

Pedestrian Crossing Protection - Steeles Avenue East and Bayview Avenue; Steeles Avenue East and Leslie Street

Date: November 7, 2024

To: North York Community Council

From: Director, Planning, Design and Management, Transportation Services

Wards: Ward 17 - Don Valley North, Ward 18 - Willowdale

SUMMARY

As the Toronto Transit Commission (TTC) operates transit service on Steeles Avenue West, Bayview Avenue, and Leslie Street, City Council approval of this report is required.

As part of the road resurfacing project on Steeles Avenue East from Bayview Avenue to Townsend Road in 2024, Transportation Services has included various safety improvements to improve safety for all road users. One of such measures planned is enhancement to the pedestrian crossings across a number of right-turn channels at intersections along Steeles Avenue West at Bayview Avenue and Leslie Street.

Transportation Services recommends installing pedestrian crossovers (PXO) at the right-turn channels (RTCs) at the intersections of Steeles Avenue East and Bayview Avenue, and Steeles Avenue East and Leslie Street. A total of five (5) pedestrian crossovers between the two intersections are recommended.

RECOMMENDATIONS

The Director, Planning, Design and Management, Transportation Services recommends that:

1. City Council authorize the installation of three (3) pedestrian crossovers (PXOs) at the right-turn channels at the northeast, northwest and southeast corners at Steeles Avenue East and Bayview Avenue.
2. City Council authorize the installation of two (2) pedestrian crossovers (PXOs) at the right-turn channels at the southeast and southwest corners at Steeles Avenue East and Leslie Street.

FINANCIAL IMPACT

The estimated cost for installing signage at all five recommended PXOs is approximately \$3,000. The funding for these signs is available in the Transportation Services 2024 Capital Budget.

DECISION HISTORY

This report addresses a new initiative.

COMMENTS

As part of the road resurfacing project on Steeles Avenue East from Bayview Avenue to Townsend Road in 2024, Transportation Services has included various safety improvements to improve safety for all road users. One of such measures planned is enhancement to the pedestrian crossings across a number of right-turn channels at the intersections along Steeles Avenue West at Bayview Avenue and Leslie Street.

Existing Conditions

Steeles Avenue East and Bayview Avenue

Steeles Avenue East at Bayview Avenue is characterized by the following conditions:

- It is a four-lane, east/west, major arterial street;
- There are dedicated left-turn lanes at the east and west approaches of the intersection, and a dedicated right-turn lane at the east approach;
- There are right-turn channels at the east and west approaches of the intersection;
- A yield control is currently in place before the crosswalk at both right-turn channels, signaling drivers to yield the right-of-way to both pedestrians in the crosswalk and to vehicles on the intersecting road;
- It operates two-way traffic on a pavement width of approximately 19 metres on the west side of Bayview Avenue, and approximately 22 metres on the east;
- The daily two-way traffic volume is approximately 45,000 vehicles;
- The posted speed limit is 50 km/h;
- TTC service is provided by the 53 Steeles East bus, which travels eastbound and westbound on Steeles Avenue East;
- There are sidewalks located on both sides of the street; and
- There is no dedicated cycling facility.

Bayview Avenue at Steeles Avenue East is characterized by the following conditions:

- It is a four-lane, north-south major arterial street;
- There are dedicated left-turn and right-turn lanes at the north and south approaches of the intersection;
- There are right-turn channels at the north and south approaches of the intersection;

- A yield control is currently in place before the crosswalk at both right-turn channels, signaling drivers to yield the right-of-way to both pedestrians in the crosswalk and to vehicles on the intersecting road;
- North of Steeles Avenue East right of way, Bayview Avenue is operated and maintained by The Regional Municipality of York and is classified as an arterial road;
- It operates two-way traffic on a pavement width of approximately 25 metres south of the intersection with Steeles Avenue East, and approximately 23 metres north of the intersection with Steeles Avenue East;
- The daily two-way traffic volume is approximately 38,000 vehicles;
- The posted speed limit is 50km/h south of Steeles Avenue East, and 60km/h north of Steeles Avenue East;
- TTC service is provided by the 11 Bayview bus, which travels northbound and southbound on Bayview Avenue;
- There are sidewalks located on both sides of the street; and
- There is no dedicated cycling facility.

