

Traffic Control Signals and Traffic Regulations - Lansdowne Avenue and Lansdowne Avenue (east branch)/Private Driveway

Date: September 23, 2021

To: Toronto and East York Community Council

From: Acting Director, Traffic Management, Transportation Services

Wards: Ward 9, Davenport

SUMMARY

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

Transportation Services is requesting approval to install traffic control signals at the intersection of Lansdowne Avenue and Lansdowne Avenue (east branch)/Private Driveway. The traffic control signals will provide crossing protection for pedestrians and cyclists accessing the proposed connection to the West Toronto Railpath, located on the west side of the street. This connection will be constructed within the property at 222 Lansdowne Avenue (No Frills). The traffic control signals are justified based on the assessment undertaken.

In conjunction with the traffic control signal installation, it will be necessary to prohibit westbound right turns on red at all times and increase the length of the existing standing prohibition that is in effect at all times on the east side of Lansdowne Avenue. Civil improvements are also required as part of this installation.

RECOMMENDATIONS

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

1. City Council authorize the installation of traffic control signals at the intersection of Lansdowne Avenue and Lansdowne Avenue (east branch)/Private Driveway.

2. Subject to approval of and in conjunction with the installation of traffic control signals at the intersection of Lansdowne Avenue and Lansdowne Avenue (east branch)/Private Driveway:

a. City Council prohibit westbound right turns on a red signal at all times at the intersection of Lansdowne Avenue and Lansdowne Avenue (east branch)/Private Driveway.

b. City Council prohibit standing at all times on the east side of Lansdowne Avenue, between Lansdowne Avenue (east branch) and a point 5 metres north.

FINANCIAL IMPACT

The estimated cost for installing traffic control signals and the associated traffic regulations and civil work at the intersection of Lansdowne Avenue and Lansdowne Avenue (east branch)/Private Driveway is \$250,000.00. 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 investigated the feasibility of installing traffic control signals at the intersection of Lansdowne Avenue and Lansdowne Avenue (east branch)/Private Driveway. The proposed traffic control signals will provide a protected crossing for pedestrians and cyclists destined to/from the planned extension of the West Toronto Railpath, south of Dundas Street West. Access to the planned extension is anticipated to be constructed within a portion of the parking lot at 222 Lansdowne Avenue, with work commencing in 2022.

Existing Conditions

Lansdowne Avenue, south of Dundas Street West, is characterized by the following conditions:

- It is a north-south minor arterial roadway
- It provides a single lane in each direction for general traffic, as well as bicycle lanes
- It operates two-way traffic on a pavement width of approximately 14.2 to 14.4 metres
- The daily two-way traffic volume is approximately 13,000 vehicles
- The posted speed limit is 40 km/h

- Heavy trucks are permitted at all times
- There is TTC service provided by the 47 Lansdowne bus
- Bay-style parking is provided on the east side of the street
- Sidewalks are present on both sides of the street

Lansdowne Avenue (east branch) is characterized by the following conditions:

- It intersects the east side of Lansdowne Avenue in a stop controlled intersection, approximately 100 metres south of Dundas Street West
- It is a local street that generally runs parallel to the main section of Lansdowne Avenue and provides access the properties on the east side of the street, north of the rail overpass
- It operates one-way in the northbound direction
- All movements are permitted at the intersection with Lansdowne Avenue
- It has a pavement width of approximately 5.2 to 6.0 metres
- The daily one-way traffic volume is approximately 1,000 vehicles
- The posted speed limit is 30 km/h
- Heavy trucks are permitted at all times
- There is no TTC service provided
- Sidewalks are present on both sides of the street

Private Driveway is characterized by the following conditions:

- It intersects the west side of Lansdowne Avenue, opposite the east branch of Lansdowne Avenue
- It provides the only vehicular access to 222 Lansdowne Avenue (No Frills)
- All movements are permitted at the intersection with Lansdowne Avenue
- The eastern portion of this property's parking lot is planned to be used for a ramp that will access the extension of the West Toronto Railpath
- The ramp connection will result in the loss of approximately 38 parking spaces and a parking lot reconfiguration

The West Toronto Railpath is characterized by the following conditions:

- It is a 2.1 kilometre multi-use trail that currently runs between Cariboo Avenue and the intersection of Dundas Street West and Sterling Road
- It is planned to be extended south, to Abell Street at Sudbury Street, with construction anticipated to commence in 2022
- The extension will include a community connection through 222 Lansdowne Avenue (noted above)

The land use in the area is mixed, with residential and commercial uses.

