

## 2017 Pedestrian Crossover Program Update

### **Background:**

In May 2016, a report entitled "[Pedestrian Crossover Facilities](#)" was presented to the Operations Committee providing an overview of this new tool and recommending that an annual report prioritizing the installation of pedestrian crossovers based on existing and anticipated pedestrian volumes be presented to the Committee. This report has been prepared to fulfill that commitment.

In late 2016, Council approved the installation of pedestrian crossover facilities ('PXOs') at 20 locations throughout the community. At the same time, the City launched a public education campaign aimed at all road users on the appropriate and safe use of these new facilities.

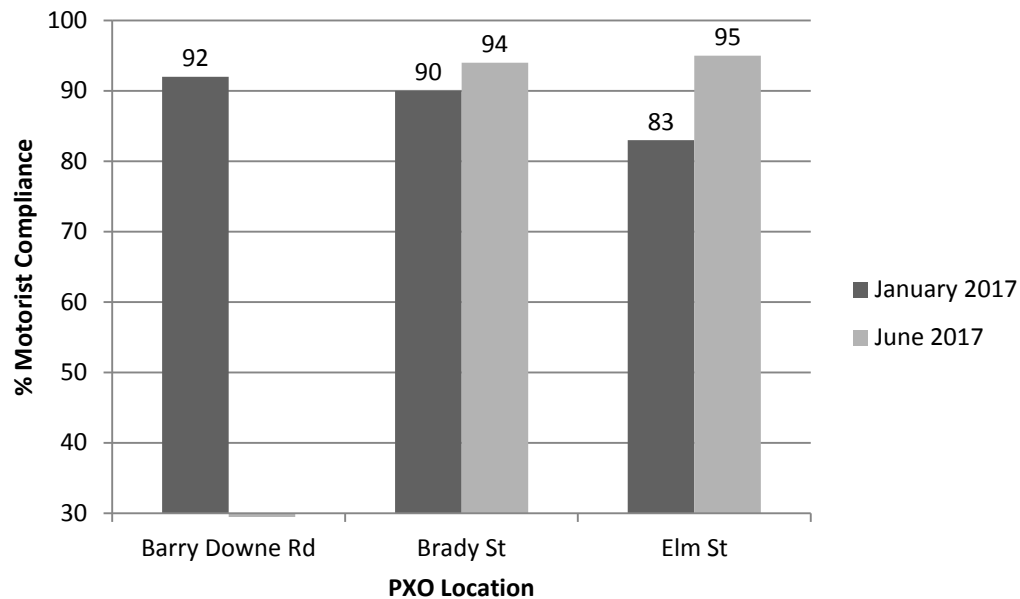
### **Monitoring Program Update:**

When the Pedestrian Crossover Program for the City was initially developed in 2016, an approach to monitor the success of the program was also planned to ensure the PXOs are achieving their objective of improving pedestrian safety. To determine the impact of the PXO program, studies of both pedestrians and motorists were completed for three of the City's most prominent and well-used pedestrian crossovers, Barry Downe Road at Woodbine Avenue, Brady Street at Shaughnessy Street and Elm Street at the Transit Terminal. Analysis presented below is based on observations and data collected from these three pedestrian crossovers.

### Motorist Compliance:

Three months after the pedestrian crossovers were installed, motorists are adapting well to this new infrastructure by nearly always stopping at the appropriate time to allow pedestrians to cross the road. To determine compliance, traffic studies of these three PXOs were completed in January 2017 and again in June 2017. A second study of Barry Downe Road was not completed in June, as this is outside of the regular semester schedule and would likely not be a representative or comparable sample to data collected in January.

In January, motorist compliance was 92 percent and 90 percent for Barry Downe Road and Brady Street, respectively, whereas on Elm Street, motorists stopped for pedestrians approximately 83 percent of the time (Figure 1). Studies completed in June for Brady Street showed an increase in compliance to 94 percent and Elm Street showed a significant improvement to 95 percent compliance. A positive trend in motorist compliance is evident in the study data.



**Figure 1. Percentage of motorists at each PXO Location who stopped at the appropriate time to allow pedestrians to cross the road**

#### Pedestrian Compliance and Use:

Pedestrian compliance is somewhat more difficult to determine, as per the *Highway Traffic Act*, pedestrians are not required to push the button to activate the flashing beacons prior to crossing. Rather, they are required to enter the road only when there would be adequate time for an approaching vehicle to stop. The flashing beacons are a supplemental device which helps draw the attention of motorists that a pedestrian is waiting to cross the road.

Prior to implementing the PXO on Brady Street, pedestrians would cross the road in the vicinity of Shaughnessy Street whenever there was a gap in traffic. This kind of pedestrian behaviour is known to create challenges for motorists in anticipating where to look for pedestrians. With the implementation of the pedestrian crossover, this behaviour has been minimized with approximately 93 percent of pedestrians counted in January 2017, now crossing this segment of Brady Street within the PXO. This enhances safety by making pedestrians more predictable and in turn, simplifying the driver experience.

Currently, PXOs on Brady Street and Barry Downe Road are configured so that a pedestrian must push only one button to activate the flashing beacons across the roadway. As a pilot project the Elm Street PXO was configured to require a pedestrian to push one button to activate the first leg of the crossing, and a second button to activate the next leg of the crossing. A study reviewing the number of times a pedestrian utilized the median island push button showed that less than 20 percent of pedestrians used the median island push buttons. To improve consistency for pedestrians, the Elm Street PXO has been re-configured so that only one button is required to activate the flashing beacons across the entire roadway.

#### Pedestrian Volumes:

Volumes observed at the three PXOs showed significant increases in the number of pedestrians using the crossings (Table 1). A 56 percent increase in pedestrian volume on Barry Downe Road is likely due to the timing of the traffic count. In 2016, the traffic count was completed when school was not in session, whereas the traffic count in 2017 was completed in January, during the winter semester. Of note also, both the Brady Street and Elm Street traffic counts in June 2017 occurred while construction was obstructing one travel lane. Without these obstructions, it is possible that the increase in pedestrian volumes would be even higher than 7 percent and 26 percent, respectively (Table 1). Generally, more pedestrians are choosing to use the midblock crossing locations now that they are controlled by a PXO and staff expect this trend to translate to PXOs across our community.

**Table 1: 2016 and 2017, 8-hr Pedestrian Volume Count Results**

	May 2016 Pedestrian Volume (8-hr)	June 2017 Pedestrian Volume (8-hr)	% Change
Barry Downe Rd at Woodbine Ave	141	220*	56%
Brady St at Shaughnessy St	1062	1145	7%
Elm St at Transit Terminal	913	1233	26%

\*Pedestrian count for Barry Downe Road was conducted in January 2017, while classes were still in session at Cambrian College, to provide a more representative traffic count

#### **2017 Pedestrian Crossover Locations:**

##### *Bouchard Street at Marcel Street*

Based on pedestrian traffic counts, a pedestrian crossover is not warranted for Bouchard Street at Marcel Street (Table 2). However, as part of the ongoing traffic calming efforts for the Bouchard Street/Southview Drive corridor, staff is recommending the implementation of a Type B PXO. This PXO will enable residents to access the sidewalk on the south side of Bouchard Street from the north, as well as the Marcel Tot Lot and the commercial businesses to the east at Regent Street.

This location is also less than 100 metres east of the intersection of Southview Drive at Bouchard Street. The City frequently receives requests for a controlled crossing at this intersection however sight lines at this location are restricted and do not allow sufficient time for a motorist to view a pedestrian crossing the road and stop their vehicle. A PXO at the intersection of Bouchard Street at Marcel Street will provide a nearby controlled crossing for pedestrians.

#### Southview Drive at Stephen Street

A Type B PXO is warranted at the intersection of Southview Drive and Stephen Street. A PXO at this location will enable pedestrians to cross Southview Drive to access residential areas, as well as the elementary school on Stephen Street and the nearby Robinson Playground on Cranbrook Crescent.