Steeles Avenue East and Leslie Street

Steeles Avenue East at Leslie Street is characterized by the following conditions:

- It is a six-lane, east-west major arterial street;
- There are dedicated left-turn and right-turn lanes at the east and west approaches of the intersection;
- There is a right-turn channel on the west approach of the intersection;
- A yield control is currently in place before the crosswalk at the right-turn channel, signaling drivers to yield the right-of-way to both pedestrians in the crosswalk and vehicles on the intersecting road;
- It operates two-way traffic on a pavement width of approximately 32 metres west of the intersection with Leslie Street, and approximately 34 metres east of Leslie Street;
- The daily two-way traffic volume is approximately 45,000 vehicles;
- The posted speed limit is 50 km/h;
- TTC service is provided by the 53 Steeles East bus, which travels eastbound and westbound on Steeles Avenue East;
- There are sidewalks located on both sides of the street; and
- There is no dedicated cycling facility.

Leslie Street at Steeles Avenue East is characterized by the following conditions:

- South of Steeles Avenue East, it is a four-lane, north-south major arterial street;
- North of Steeles Avenue East, it is a two-lane, north-south road, operated and maintained by the City of Markham;
- There is a dedicated right-turn lane with a right-turn channel at the south approach of the intersection;
- A yield control is currently in place before the crosswalk at the right-turn channel, signaling drivers to yield the right-of-way to both pedestrians in the crosswalk and vehicles on the intersecting road;
- It operates two-way traffic on a pavement width of approximately 15 metres south of the intersection with Steeles Avenue East, and approximately 8 metres north of Steeles Avenue East;

- The daily two-way traffic volume south of Steeles Avenue East is approximately 26,000 vehicles;
- The posted speed limit is 50 km/h;
- TTC service is provided by the 51 Leslie bus, which travels eastbound and westbound on Steeles Avenue East;
- There are sidewalks on both sides of the street south of Steeles Avenue East;
- There are no sidewalks north of Steeles Avenue East; and
- There are sharrows and bicycle route signage north of Steeles Avenue East.

Collision history at Steeles Avenue East and Bayview Avenue

Collision history provided by the Toronto Police Service for the five-year period ending September 30, 2024, indicates that nine reported collisions resulting in minor injuries occurred at this intersection, with one of these collisions involving a pedestrian and none involving people cycling. No (0) collisions occurred at the right-turn channels.

Collision history at Steeles Avenue East and Leslie Street

Collision history provided by the Toronto Police Service for the five-year period ending September 30, 2024, indicates that seven reported collisions resulting in injuries occurred at this intersection. No (0) collisions involved pedestrians or people cycling. No (0) collisions occurred at the right-turn channels.

Proposed Safety Improvements

As part of the road resurfacing project on Steeles Avenue East from Bayview Avenue to Townsend Road in 2024, Transportation Services included various geometric safety improvements such as curb radii reduction, curb extensions, right-turn channel (RTC) modifications and truck aprons to encourage slower motor vehicle turning speeds and enhance safety for all road users along the corridor.

Transportation Services' current practice is to remove right-turn channels wherever feasible, on a case-by-case basis, based on site-specific conditions and other feasibility factors. Right-turn channels pose an accessibility challenge for people with low or no vision in detecting a sufficient gap between vehicles to confidently proceed with crossing or in confirming that people driving have stopped to allow them to cross. Specifically, presence of a right-turn channel at a signalized intersection poses significant challenges with implementation of accessible pedestrian signals (APS), which is a signal feature that advises people with vision impairment when they have the right-of-way to cross and in which direction.

