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**TO:** GENERAL COMMITTEE

**SUBJECT:** PEDESTRIAN CROSSING ANALYSIS – BLAKE STREET AT HURON STREET AND RODNEY STREET

**WARD:** 1

**PREPARED BY AND KEY CONTACT:** A. PURCELL, SENIOR TRANSPORTION OPERATIONS TECHNOLOGIST, EXT. 4884

**SUBMITTED BY:** S. ROSE, C.E.T, TSOS, MANAGER OF TRAFFIC AND ROWA SERVICES EXT. 4382

**EXECUTIVE DIRECTOR APPROVAL:** M. BANFIELD, RPP, EXECUTIVE DIRECTOR OF DEVELOPMENT SERVICES

**CHIEF ADMINISTRATIVE OFFICER APPROVAL:** M. PROWSE, CHIEF ADMINISTRATIVE OFFICER

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### **RECOMMENDED MOTION**

1. That a new capital project for a pedestrian crossing, in the form of a Pedestrian Crossover (PXO) Level 2 Type B, is installed on the west leg of Blake Street and Huron Street and approved as part of the 2025 capital plan, with a budget of \$150,000 to be funded 60% from Development Charges reserves and 40% Tax Capital Reserve.
2. That a new capital project for a pedestrian crossing in the form of a Pedestrian Crossover (PXO) Level 2 Type B is installed on the west leg of Blake Street and Rodney Street be approved as part of the 2025 capital plan, with a budget of \$150,000 to be funded 60% from Development Charges reserves and 40% Tax Capital Reserve.

### **PURPOSE & BACKGROUND**

#### Report Overview

3. On May 4, 2020, City Council adopted motion 20-G-068 regarding Pedestrian Crosswalks at Rodney Street and Blake Street as follows:  
  
“That staff in the Operations Department investigate the feasibility of installing pedestrian crosswalks at Rodney Street and Blake Street and on Blake Street east of Johnson Street and report back to General Committee.”
4. The lapse of time between the Council Motion and the report back is due to the impacts that COVID-19 had on traffic and pedestrian counts, as well as watermain work on Blake Street and the sidewalk installation on Rodney Street between the stairs and Blake Street. These events and projects would impact data collection and therefore staff determined this investigation should wait to ensure the best data was being used for recommendations to Council.
5. Blake Street is an 11 metre wide Arterial Road within the study area of Huron Street with one (1) lane either direction and bike lanes on both sides. Currently there is a designated school crosswalk on the west leg of Blake Street and Huron Street. A sidewalk is located on the north side of the roadway and Barrie Transit stops within the study area. The average daily traffic on Blake Street is

approximately 4,400 vehicles. On the north side of Blake Street there is access to Johnson Street Public School and Barrie Manor Enhanced Care Community. Please refer to Appendix “A” for a map of the Blake / Huron study area.

6. Within the study area of Rodney Street, Blake Street is an 11 metre wide roadway and has one (1) lane of travel each direction. Bike lanes and sidewalks are located on both sides of the roadway. The average daily traffic on this section of Blake Street is 12,500 vehicles. North of Blake Street are the Rodney Street Stairs which provide pedestrian access from the residential area to Barrie North Shore Trail. Please refer to Appendix “B” for a map of the Blake / Rodney study area.
7. The Highway Traffic Act (HTA) identifies the rights and responsibilities of pedestrians and motorists at different forms of pedestrian crossings.
  - a) Controlled Crossing – Where vehicles are required to stop or yield to traffic legally in the crossing which includes pedestrians, or
  - b) Uncontrolled Crossings – Where pedestrians must wait for a safe gap in traffic sufficient for them to cross the road, prior to entering.
8. Blake Street in the vicinity of the Huron Street has one (1) controlled crossing at the signalized intersection of Blake Street and Johnson Street. All other crossings on Blake Street in this area are considered uncontrolled.
9. Blake Street in the vicinity of the Rodney Street has one (1) controlled crossing at the signalized intersection of Blake Street and St. Vincent Street. All other crossings are considered uncontrolled.

