

Traffic Services Guideline - Pedestrian Crossover (PXO) Program

Approved By: Phil Landry, Director, Traffic Services

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Statement

This document summarizes Traffic Service's guideline for determining how Pedestrian Crossovers (PXOs) will be implemented in Ottawa.

Purpose

The purpose of the guideline is to ensure a consistent and efficient approach to the implementation of Pedestrian Crossovers (PXOs) city-wide.

Application

This guideline applies to all Transportation Services Department's Traffic Services employees when screening locations brought forth for PXO consideration, for PXO type selection and for the implementation of the PXO.

General Instructions/Principles

Background

In September 2015, Council approved the Pedestrian Crossing Treatments – Update to Ontario Traffic Manual (OTM) Report (ACS2015-COS-PWS-0014). As a result, Council agreed to the reintroduction of the PXO as a crossing treatment in Ottawa through a three-year Pedestrian Crossover (PXO) Program pilot. The pilot would serve to evaluate PXO Types B, C and D introduced by the Ontario Ministry of Transportation (MTO) to determine whether these should be formally adopted as crossing treatments in Ottawa. The three-year PXO Pilot Program, initiated in January 2016, has shown that PXO crossings enhance the overall safe crossing of roadways by pedestrians which has resulted in a permanent PXO Program.

The policy, procedures and guidelines to support the application of the pilot program, developed, administered and managed by Traffic Services continue to be in effect. The crossing location screening process, the PXO type selection process, in addition to the conditions for design and implementation, are all defined in the MTO's OTM Book 15 – Pedestrian Crossing Treatments.

Note: OTM Book 15 deals with all controlled pedestrian crossings including traffic signals, pedestrian crossovers, stop and yield signs and adult school guard crossings. The Traffic Services Guideline - Pedestrian Crossover (PXO) Program is meant to address PXOs only.



Figure 1 - PXO Sign

Eligibility Criteria for PXOs

Existing Roadway Infrastructure:

All locations brought forward for consideration will be screened and prioritized for assessment through meetings with ward councillors. Prioritized locations will be scheduled for data collection in the spring and summer months.

Data will be collected and reviewed in accordance with the OTM Book 15 screening process. More specifically, staff will follow Book 15's Decision Support Tool – Preliminary Assessment (Figure 2 – Screening Process) to determine whether criteria are met to support the installation of a PXO on existing roadways. The screening process assesses the following site-specific information:

- Traffic Volumes which include on road vehicle volumes and crossing pedestrian/cyclist volumes;

- Crossing Distance including the width of the road, the number of lanes to be crossed, and existing sight lines; and,
- Pedestrian System Connectivity which consists of the desired line crossing and distance to the next nearest controlled crossing.

Important Notes:

- *PXOs will not be installed at locations where traffic volumes meet the warrants for traffic control signals. An in-depth engineering review is required for an exception to be considered.*
- *The required separation distance between controlled crossings must be greater than or equal to 200m. Where suitable, as recommended through a more in-depth engineering review, an exception may be made to the 200m distance criteria.*

New Infrastructure:

PXOs will automatically be installed where new infrastructure is being implemented to further support pedestrian mobility city-wide. The costs for PXO implementation will be covered by the project in question through the related capital project account, the developer or external agency where applicable.

- Roundabouts: PXOs will automatically be implemented as part of roundabout installations; no warrant will be applied.
- Pathways: All new pathway systems built will have PXO's installed.
- Subdivisions: All new subdivisions will include PXOs as part of their pedestrian mobility plan aligning with the Building Better and Smarter Suburbs (BBSS) guidelines.

Important Note:

- *PXOs will not be placed where pedestrians will be subjected to an unsafe crossing. They will need to be taken into consideration during the design phase of pedestrian facilities and systems.*

Eligible Locations – PXO Type Selection

Locations that meet the criteria for a PXO installation are subject to a second assessment to determine the type of PXO to be used, either type B, C or D. Type A PXOs are not currently supported as part of the program. A high-level description of each of the Program's PXOs is included below:

- Type B treatments are typically located on medium volume, medium speed, and single or multi lane roadways such as major collectors, minor arterials and high volume multi lane roundabouts. They typically consist of roadside mounted signs with lane overhead signs and rapid flashing beacons on top of the roadside mounted signs;
- Type C treatments are typically located on medium volume, medium speed, and single lane roadways such as major collectors and lower volume multi lane roundabouts. They consist of roadside mounted signs and rapid flashing beacons on top of the side mounted signs.
- Type D treatments are typically located on medium to low volume, low speed, and single lane roadways such as collectors, single lane roundabouts and right turn channels. Type D treatments can also be used in conjunction with school crossing guards at school crossing locations. They consist of roadside mounted signs with no rapid flashing beacon.

The OTM Book 15's Pedestrian Crossover Selection Matrix (Table 7) will be utilized to select the appropriate PXO type for each location. Factors considered in the matrix include:

- Road vehicle volume;
- Posted speed (needs to be 60km/h or less); and,
- Road width/number of lanes (maximum four lanes two-way traffic or three lanes one-way traffic).