Furthermore, in some situations the use of right-turn channels may result in other safety concerns such as:

- Right-turning vehicles travelling at excessive speeds within the designated channel, leading to a failure to yield to oncoming traffic;
- Drivers of right-turning vehicles facing challenges in observing oncoming perpendicular traffic due to the vehicle's entry angle; and
- Inadequate space on the islands for pedestrians waiting to cross.

At 5 of the 6 corners at the above noted two intersections, removing some of the right-turn channels was not feasible or desirable due to design limitations and the potential for increased pedestrian exposure resulting from a longer crossing distance. Where removal was not feasible, the design of the channel was reconfigured into a "smart" channel. A "smart" channel incorporates a sharper angle of entry and may include additional safety features, such as raised crosswalks.

The following safety improvements were implemented at the intersection of Steeles Avenue East and Bayview Avenue:

- The reconfiguration of the existing right-turn channels at the northeast, northwest and southeast corners into "smart channels". These smart channels have entries that meet the intersecting roads at an angle closer to 90 degrees, which offer better sightlines and encourage slower motor vehicle speeds.
- Raised crosswalk at the northeast right-turn channel, which provides better visibility of pedestrians and improved compliance by people driving.
- Truck aprons at the northwest, southeast and southwest corners.
- Removal of the right-turn channel at the southwest corner.
- Curb radii reductions to encourage people driving to turn at a slower speed.

The following safety improvements are currently in progress at the intersection of Steeles Avenue East and Leslie Street:

- The reconfiguration of the existing right-turn channels at the southeast and southwest corners into "smart" channels. These smart channels have entries that meet the intersecting roads at an angle closer to 90 degrees, which offer better sightlines and encourage slower motor vehicle speeds.
- Raised crosswalk at the southwest right-turn channel, which provides better visibility of pedestrians and improved compliance by people driving.
- Curb radii reductions to encourage people driving to turn at a slower speed.

Pedestrian Crossover (PXO)

To provide better clarity for people driving at the above noted intersections, it is recommended that two sets of signage be installed in each right-turn channel. Type 2 Level D PXO treatment is recommended to replace the existing signage for the yield-controlled pedestrian crossing, while a new yield sign is recommended to be installed in advance of the intersecting road to address conflicts between vehicular movements. To determine the need for PXOs at the right-turn channels at Steeles Avenue East and Bayview Avenue and Steeles Avenue East and Leslie Street, staff rely on the justification criteria and application information as outlined in the Ontario Traffic Manual (OTM) Book 15.

While OTM Book 15 notes that both yield signs and Level 2 Type D PXOs are appropriate for use at right-turn channels, staff are recommending the installation of Level 2 Type D PXOs, as the signage and pavement markings are a more explicit indication to people driving to be aware of and stop for pedestrians who may be crossing in the crosswalk.

OTM Book 15 recommends that a Level 2 Type D PXO at right-turn channels be implemented with the prescribed regulatory and warning signage, along with pavement markings.

The Level 2 Type D PXO proposed at the right-turn channels at Steeles Avenue East and Bayview Avenue, and at Steeles Avenue East and Leslie Street will be the first application of this crossing treatment in Toronto. As such, staff plan to conduct before and after evaluation, including post installation consultation with people with vision impairment. Any future application of this particular treatment is expected to be limited to right-turn channels only. An update on development of criteria for other types of PXOs, which are applicable to more conventional crossing situations, will be presented as a part of a Vision Zero Road Safety Plan update staff report to the Infrastructure and Environment Committee on November 27, 2024.

Maps of the two intersections, showing the locations of the right-turn channels and requested Level 2 Type D PXOs are included in Attachments 1 and 2.

The Ward Councillors have been advised of the recommendations of this staff report.