**ANALYSIS**

10. Staff utilize Ontario Traffic Manual (OTM) Book 15 – Pedestrian Crossing Treatments to help provide information and guidance for uniformity treatment in design of traffic control devices across Ontario. The Decision Support Tool – Preliminary Assessment in OTM Book 15 is used to determine whether PXOs are warranted. The Preliminary Assessment provides a flow chart that requires the following criteria to be met for a site to be a candidate for a PXO.
  - a) 8-hour pedestrian volume  $\geq 100$  pedestrians with vehicle volume  $\geq 750$  vehicles
  - b) And the site  $> 200\text{m}$  from another traffic control device
  - c) Requirement for connectivity or pedestrian desire lines

**Blake Street and Huron Street**

11. 8-hour pedestrian count was completed on June 4, 2024, at Blake Street and Huron Street for the investigation of a PXO. The results of the investigation are as follows.

Decision Support Tool - Preliminary Assessment (OTM Book 15)			Criteria Met
Requirements		Data	
Pedestrian Volume (8 Hours)	$\geq 100$ Pedestrians	120	✓
Vehicle Volume (8 Hours)	$\geq 750$ Vehicles	3,616	✓
Distance from Traffic Control Device	$< 200\text{m}$	290m	✓
Connectivity or Desire Lines	Yes/No	Yes	✓

12. Staff have analysed the 8-hour pedestrian and vehicle volume on Blake Street. In the total 8-hours, there were 120 pedestrians crossing north/south on Blake Street and 3,616 vehicles travelling through the study area. This exceeds the minimum pedestrian and vehicle volume and proceeds through to the Decision Support Tool.
13. The closest controlled crossing, located at Blake Street and Johnson Street, is approximately 290 metres west of Blake Street and Huron Street. This is greater than the threshold of 200 metre distance where a PXO would not have a negative effect with the existing traffic control device.
14. The intersection of Blake Street and Huron Street is located close to Barrie Manor Enhanced Care Community and Johnson Street Public School where there is access to the school and field through an entrance on the north side of Blake Street. These are both high pedestrian generators where the need for pedestrian connectivity is warranted.
15. All criteria through the Decision Support Tool – Preliminary Assessment are met where the intersection of Blake Street and Huron Street is suitable for a PXO.
16. Staff utilized the selection matrix from OTM Book 15 – Pedestrian Crossing Treatments to determine the appropriate variation of pedestrian crossing. Based on vehicle volume, posted speed limit, and roadway cross-section, the recommended minimum treatment for Blake Street and Huron Street is a PXO level 2 Type D.

Location	Lower Limit 8-Hours	Upper Limit 8-Hours	Posted Speed Limit	Number of Lanes	Recommended Device
Blake Street and Huron Street	2,250	4,500	≤ 50	2	Level 2 Type D

17. Currently at Blake Street and Huron Street there is a designated school crossing with crosswalk lines, signs and flashing beacons for the signs.
18. Staff recommend the installation of a PXO Level 2 Type B design. This design improves on the OTM recommended PXO Level 2 Type D device with the addition of flashing beacons and overhead pedestrian crossing signs. The recommendation to install an enhanced pedestrian crossing treatment over the OTM recommend Level 2 Type D devices is based on the arterial road classification of Blake Street and the high pedestrian volume. The PXO location also acts as transition point between a rural and urban setting. The added signage enhancements of the Level 2 Type B will bring additional visibility to the presence of the PXO while motorists adjust to the change in their environment. Similar pedestrian crossing treatments are installed at all arterial road locations within Barrie. Please refer to Appendix “C” for a layout of a Level 2 Type B PXO.

**Blake Street and Rodney Street**

19. An 8-hour pedestrian count was completed on August 24, 2024, at Blake Street and Rodney Street for the investigation of a PXO. The results of the investigation are as follows.

