that the installation of a PXO would be appropriate at this location. Details of the evaluation are included in Attachment 2. Based on the evaluation, a PXO would not be a suitable type of pedestrian crossing protection at this location because the daily traffic volume and number of lanes exceeds the recommended maximums. Therefore, suitability of traffic control signals at this location were considered.

Traffic Control Signals

To determine the need for traffic control signals at the intersection of Dundas Street West and Wimbleton Road/Old Oak Drive, staff rely on the 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 November 30, 2021, at the subject intersection. Collision history provided by the Toronto Police Service for the three-year period ending December 31, 2021 disclosed one collision at the subject intersection that was potentially preventable by the installation of traffic control signals. No collisions at the intersection involved pedestrians. 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 - Dundas Street West and Wimbleton Road/Old Oak Drive

Justification	Compliance level
Minimum vehicular volume	38%
Delay to cross traffic (pedestrians and vehicles)	37%
Collision hazard	7%

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 2, the installation of traffic control signals is not justified.

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

- the long spacing between pedestrian crossing protection on Dundas Street West;
- the presence of transit stops in both directions on Dundas Street West that attract pedestrians to cross the street;
- the pedestrian generators in the immediate area, including residential, a City park, church and a private school, that attract vulnerable pedestrians to cross the street; and
- the five lane cross-section on Dundas Street West, as well as the speed and volume of traffic using this street.

In considering the above environmental factors, Transportation Services recommends the installation of traffic control signals at the intersection of Dundas Street West and Wimbeldon Road/Old Oak Drive, as it will provide enhanced safety for pedestrians crossing Dundas Street West.

The TTC has been advised of the study results and recommendation and have no concerns.

Other Considerations

It should be noted that the installation of traffic control signals at Dundas Street West and Wimbeldon Road/Old Oak Drive will have the following impacts:

- There is potential for increase in delays to transit service on Dundas Street West as east-west traffic will no longer operate free-flow.

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

CONTACT

Shawn Dillon, Manager Traffic Operations (Area 2), Transportation Services
416-394-8409, Shawn.Dillon@toronto.ca

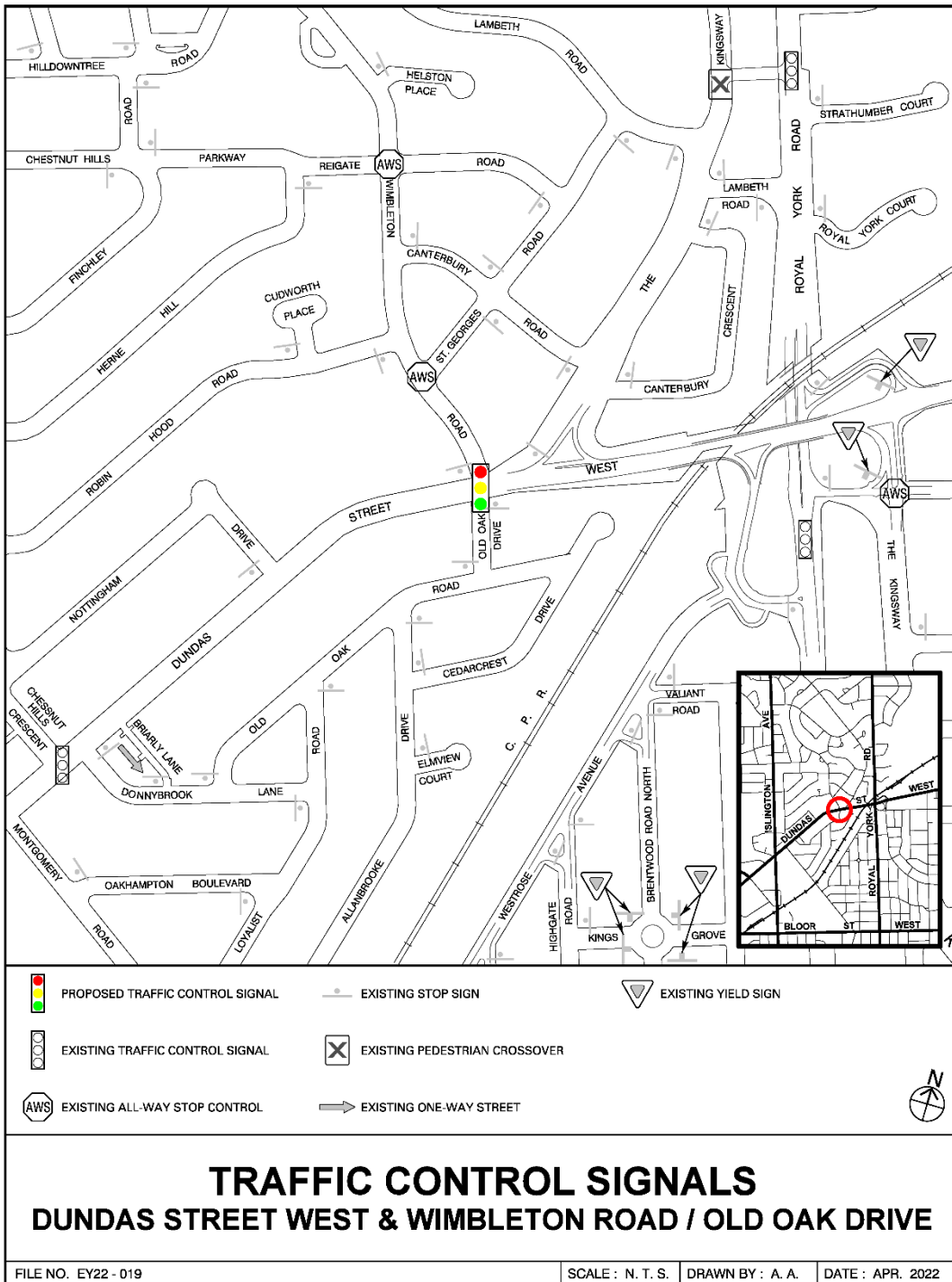
SIGNATURE

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

ATTACHMENTS

Attachment 1: Map - Traffic Control Signals - Dundas Street West and Wimbeldon Road/Old Oak Drive
Attachment 2: Environmental Safety Audit - PXO - Dundas Street West and Wimbeldon Road/Old Oak Drive

Attachment 1: Traffic Control Signals - Dundas Street West and Wimbleton Road/Old Oak Drive



Attachment 2: Environmental Safety Audit - PXO - Dundas Street West and Wimbledon Road/Old Oak Drive

Standard	Comments	Standard Met/Not Met
Vehicle operating speed less than 60 km/h	The 85th percentile speed limit on Dundas Street West is 62 km/h.	Not Met
Not more than four lanes wide on a two-way street or more than three lanes wide on a one-way street	Dundas Street West operates with five lanes in each direction.	Not Met
Traffic volume not more than 35,000 vehicles per day	Dundas Street West carries approximately 36,000 vehicles per day.	Not Met
No significant volume of turning movements	The volume of traffic turning to/from Dundas Street West is low.	Met
No visibility problems exist for either pedestrians or motorists	Vertical or horizontal curves exist in the area.	Not Met
No loading zones (including TTC) in the immediate area	Eastbound and westbound TTC stops are located east of Wimbledon Road/Old Oak Drive at Dundas Street West.	Met
No driveways or entrances nearby	Driveways are not located in the immediate vicinity.	Met
Spacing is not less than 200 metres to another pedestrian crossover or traffic control signal	Traffic control signals at Kingsmill Plaza, 630 metres east, and Chestnut Hills Crescent, 580 metres west	Met