A map of the area is included in Attachment 1.

Traffic Control Signals

To determine the need for traffic control signals at the intersection of Lansdowne Avenue and Lansdowne Avenue (east branch)/Private Driveway, staff rely on the justification criteria as outlined in the Ontario Traffic Manual (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.

As part of the investigation, a consultant working on behalf of the property owner of 222 Lansdowne Avenue conducted vehicle and pedestrian counts on March 16, 2021 at the subject intersection. The intersection was counted as a 'T' type configuration and did not include the east branch of Lansdowne Avenue, which will add additional traffic to this intersection. Furthermore, the proposed extension of the West Toronto Railpath will add pedestrian and cyclist crossings at this intersection that will not be reflected in these existing counts. Therefore, assumptions were made for the purposes of the traffic control signal analysis as follows:

- an additional 15 cycling trips per hour
- an additional 10 pedestrian trips per hour

The results of the modified 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. Collision history provided by the Toronto Police Service for the three-year period ending December 31, 2020 disclosed no collisions at the subject intersection that were potentially preventable by the installation of traffic control signals or involved a pedestrian or cyclist.

Table 1: Warrant Compliance - Lansdowne Avenue and Lansdowne Avenue (east branch)/Private Driveway

Justification	Compliance level
Minimum vehicle volume	88%
Delay to cross traffic (pedestrians and vehicles)	85%
Collision hazard	0%

To meet the 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 technical warrant criteria, the installation of traffic control signals will be justified.

Staff recommend the installation of traffic control signals based on the technical and environmental criteria, including the anticipated connection for pedestrians and cyclists in the area. With the implementation of the traffic signal, cyclists will be able to safely cross the street to access the northbound bicycle lanes. In addition, new pedestrian crossings will be implemented with the traffic signal, creating linkages to the residential neighbourhoods east Lansdowne Avenue.

The traffic signals will require a relocation of the westbound stop bar to accommodate the east leg pedestrian crossing. This will necessitate a westbound right turn on red prohibition at all times. Additionally, the north leg pedestrian crossing will require physical modifications to the bay-style parking on the northeast corner of the intersection. This will necessitate an extension of the existing standing prohibition on the east side of Lansdowne Avenue by five metres (approximately one vehicle length). A tree on the boulevard on the east side of Lansdowne Avenue may also need to be removed.

The proposed installation of traffic control signals at the intersection of Lansdowne Avenue and Lansdowne Avenue (east branch)/Private Driveway would result in the following negative impacts:

- Delays to traffic on Lansdowne Avenue: There will be an increase in delays to motorists and transit on Lansdowne Avenue as a result of the traffic control signal installation.
- Increased queuing: The short spacing to the traffic control signals at Lansdowne Avenue and Dundas Street West is a potential concern with regards to queue storage. Preliminary analysis indicates queues can be accommodated within the existing intersection spacing. However, this may need to be reviewed if problems are reported after the traffic control signals are activated.
- Loss of parking spaces: Approximately one permit parking space on Lansdowne Avenue and four permit parking spaces on Lansdowne Avenue (east branch), will be removed as a result of the traffic control signal installation.

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

CONTACT

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SIGNATURE

Roger Browne, M.A. Sc., P.Eng
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ATTACHMENTS

Attachment 1: Traffic Control Signals and Traffic Regulations - Lansdowne Avenue and Lansdowne Avenue (east branch)/Private Driveway

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