**Table 2: Pedestrian Crossings Which Qualify for a Pedestrian Crossover**

Intersection	Pedestrian Volume	Vehicular Volume	Raised Refuge	Number of Lanes	Type
Southview Drive at Stephen Street	100	6400	No	2	B
Bouchard Street at Marcel Street	47	7500	No	2	B

#### Channelized Right Turn Lanes

In 2016, the City installed 10 Type D PXOs in channelized right turn lanes throughout the City. Channelized right turn lanes typically provide unprotected pedestrian crossings, which may cause some difficulty for pedestrians to find safe gaps to cross. This may be especially challenging for people with visual impairments or for people with other disabilities who want to use this type of crossing. Staff received positive feedback from residents about the installation of the PXOs in the channelized right turn lanes. Generally, residents felt that motorists were more aware that pedestrians were trying to cross and were stopping more frequently to allow pedestrians to cross in these locations.

To improve pedestrian safety and to provide a consistent experience for both pedestrians and motorists, staff recommends that Type D PXOs be installed in all channelized right turn lanes which contain pedestrian crossings. It is recommended that the locations listed in Table 3 have Type D PXOs installed in 2017.

**Table 3: Pedestrian Crossings at Channelized Right Turn Lanes Which Qualify for a Pedestrian Crossover**

Intersection	Channelized Right Turn	Pedestrian Volume	Vehicular Volume	Type
Barry Downe Road at Marcus Drive	Westbound	27	1538	D
Cote Road at Notre Dame Avenue	Westbound	15	2103	D
Kingsway at Barry Downe Road	Eastbound	53	556	D
	Southbound	55	3976	D
	Westbound	31	2721	D
Kingsway at Falconbridge Road	Southbound	15	3459	D
	Westbound	24	1906	D
	Eastbound	10	1545	D
Kingsway at Silver Hills Drive	Eastbound	22	2093	D
LaSalle Boulevard at Falconbridge Road	Eastbound	7	1484	D
	Westbound	47	311	D
MR 80 at Dominion Drive	Northbound	7	1466	D
Notre Dame Street at Marier Street/ St. Agnes Street	Westbound	N/A	N/A	D
	Southbound	120	85	D
Old Highway 69 at Notre Dame Avenue	Eastbound	15	1837	D
Paris Street at Walford Road	Eastbound	50	838	D
	Southbound	51	1269	D
Regent Street at Algonquin Road	Southbound	10	2074	D
Regent Street at MacLeod Street	Eastbound	27	593	D

**New PXO Requests:**

Requests for pedestrian crossings received since implementation of the initial 20 PXOs are currently under review by staff. Staff are conducting sight line analyses and completing traffic counts to determine if a PXO is warranted at any of the requested locations. Staff will bring forward a future report should any additional PXOs be warranted.

**Award Nomination:**

In March 2017, the Pedestrian Crossover Program was nominated for the Ministry of Transportation Road Safety Award for Initiative of the Year (2016) by the Sudbury Roads Safety Committee. The Sudbury Roads Safety Committee is a partnership of organizations in Greater Sudbury who aim to promote road safety, which includes the Sudbury and District Health Unit, Ministry of Transportation, Ontario Provincial Police, Greater Sudbury Police Services and the Sudbury Cyclists Union. Unfortunately the City of Greater Sudbury did not win, however it is an honour to be nominated for this award.

**Next Steps:**

The addition of PXOs to the municipal infrastructure toolbox has provided a lower cost option to create controlled pedestrian crossings at locations where pedestrians desire to cross. By continuing to expand the PXO program, pedestrian access and movement will continue to be prioritized which ultimately enhances pedestrian safety and enables a healthier lifestyle for Greater Sudbury residents.

Staff will continue to work with Corporate Communications and Greater Sudbury Police Services to develop a communication plan to inform drivers and pedestrians of new locations for the pedestrian crossovers and to continue to educate all road users on their proper use.

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**Resources Cited:**

Institute of Transportation Engineers, *Intersection Design Guidelines*,  
Accessed online: <https://www.ite.org/css/online/DWUT10.html>

Ontario Traffic Manual, *Book 15 Pedestrian Crossing Facilities*, 2016