CONTACT

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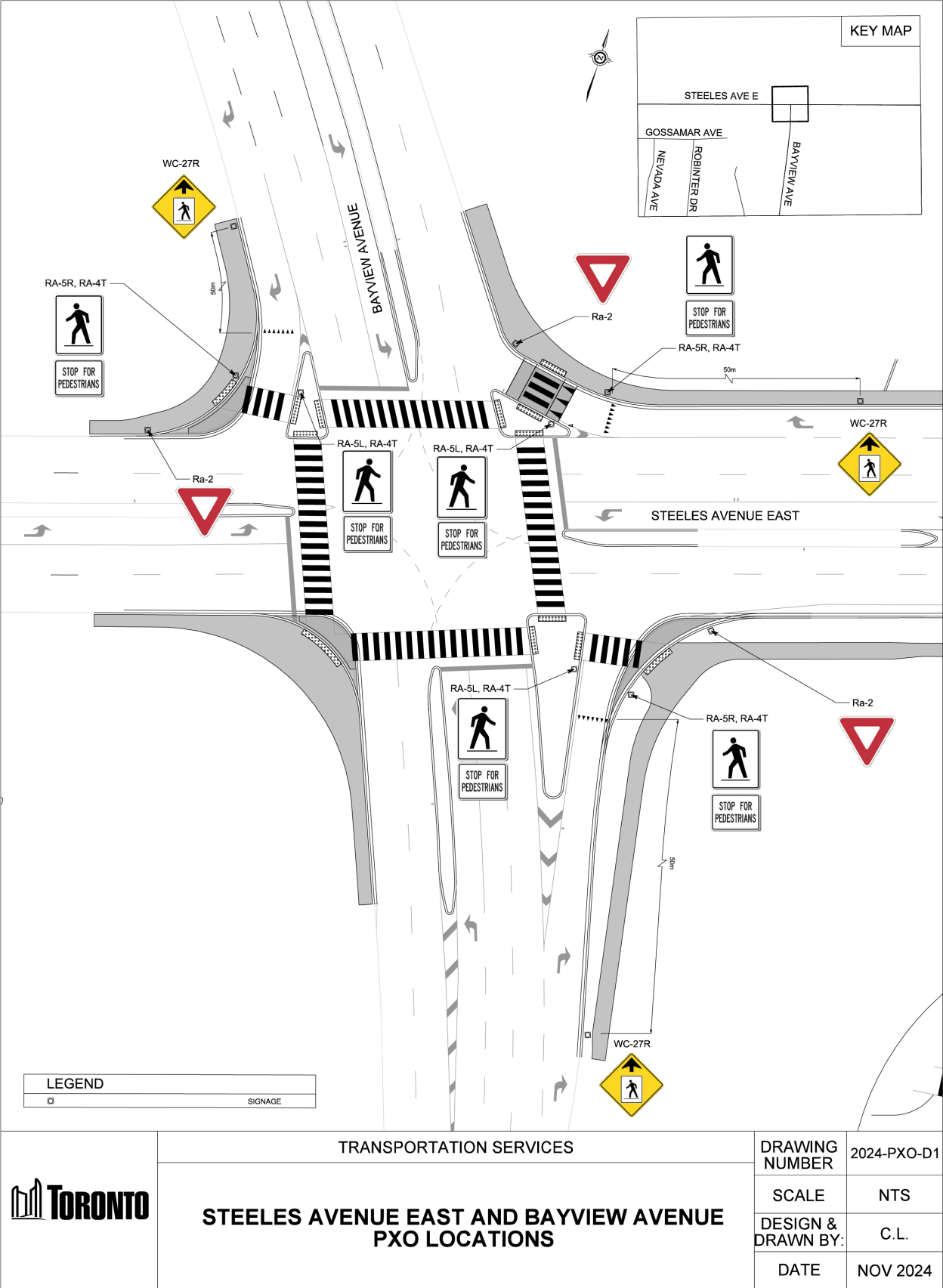
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Jacquelyn Hayward
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Transportation Services

ATTACHMENTS

Attachment 1: Steeles Avenue East and Bayview Avenue - PXO Locations
Attachment 2: Steeles Avenue East and Leslie Street - PXO Locations

Attachment 1: Steeles Avenue East and Bayview Avenue - PXO Locations



Attachment 2: Steeles Avenue East and Leslie Street - PXO Locations