Important Note: Where applicable, temporary traffic calming measures, such as centre line advisory flex stakes can be implemented as part of a PXO configuration to lower the road crossing distance when applying the matrix selection tool. A more in-depth engineering review is required to exercise this option.

PXO Design and Implementation

As part of the PXO Program, PXOs will be implemented subject to available base program funding with the goal of installing one PXO per ward per year. In wards with more than one warranted PXO location, staff will consult with the ward councillor to set prioritization criteria. A second, overall prioritization process will also be undertaken to establish a rank for implementation where there is not enough base program funding in

a given year to support the installation of one PXO per ward. The prioritization process will be based on a formula using criteria inputs such as traffic and pedestrian volumes, collisions, crossing types, and past implementations, among other criteria.

Where other funding sources are available to implement PXOs, such as through capital works rehabilitation projects, area traffic calming projects, sidewalk and MUP programs, new development construction, and from outside agencies, the warrant conditions will still be used but with less reliance on its criteria and more on an engineering assessment to ensure safe implementation and use conditions. The Selection Type matrix process will also remain in play for these locations.

Regardless of the funding source the design and implementation of a PXO will be in line with the conditions and design standards established under the OTM Book 15's:

- CHAPTER 2. LEGAL FRAMEWORK
 - 2.1.6 Designing for Accessibility
- CHAPTER 6. PEDESTRIAN CROSSING FACILITY DESIGN, and specific sub-sections
 - 6.2.1 Geometric Design Components
 - 6.2.4 Pavement Markings
 - 6.2.6 Illumination
 - 6.3.2 Pedestrian Crossovers *
 - 6.3.5 Specific Environments
 - 6.3.5.1 Roundabouts **
 - 6.3.5.2 Right Turn Channels
 - 6.3.5.4 Temporary Conditions

** The application of center line advisory flex stakes has found to be beneficial in increasing awareness of and need for driver caution at PXOs, specifically where there is a new crossing. Use of this roadway sign is optional and would be in addition to the signs required in Book 15.*

*** The location of the PXO yield line for roundabout exit lanes is identified as 6m beyond the outer edge of the circular lanes and 6m prior to the PXO's crosswalk markings. Based on observations of exiting vehicles during the pilot in single lane roundabouts, it was found that the 6m distance between the outer edge of the circular lanes and the yield lines can be treated as optional. For all new multi-lane roundabouts, the 6m should however be strongly considered.*

City of Ottawa design specifications and standards will also need to be consulted for design purposes.

All PXOs to be implemented will have a corresponding communication plan that will be implemented with the PXO. The program responsible for implementing the PXO will also be responsible for the communication plan and its deployment.

Responsibilities

Manager/Supervisor

Provide program oversight and administration. Ensure all affected Traffic Services employees, other City employees and external consultants and agencies implementing PXOs follow the Pedestrian Crossover Program Guideline when determining the use, the selection, the design and implementation so that the application of the PXO crossing device is consistent city wide.

Employee

Follow the Pedestrian Crossover Program Guideline when determining the use, the selection, the design and implementation of PXOs on existing infrastructure so that the application of the PXO crossing device is consistent city wide. All work prior to the Design and Implementation phase of the PXO, will be the responsibility of Traffic Services.

When required, consult with Councillors to develop a PXO prioritization process where multiple PXO's are warranted in their respective ward.

Coordinate the design and implementation of PXO's initiated as part of, and funding through the PXO program.

Employees External to Traffic Services including External Consultants, External Agencies

Coordinate the design and implementation of PXO's initiated as part of projects funded through alternative funding sources.

Monitoring/Contraventions

The supervisors must confirm that the guideline has been followed by the employee when undertaking the warrant assessment process and the PXO type selection process. Confirmation is also required for compliance with the Pedestrian Crossover

Program Guideline by the employee/external consultant/external agency for work undertaken on design and implementation. Any contraventions of the Guideline will be noted and corrected with employee and/or the external party prior to proceeding to the next step of the process.

References

The following policies/documentation are related to this guideline:

- [Bill 31, Transportation Statute Law Amendment Act \(Making Ontario's Roads Safer\), 2015](#);
- Highway Traffic Act (HTA) Signs Regulation - [R.R.O. 1990, Reg. 615: SIGNS](#);
- [MTO Ontario Traffic Manual Book 15 – Pedestrian Crossing Treatments](#); and
- [Pedestrian Crossing Treatments – Update to Ontario Traffic Manual \(OTM\) Report \(ACS2015-COS-PWS-0014\)](#).

Enquiries

For more information on this guideline, contact Kunjan Ghimire, Design and Implementation Engineer, Traffic Management, Traffic Services, Transportation Services Department by telephone at 613-580-2424 x21685 or by e-mail at Kunjan.Ghimire@ottawa.ca.