
TO: GENERAL COMMITTEE

SUBJECT: LIVINGSTONE STREET WEST AND LONGMAN DRIVE PXO INVESTIGATION

WARD: 4

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

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

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

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 at Livingstone Street West and Longman Drive 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.

PURPOSE & BACKGROUND

2. On October 18, 2023, City Council adopted motion 23-G-227 regarding Investigation - Controlled Pedestrian Crossing Livingstone Street West and Longman Drive as follows:

"That staff in the Development Services Department investigate the feasibility of a pedestrian crosswalk between Livingstone Street West and Longman Drive and report back to General Committee."
3. Livingstone Street West is in the northwest end of the City of Barrie and is an east/west arterial road. Within the study area, Livingstone Street West has one (1) lane either direction with a painted urban shoulder and 12.0 metre asphalt width and sidewalks along both sides of road. The average annual daily traffic in this area of Livingstone Street West and Longman Drive is approximately 6,210 vehicles. Emma King Elementary School is located on Cundles Road in close proximity to the intersection of Livingstone Street West and Longman Drive. Please refer to Appendix Map "A" for a map of the study area.
4. Longman Drive is a two (2) lane local roadway with a pavement width of 10.0 metres and sidewalks along both sides.
5. 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.

ANALYSIS

- 6. Staff have investigated the intersection of Livingstone Street West and Longman Drive and surrounding area to determine if a pedestrian controlled crossing is warranted based on the warrant criteria within the Ontario Traffic Manual (OTM) Book 15 – