

## **Pedestrian Crossing Protection - Orton Park Road and Botany Hill Road/Slan Avenue**

**Date:** March 20, 2023

**To:** Scarborough Community Council

**From:** Director, Traffic Management, Transportation Services

**Wards:** Ward 24, Scarborough-Guildwood

### **SUMMARY**

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

Transportation Services has reviewed the need for pedestrian crossing protection on Orton Park Road and Botany Hill Road/Slan Avenue. Based on the assessment undertaken, Transportation Services recommends the installation of pedestrian crossing protection at Orton Park Road and Botany Hill Road/Slan Avenue. The proposed pedestrian crossover (PXO) will provide enhanced safety for vulnerable road users crossing at this intersection.

### **RECOMMENDATIONS**

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The Director, Traffic Management, Transportation Services recommends that:

1. City Council authorize the installation of a pedestrian crossover at the intersection of Orton Park Road and Botany Hill Road/Slan Avenue.

### **FINANCIAL IMPACT**

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The estimated cost for installing a pedestrian crossover is \$120,000.00. Funding would be subject to availability and competing priorities within the Transportation Services 2023 Capital Budget.

## **DECISION HISTORY**

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This report addresses a new initiative.

## **COMMENTS**

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Transportation Services staff was requested by the Ward Councillor, on behalf of area residents, to review the need for pedestrian crossing protection on Orton Park Road and Botany Hill Road/Slan Avenue. This request is to address the long distance between protected pedestrian crossings on Orton Park Road, which is approximately 1,000 metres, and enhance safety for pedestrians, including transit users accessing the future proposed TTC bus stops at this intersection.

### **Existing Conditions**

Orton Park Road is characterized by the following conditions:

- It is a two-lane, north-south, minor arterial road
- It operates two-way traffic on a pavement width of approximately 12 metres
- The daily two-way traffic volume is approximately 7,000 vehicles
- The speed limit is 40 km/h
- Heavy trucks are prohibited at all times
- There is TTC service provided by the 54 Lawrence East bus
- There are sidewalks located on both sides of the street
- There are designated northbound and southbound left turn lanes and sharrow bicycle pavement markings at the intersection with Botany Hill Road/Slan Avenue

Botany Hill Road (east leg) is characterized by the following conditions:

- It is a two-lane, east-west, local road
- It operates two-way traffic on a pavement width of approximately 8.5 metres
- The speed limit is 50 km/h
- Heavy trucks are prohibited at all times
- There are sidewalks located on both sides of the street

Slan Avenue (west leg) is characterized by the following conditions:

- It is a two-lane, east-west, collector road
- It operates two-way traffic on a pavement width of approximately 8.5 metres
- The speed limit is 30 km/h
- Heavy trucks are prohibited at all times
- There are sidewalks located on both sides of the street

North/south traffic on Orton Park Road operates free-flow and eastbound traffic on Slan Avenue and westbound traffic on Botany Hill Road is stop controlled.

The adjacent land use in this area is generally residential, with pedestrian generators including Botany Hill Park (with community centre), Henry Hudson Senior Public School and Heather Heights Junior Public School. Additionally, Orton Park Road is designated as a Community Safety Zone, between Ellesmere Road and Botany Hill Road/Slan Avenue.

The closest pedestrian crossover (PXO) is located approximately 460 metres to the north at a point 235 metres south of Ellesmere Road and approximately 550 metres to the south at Brimorton Drive in the form of traffic control signals.

A map of the area is shown in Attachment 2.

Transportation Services has reviewed the need for either a 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 Orton Park Road and Botany Hill Road/Slan Avenue, 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 Orton Park Road, the warrants require a minimum of 225 pedestrians crossing over eight hours. Also, based on the pedestrian crossing volume, at least 115 pedestrians must be delayed more than 10 seconds.

An eight-hour pedestrian volume and delay study was conducted on September 29, 2022 which recorded the total volume and delays of pedestrians crossing at Orton Park Road and Botany Hill Road/Slan Avenue. 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 32; of these, 14 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 Orton Park Road and Botany Hill Road/Slan Avenue

| <b>Criteria</b>   | <b>Compliance</b> |
|-------------------|-------------------|
| Pedestrian Volume | 14 percent        |
| Pedestrian Delay  | 19 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.

