

## **Traffic Control Signals - Sheppard Avenue West and driveways to 1645 Sheppard Avenue West/Northwood Park**

**Date:** May 28, 2018

**To:** North York Community Council

**From:** Acting Director, Transportation Services, North York District

**Wards:** Ward 9 - York Centre

### **SUMMARY**

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As the Toronto Transit Commission (TTC) operates bus service on Sheppard Avenue West, City Council approval of this report is required.

Transportation Services is requesting City Council authorize the installation of traffic control signals at the intersection of Sheppard Avenue West and the driveways of 1645 Sheppard Avenue West and Northwood Park. The installation of traffic control signals is recommended based on the pedestrian crossing activity in the vicinity of these driveways, the presence of TTC bus stops, and the excessive distance to adjacent pedestrian crossing protection.

Traffic control signals will enhance safety for pedestrians and improve access to Northwood Park and 1645 Sheppard Avenue West. Mitigating measures will be undertaken to account for the downgrade of Sheppard Avenue West on both intersection approaches. This installation will increase delays for motorists on Sheppard Avenue West, as these movements will no longer operate with free flow. Additionally, there are civil modifications required to the bus bays on Sheppard Avenue West as part of this signal installation, which will increase the costs and delay the installation.

### **RECOMMENDATIONS**

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The Acting Director, Transportation Services, North York District recommends that:

1. City Council approve the installation of traffic control signals at the intersection of Sheppard Avenue West and the driveways of 1645 Sheppard Avenue West/Northwood Park.

## **FINANCIAL IMPACT**

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The estimated cost for installing traffic control signals on Sheppard Avenue West, which includes advance warning beacons, is approximately \$200,000.

Additionally, the traffic control signal installation will require modifications to the bus bays on the north and south sides of Sheppard Avenue West. This civil work will result in additional costs and delays to the signal installation. Transportation Services will fund the civil work; however, the timing will be determined by the Engineering and Construction Services Division and will be co-ordinated with adjacent planned capital work in the area, estimated to be 2020.

## **DECISION HISTORY**

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This report addresses a new initiative.

## **COMMENTS**

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Transportation Services was requested by Councillor Maria Augimeri, on behalf of staff from 1645 Sheppard Avenue West, to assess the safety for pedestrians crossing Sheppard Avenue in this area and to investigate the feasibility of installing traffic control signals. The review was expanded to include the intersection of Sheppard Avenue West and Seeley Drive.

### **Existing Conditions**

Sheppard Avenue West is classified as a major arterial street that provides two lanes in each direction and a centre left-turn lane. It has a regulatory speed limit of 50 km/h and a daily two-way traffic volume of approximately 28,000 vehicles. There are sidewalks on both sides of the street. The section of Sheppard Avenue West, between the existing traffic control signals at Arleta Avenue/Northover Street and Sentinel Road, is approximately 800 metres in length. Between these two signalized intersections, there is no pedestrian crossing protection provided on Sheppard Avenue West. Transit service on this section of Sheppard Avenue West is provided by the 84 Sheppard West, 108 Driftwood and 384 Sheppard West (blue night) bus routes.

The Early Years Centre and SickKids Centre for Community Mental Health operate their programs out of the building at 1645 Sheppard Avenue West. Additionally, Dellcrest School is located just east of 1645 Sheppard Avenue West. The driveway access to these properties, as well as to parkland just south of the buildings, is located on the south side of Sheppard Avenue West. On the north side of Sheppard Avenue West, directly opposite this driveway, is the driveway access to Northwood Park. These driveways are located approximately 410 metres east of Arleta Avenue/Northover Street.

At these driveways, there are exclusive eastbound and westbound left-turn lanes provided on Sheppard Avenue West. Additionally, there are bus bays on both sides of the street for the eastbound and westbound transit stops. This wide cross-section may exacerbate difficulties for pedestrians crossing Sheppard Avenue West to access the transit stops.

Seeley Drive is a local street that intersects the south side of Sheppard Avenue West in a stop controlled, 'T' type intersection. It is located approximately 175 metres east of the driveways of 1645 Sheppard Avenue West/Northover Park.