<b>Decision Support Tool - Preliminary Assessment (OTM Book 15)</b>			
<b>Requirements</b>		<b>Data</b>	<b>Criteria Met</b>
Pedestrian Volume (8 Hours)	≥100 Pedestrians	46	✘
Vehicle Volume (8 Hours)	≥750 Vehicles	6,983	✓

Decision Support Tool - Preliminary Assessment (OTM Book 15)			
Requirements		Data	Criteria Met
Distance from Traffic Control Device	<200m	215m	✓
Connectivity or Desire Lines	Yes/No	Yes	✓

20. Staff have analysed the 8-hour pedestrian and vehicle volume on Blake Street. In the total 8-hours, there were 46 pedestrians crossing north/south on Blake Street and 6,983 vehicles travelling through the study area.
21. The closest controlled crossing, located at Blake Street and St. Vincent Street is approximately 215 metres west of Blake Street and Rodney Street. This is greater than the threshold of 200 metre distance where a PXO would not have a negative effect with the existing traffic control device.
22. The intersection of Blake Street and Rodney Street is in proximity to the Rodney Street Stairs and the North Shore Trail. The Rodney Street Stairs provide pedestrian access to the Barrie North Shore Trail from the residential area north of this intersection. The sidewalk along the west side of Rodney Street was installed to improve pedestrian mobility within the area. Staff have identified this as a pedestrian desire line linking to the North Shore Trail which satisfies the criteria for connectivity and desire lines.
23. Staff utilized the selection matrix from OTM Book 15 – Pedestrian Crossing Treatments to determine the appropriate variation of pedestrian crossing. Based on vehicle volume, the posted speed limit, and roadway cross-section, the recommended treatment for Blake Street and Rodney Street is a PXO level 2 Type B. Please refer to Appendix “B”.

Location	Lower Limit 8-Hours	Upper Limit 8-Hours	Posted Speed Limit	Number of Lanes	Recommended Device
Blake Street and Huron Street	6,000	7,500	≤ 50	2	Level 2 Type B

24. Staff recommend the design and installation of a Level 2 Type B Pedestrian Crossover be installed on the west leg of Blake Street and Rodney Street. Please refer to Appendix “B” for a layout of a Level 2 Type B PXO.

**ENVIRONMENTAL AND CLIMATE CHANGE IMPACT MATTERS**

25. There are no environmental and/or climate change impact matters related to the recommendation, although safety measures for our roads can increase the number of pedestrians, which can reduce the reliance on private automobiles.

**ALTERNATIVES**

26. The following alternatives are available for consideration by General Committee:

**Alternative #1**

General Committee could maintain the existing designated school crosswalk at Blake Street and Huron Street. (i.e. Status Quo)

This alternative is not recommended as the site meets minimum pedestrian and vehicle volume for the installation of a pedestrian crossing facility and has been identified by staff that there is demand for connectivity due to the proximity to Johnson Street Public School and Barrie Manor Enhanced Care Community.

**Alternative #2**

General Committee could choose not to install a pedestrian crossing on Blake Street and Rodney Street (i.e. Status Quo).

This alternative is not recommended as the site meets minimum vehicle volume and has been identified by staff that there is a need for pedestrian connectivity with the North Shore Trail located close to the intersection.

**FINANCIAL**

27. That the approximate cost of \$150,000 for the design, permitting and construction of the PXO Level 2, Type B at Blake Street and Huron Street be funded 60% from Development Charges reserves and 40% Tax Capital Reserve.
28. That the approximate cost of \$150,000 for the design, installation and construction of the PXO Level 2, Type B at Blake Street and Rodney Street be funded 60% from Development Charges reserves and 40% Tax Capital Reserve.

