

Traffic Control Signals - Sheppard Avenue East and Palmdale Drive/Silver Maple Gate

Date: June 8, 2023

To: Scarborough Community Council

From: Director, Traffic Management, Transportation Services

Wards: Ward 22, Scarborough-Agincourt

SUMMARY

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

As per the conditions of approval for the development at 3260 Sheppard Avenue East, the installation of traffic control signals at the intersection of Sheppard Avenue East and Palmdale Drive/Silver Maple Gate is required.

Transportation Services supports the installation of traffic control signals at the intersection of Sheppard Avenue East and Palmdale Drive/Silver Maple Gate. The technical justification for the installation of traffic control signals is satisfied under the forecasted future traffic conditions. Therefore, the installation of traffic control signals on Sheppard Avenue East and Palmdale Drive/Silver Maple Gate is recommended.

RECOMMENDATIONS

The Director, Traffic Management, Transportation Services recommends that:

1. City Council authorize the installation of traffic control signals at the intersection of Sheppard Avenue East and Palmdale Drive/Silver Maple Gate.

FINANCIAL IMPACT

There are no financial implications associated with the adoption of this report, as funding has been secured from the proponents of the 3260 Sheppard Avenue East development for the new signal and other road improvements along Sheppard Avenue East. These funds were secured through Zoning By-law Amendment Application No. 06 200145 ESC 40 OZ and Draft Plan of Subdivision Application No. 12 297629 ESC 40 SB, deposit letter of Credit No. OSB268254VAN.

DECISION HISTORY

Through Zoning By-law Amendment Application No. 06 200145 ESC 40 OZ and Draft Plan of Subdivision Application No. ESC 40 SB, the installation of traffic control signals was secured for the intersection of Sheppard Avenue East and Palmdale Drive/Silver Maple Gate. In its July 8, 2014 decision, City Council approved the development by adopting Item No. 2014.SC33.21. The City Council decision can be found at:

[Agenda Item History - 2014.SC33.21 \(toronto.ca\)](#)

Additionally, two new Streets, Silver Maple Gate and Cherry Blossom Gardens were added according to the Warden/Sheppard Avenue study, which was approved by City Council on February 6, 2012, Item No. 2012.SC12.20 (By-laws 128-2012, 129-2012, and 130-2012). The agenda history of this approval can be found at:

<https://secure.toronto.ca/council/agenda-item.do?item=2012.SC12.20>

COMMENTS

A mixed-use development containing retail space, townhouses, high-rise and mid-rise buildings with a total of 797 units is being constructed at 3260 Sheppard Avenue East. The development site is located on the north side of Sheppard Avenue East and includes two new public roads, Silver Maple Gate and Cherry Blossom Gardens. The new public road, Silver Maple Gate runs north of Sheppard Avenue East and turns east to terminate in a cul-de-sac. The easterly section of the road is called Cherry Blossom Gardens. Cherry Blossom Gardens is expected to extend up to Warden Avenue in the future. Silver Maple Gate and Cherry Blossom Gardens are dedicated public highways that are not yet assumed. Sheppard Avenue East with Silver Maple Gate to the north and Palmdale Drive to the south form a 4-legged intersection.

The by-laws for the parking and traffic regulations for the proposed new streets is to be addressed via a subsequent report.

As part of the conditions of approval at the development review stage, new traffic control signals are to be installed at the intersection of Sheppard Avenue East and Palmdale Drive/Silver Maple Gate. Currently, Palmdale Drive at Sheppard Avenue East is controlled by a stop sign for northbound traffic. The existing stop sign will be removed, coincident with the signal installation. As noted, Silver Maple Gate is a proposed new street within the subdivision.

The applicant performed a capacity analysis with the future total traffic at the intersection of Sheppard Avenue East and Palmdale Drive/Silver Maple Gate with the consideration of an unsignalized intersection (two-way stop controlled intersection). The capacity analysis revealed that the northbound and southbound left-turning vehicles would experience excessive delays. Transportation Services requested that the applicant complete a warrant analysis to install the traffic control signals. The consultant performed a capacity analysis with the traffic control signals at this intersection to reduce the delays for northbound and southbound left turns. Warrants for the traffic control signal were not numerically satisfied. However, based on the capacity analysis, the existing transit stops at the intersection and future developments at the adjacent property, the installation of a traffic control signals was recommended at this intersection.