### **Pedestrian Crossover Warrant Study**

Transportation Services reviewed the mid-block section between the driveways of 1645 Sheppard Avenue West/Northover Park and Seeley Drive for the installation of a pedestrian crossover. Pedestrian crossovers are no longer installed on arterial roads in the City of Toronto. However, traffic control signals may be considered at locations where pedestrian crossovers are technically justified, yet their installation would be unsuitable or unsafe due to provincially established “environmental standards”. Detailed pedestrian studies were undertaken during the busiest eight-hour period of a typical weekday at this driveway on November 14, 2017. The results are summarized as follows:

Table 1: Pedestrian Crossover Warrants and Compliance (November 14, 2017)

Total Pedestrian Volume	Pedestrians Delayed >10 seconds	Warrant Compliance		PXO Warrant?
		Pedestrian Volume	Pedestrian Delay	
43	32	Not met	Not met	No

For a pedestrian crossover to be numerically warranted, both the “Pedestrian Volume” and “Pedestrian Delays” warrants must be satisfied. Specifically, the warrants require a minimum of 200 pedestrians over eight hours, of which at least 130 must be delayed more than ten seconds. As outlined in the above table, neither warrant has been satisfied at this mid-block location.

Furthermore, a review of the design standards, or “environmental standards” for pedestrian crossovers, which prescribe a roadway environment and exposure factors suitable for this type of control, revealed that a pedestrian crossover would not be a suitable form of pedestrian crossing protection at this location.

### **Traffic Control Signals**

Transportation Services staff also reviewed both intersections on Sheppard Avenue West for the installation of traffic control signals. The studies were undertaken during the busiest period of a typical weekday on November 14, 2017. The traffic studies were used to review the numerical warrants for the installation of traffic control signals at both intersections. The results are summarized as follows:

Table 2: Traffic Control Signal Warrants and Compliance (November 14, 2017)

Location	Warrant Compliance			TCS Warrant?
	Minimum Vehicular Volume	Delay to Cross Traffic	Collision Hazard	
Driveway of 1645 Sheppard Avenue/ Northover Park	12 percent	19 percent	0 percent	No
Seeley Drive	16 percent	19 percent	0 percent	No

To meet the numerical warrants for the installation of traffic control signals, either one of the “Minimum Vehicular Volume” or “Delay to Cross Traffic” warrants must be 100 per cent satisfied or both must be at least 80 per cent satisfied.

The “Collision Hazard” warrant is based on the number of collisions potentially preventable by the installation of traffic control signals and must be 100 percent satisfied. Collision statistics provided by the Toronto Police Service for the three-year period ending June 30, 2017 did not disclose any collisions at either intersection that involved a pedestrian or were potentially preventable by the installation of traffic control signals.

To satisfy the technical warrants for traffic control signals, one of either the Minimum Vehicular Volume or Delay to Cross Traffic warrants must be 100 percent satisfied, or both must be satisfied to the extent of 80 percent. Based on the above results, the installation of traffic control signals is not numerically warranted at either intersection on Sheppard Avenue West.

Notwithstanding, in view of the long spacing between pedestrian crossing protection on Sheppard Avenue West, Transportation Services further considered the installation of traffic signals at the intersection with the driveways of 1645 Sheppard Avenue West/ Northover Park for the following reasons:

- there are near-side transit stops in both directions on Sheppard Avenue West at these driveways that attract pedestrians to cross the street;
- there are pedestrian generators in the immediate area, including schools and health centres, that will attract vulnerable pedestrian types to cross Sheppard Avenue West;
- the driveway on the north side provides access to Northover Park and traffic control signals would provide connectivity for trail users on both sides of the street;
- these driveways are located approximately mid-way between the existing traffic control signals at Arleta Avenue/Northover Street and at Sentinel Road;
- the five lane cross-section on Sheppard Avenue West, combined with the bus bays and speed and volume of traffic using this street, may discourage pedestrians from crossing; and

- the installation of traffic control signals at the driveways of 1645 Sheppard Avenue West/Northover Park would likely draw pedestrians to the intersection since it would be a safer location to cross Sheppard Avenue West to access destinations on both sides of the street.

Therefore, based on the study results and the observed pedestrian crossing activity, Transportation Services recommends the installation of traffic control signals at the intersection of Sheppard Avenue West and the driveways of 1645 Sheppard Avenue West/Northwood Park. This installation will provide a protected crossing for pedestrians on Sheppard Avenue West and will enhance safety for all road users.

Due to the downgrade on Sheppard Avenue West in both directions approaching the driveways of 1645 Sheppard Avenue West/Northwood Park, the proposed traffic signals will include an advance warning system in both directions to advise motorists that they will be required to stop when the beacons are flashing.

The installation of traffic control signals will require modifications to the bus bays on both sides of Sheppard Avenue West. The civil work will be funded by Transportation Services. However, the timing of this work will be determined by the Engineering and Construction Services Division, which has indicated this work will be co-ordinated with adjacent planned capital work in the area, estimated to be 2020.

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

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

## **CONTACT**

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## **SIGNATURE**

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Peter K. Hillier  
Acting Director

## **ATTACHMENTS**

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Attachment 1: Map - Traffic Control Signal - 1645 Sheppard Avenue and Driveways of 1645 Sheppard Avenue West/Northwood Park