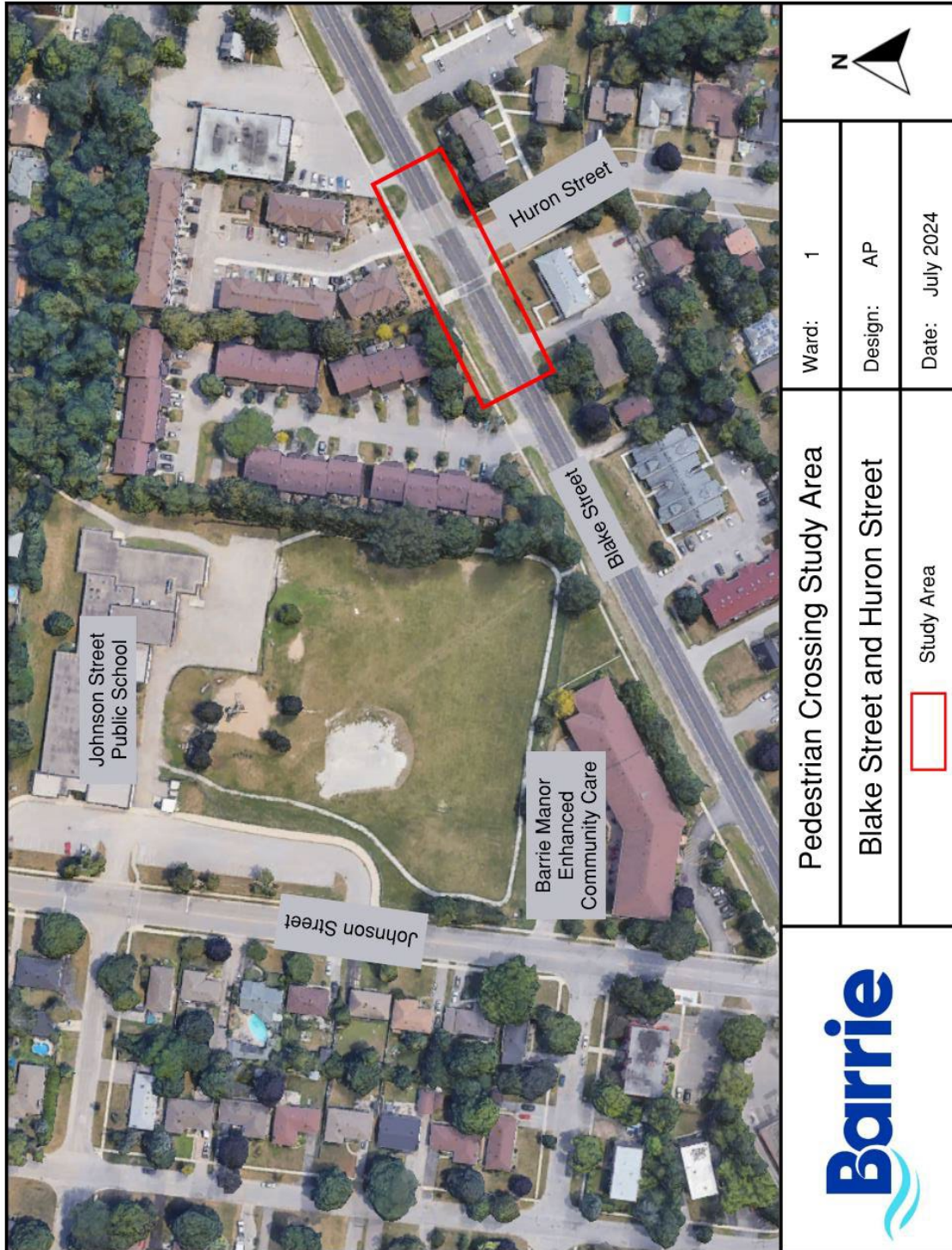
**LINKAGE TO 2022-2026 STRATEGIC PLAN**

29. The recommendation(s) included in this Staff Report support the following goals identified in the 2022-2026 Strategic Plan:
  - Community Safety
30. The recommendation of installing a PXO Level 2 Type B at the intersection of Blake Street and Huron Street and the intersection of Blake Street and Rodney Street will improve safety for pedestrians by providing a controlled crossing where motorists are required to stop by law. This prioritizes Council's goal of creating safer streets.