Collision statistics provided by the Toronto Police Service for the three-year period ending December 31, 2022 disclosed no collisions at the area of Orton Park Road and Botany Hill Road/Slan Avenue that involved crossing pedestrians.

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.

Notwithstanding, the numeric warrant not being met, Transportation Services considers that pedestrian crossing protection is appropriate at this intersection, due to the following factors and vulnerable road user generators:

- The significant distance between protected crossing devices
- The addition of transit stops which will add additional pedestrian crossing volumes
- The area is designated as a community safety zone
- The presence of sharrow cycling pavement markings
- The presence of a park and a community centre north of the intersection and schools in the area

In view of the forgoing, Transportation Services can support the installation of a PXO at the intersection of Orton Park Road and Botany Hill Road/Slan Avenue. The TTC has been consulted regarding this proposal and supports the installation of a PXO at this intersection as transit stops are planned to service the 54 Lawrence East bus route.

Environmental safety characteristics were also evaluated to ensure that the installation of a PXO would be appropriate at this location. Based on the evaluation, a PXO would be a suitable type of pedestrian crossing protection at this location. Details of the evaluation are included in Attachment 1.

## **Traffic Control Signals**

To determine the need for traffic control signals at the intersection of Orton Park Road and Botany Hill Road/Slan Avenue, 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, 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 at the subject intersection on September 29, 2022. Collision history provided by the Toronto Police Service for the three-year period ending December 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 - Orton Park Road and Botany Hill Road/Slan Avenue

| <b>Justification</b>                              | <b>Compliance level</b> |
|---|-------------------------|
| Minimum vehicular volume                          | 29%                     |
| Delay to cross traffic (pedestrians and vehicles) | 45%                     |
| 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 not justified.

In regards to the environmental checklist, staff completed an assessment and determined that there are no other environmental or external factors that would justify the need for traffic control signals at this time.

Transportation Services does not recommend the installation of traffic control signals as they are not justified based on the technical and environmental criteria that was evaluated. As noted, the installation of a PXO is recommended at this intersection as the most appropriate measure to provide protection for vulnerable road users crossing Orton Park Road.

### **Other Considerations**

If, despite the findings above, Scarborough Community Council decides to proceed with installing traffic control signals, the following impacts should be noted:

- There is potential for increase in delays to transit service on Orton Park Road.
- There may be a potential increase in cut-through traffic on Slan Avenue.
- Loss of 11 on-street parking spaces, six spaces on Botany Hill Road and five spaces on Slan Avenue.

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

## **CONTACT**

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## **SIGNATURE**

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

## **ATTACHMENTS**

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Attachment 1: Environment Safety Audit - PXO, Orton Park Road and Botany Hill  
Road/Slan Avenue

Attachment 2: Map - Pedestrian Crossover - Orton Park Road and Slan Avenue/Botany  
Hill Road

Attachment 1: Environmental Safety Audit - PXO - Orton Park Road and Botany Hill Road/Slan Avenue

| Standard   | Comments   | Standard Met/Not Met |
|--|--|----------------------|
| Vehicle operating <b>speed</b> less than 60 km/h   | The posted speed limit on Orton Park Road is 40 km/h.  | Met                  |
| Not more than four lanes <b>wide</b> on a two-way street or more than three lanes wide on a one-way street | Orton Park operates with two lanes in each direction with a designated left turn lane  | Met                  |
| Traffic <b>volume</b> not more than 35,000 vehicles per day  | Orton Park Road carries approximately 7,000 vehicles per day.  | Met                  |
| No significant volume of <b>turning</b> movements  | The volume of traffic turning to/from Orton Park Road is moderate (approx. 800 vehicles over busiest eight hours)                            | Met                  |
| No <b>visibility</b> problems exist for either pedestrians or motorists                                    | No vertical or horizontal curves.  | Met                  |
| No <b>loading</b> zones (including TTC) in the immediate area  | Future TTC transit stop are proposed for this intersection   | Met                  |
| No <b>driveways</b> or entrances nearby  | No driveways in the vicinity.  | Met                  |
| <b>Spacing</b> is not less than 200 metres to another pedestrian crossover or traffic control signal       | Orton Park Road, approximately (PXO) - 235 metres east south of Ellesmere Road<br>Orton Park Road at Brimorton Road (TCS) - 550 metres south | Met                  |

Attachment 2: Map - Pedestrian Crossover - Orton Park Road and Slan Avenue/Botany Hill Road

