

Pedestrian Crossing Protection - Carlingview Drive and Meteor Drive

Date: October 26, 2023

To: Etobicoke York Community Council

From: Director, Traffic Management, Transportation Services

Wards: Ward 1 - Etobicoke North

SUMMARY

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

Transportation Services has reviewed the need for pedestrian crossing protection in the area of Carlingview Drive and Meteor Drive. Based on the assessment undertaken, Transportation Services is recommending the installation of traffic control signals at Carlingview Drive and Meteor Drive. The 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 Carlingview Drive and Meteor Drive.

FINANCIAL IMPACT

The estimated cost for installing traffic control signals at Carlingview Drive and Meteor Drive is \$250,000.00. Funding would be subject to availability and competing priorities within the Transportation Services 2024 Capital Budget.

DECISION HISTORY

This report addresses a new initiative.

COMMENTS

The former Ward Councillor requested Transportation Services staff, on behalf of an area resident, to review the need for pedestrian crossing protection on Carlingview Drive near Meteor Drive. This request is to address the long distance between protected pedestrian crossings on Carlingview Drive, which is approximately 900 metres, and enhance safety for pedestrians and transit users using the mid-block TTC bus stops.

Existing Conditions

Carlingview Drive is characterized by the following conditions:

- It is a four-lane, north-south, major arterial roadway
- A southbound exclusive left turn lane/painted median is located near the subject intersection
- It operates two-way traffic on a pavement width of approximately 17 metres
- The daily two-way traffic volume is approximately 12,000 vehicles
- The speed limit is 60 km/h
- Heavy trucks are permitted at all times
- There is TTC service provided by the 112 West Mall and 332 Eglinton West Night bus
- There is a sidewalk located on the east side of the street

Meteor Drive is characterized by the following conditions:

- It is a two-lane, east-west, local roadway
- It operates two-way traffic on a pavement width of approximately 10 metres
- The daily two-way traffic volume is approximately 2,500 vehicles
- The speed limit is 50 km/h
- Heavy trucks are permitted at all times
- There is no TTC service
- There is a sidewalk located on the south side of the street

North/south traffic on Carlingview Drive is free-flow and westbound traffic on Meteor Drive is stop-controlled.

The adjacent land use in this area is a primarily commercial/industrial. Northbound and Southbound bus stops are located on the south approach of Carlingview Drive at Meteor Drive.

The closest adjacent traffic controls are located approximately 450 metres to the south at Renforth Drive/International Boulevard in the form of traffic control signals and approximately 675 metres to the north at Dixon Road 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 Carlingview Drive and Meteor Drive, 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 Carlingview Drive and Meteor Drive, the warrants require a minimum of 260 pedestrians crossing over eight hours. Also, based on the pedestrian crossing volume, at least 130 pedestrians must be delayed more than 10 seconds.

An eight-hour pedestrian volume and delay study was conducted on November 3, 2022, which recorded the total volume and delays of pedestrians crossing at Carlingview Drive and Meteor Drive. 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 94; of these, 41 experienced a delay greater than 10 seconds. However, in order to calculate the Pedestrian Delay portion of the warrant there must be a minimum of 200 crossings. 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 Carlingview Drive and Meteor Drive

| Justification | Compliance |
|----------------------|-------------------|
| Pedestrian Volume | 36 percent |
| Pedestrian Delay | N/A |

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 both the pedestrian volume and delays have not met the minimum requirements.

Staff also reviewed the collision history at this location. Collision statistics provided by the Toronto Police Service for the three-year period ending December 31, 2022, disclosed one collision in the area of Carlingview Drive and Meteor Drive that involved crossing pedestrians. However, this collision involved a pedestrian crossing Meteor Drive.

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.

An environmental safety audit was completed to ensure that the installation of a PXO would be appropriate at this location. Details of the evaluation are included in Attachment 1. Based on the evaluation, a PXO would not be a suitable type of pedestrian crossing protection at this location due to the crossing distance of more than four lanes and the operating speed is greater than 60 km/h.

Traffic Control Signals

Staff conducted vehicle and pedestrian counts on November 3, 2022, at the subject intersection. Collision history provided by the Toronto Police Service for the three-year period ending December 31, 2022, disclosed one collision at the subject intersection that was 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. This collision did not involve a pedestrian crossing Carlingview Drive.

Table 2: Warrant Compliance - Carlingview Drive and Meteor Drive

| Justification | Compliance level |
|---|-------------------------|
| Minimum vehicular volume | 35% |
| Delay to cross traffic (pedestrians and vehicles) | 47% |
| 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 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 warranted.

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

- the long spacing between pedestrian crossing protection on Carlingview Drive and Meteor Drive.
- the presence of transit stops in both directions on Carlingview Drive in the area of Meteor Drive that attract pedestrians to cross the street.
- the pedestrian generators in the immediate area, including commercial/industrial buildings, that attract vulnerable pedestrians to cross the street; and
- the five-lane cross-section on Carlingview Drive at Meteor Drive, 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 Carlingview Drive and Meteor Drive as it will provide enhanced safety for all road users.

The TTC has been consulted and concurs with these findings.

Other Considerations

It should also be noted that the installation of traffic control signals at Carlingview Drive and Meteor Drive will result in the following impacts:

- There is potential for increase in delays to transit service on Carlingview Drive.

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

CONTACT

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SIGNATURE

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ATTACHMENTS

Attachment 1: Environmental Safety Audit - PXO - Carlingview Drive and Meteor Drive

Attachment 2: Map - PXO/TRAFFIC CONTROL SIGNALS - Carlingview Drive and Meteor Drive

Attachment 1: Environmental Safety Audit - Carlingview Drive and Meteor Drive

| Standard | Comments | Standard Met/Not Met |
|---|---|-----------------------------|
| Vehicle operating speed less than 60 km/h | The operating speed on Carlingview Drive is greater than 60 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 | Carlingview Drive at Meteor Drive operates with two lanes in each direction with a southbound left turn lane/painted median | Not Met |
| Traffic volume not more than 35,000 vehicles per day | Carlingview Drive carries approximately 15,000 vehicles per day. | Met |
| No significant volume of turning movements | Example: The volume of traffic turning to/from Meteor Drive is moderate (approx. 700 vehicles over busiest eight hours) | Met |
| No visibility problems exist for either pedestrians or motorists | No vertical or horizontal curves. | Met |
| No loading zones (including TTC) in the immediate area | TTC stops are located on Carlingview Drive at Meteor Drive. | Not Met |
| No driveways or entrances nearby | No driveways in the vicinity. | Met |
| Spacing is not less than 200 metres to another pedestrian crossover or traffic control signal | Renforth Drive/ International Boulevard (TCS) - 450 metres south Dixon Road (TCS) - 625 metres north | Met |

Attachment 2: Map - Traffic Control Signals - Carlingview Drive and Meteor Drive