APPENDIX "A"

Pedestrian Crossing Study Area – Blake Street and Huron Street





APPENDIX "B"

Pedestrian Crossing Study Area – Blake Street and Rodney Street



APPENDIX "C"

PXO Level 2 Type B

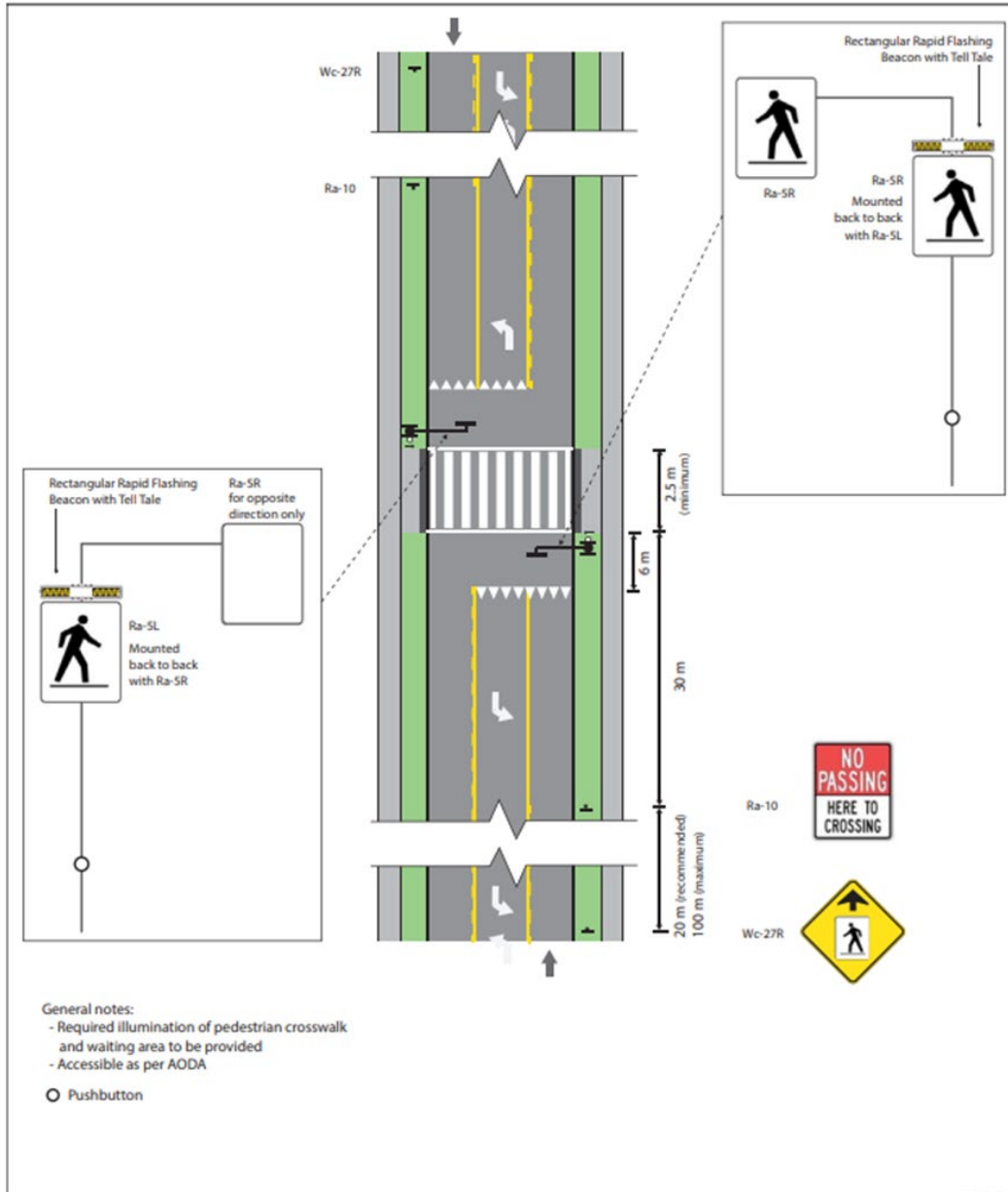


Figure 22: Pedestrian Crossover Level 2 Type B – Mid-block (3-lane with centre 2-way left-turn lane)