Existing Conditions

The subject segment of Sheppard Avenue East 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 18.5 metres
- The roadway width is divided between two eastbound lanes, two westbound lanes and a two-way centre left turn lane
- The daily two-way traffic volume is approximately 32,000 vehicles
- The speed limit is 50 km/h
- Heavy trucks are permitted at all times
- TTC service is provided by bus routes 85, 85a, 324, 324s, and 385
- There are sidewalks located on both sides of the street

The subject segment of Palmdale 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 8.5 metres
- The daily two-way traffic volume is approximately 1,650 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

Silver Maple Gate is characterized by the following conditions:

- It is a two-lane north-south future roadway
- It is intended to operate two-way traffic on a pavement width of approximately 8.5 metres
- The projected daily two-way traffic volume is approximately 1,790 vehicles
- There is no TTC service planned
- Sidewalks will be located on both sides of the street

A map of the area is included in Attachment 1.

Traffic Control Signals

As part of the traffic assessment undertaken, new trips generated by the proposed development located at 3260 Sheppard Avenue East were identified as causing a significant amount of delay for northbound and southbound motorists turning left at the intersection of Sheppard Avenue East and Palmdale Drive/Silver Maple Gate. Therefore, Transportation Services requested the developer to determine if the forecasted traffic volumes would warrant the installation of traffic control signals.

To determine the need for traffic control signals at this intersection, the consultant relied on the warrant criteria outlined in the Ontario Traffic Manual (OTM) Book 12. The OTM warrant criteria include factors such as the volume of vehicles and pedestrians, delay to cross traffic and collision history. In addition to these technical justifications, staff consider an environmental checklist that includes 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.

The consultant forecasted future volumes and assessed them against the warrant criteria outlined in OTM book 12. The results of the consultant's analysis are summarized in Table 1.

Table 1: Warrant Compliance - Sheppard Avenue East and Palmdale Drive/Silver Maple Gate

Justification	Compliance level
Minimum vehicular volume	50%
Delay to cross traffic (pedestrians and vehicles)	95%
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 both the minimum vehicular volume and delay to cross traffic justifications must be at least 80 percent satisfied. Based on the results in Table 1, the installation of traffic control signals is not justified under the future conditions proposed by the development at 3260 Sheppard Avenue East.

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

- The long spacing between protected pedestrian crossings from this intersection on Sheppard Avenue East (approximately 260 metres to the east at Warden Avenue and 535 metres to the west at Pharmacy Avenue)
- The presence of transit stops in both directions on Sheppard Avenue East at this intersection. This attracts pedestrians to cross the street
- The presence of high-rise buildings, which are the main pedestrian generators at this intersection, including residential and community health centres, that attract vulnerable pedestrians to cross the street
- Safety concerns for pedestrians who may intend to cross a five-lane cross-section with the high traffic volume and speed on Sheppard Avenue East

In considering the above-mentioned environmental factors, Transportation Services recommends the installation of traffic control signals at the intersection of Sheppard Avenue East and Palmdale Drive/Silver Maple Gate, as it will provide enhanced safety for all road users.

The TTC has been consulted in each development application stage and concurs with these findings. TTC also recommended relocation of the existing westbound bus stop, bus landing and shelter. Relocating this stop and associated facilities will improve customer safety. The installation of a traffic control signal at this intersection will provide a protected pedestrian crossing device for the TTC's customers. It will help to provide more reliable service and enhance the safety of its customers.

Base on the aforementioned, Transportation Services is recommending the installation of traffic control signals at the intersection of Sheppard Avenue East and Palmdale Drive/Silver Maple Gate.

Other Considerations

It should be noted that the installation of traffic control signals will have the following additional impacts:

- There is a potential for an increase in delays to transit service on Sheppard Avenue East
- There is a potential for an increase in non-local traffic on Palmdale Drive

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

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SIGNATURE

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

ATTACHMENTS

Attachment 1: Map - Traffic Control Signals - Sheppard Avenue East and Palmdale Drive/Silver Maple Gate

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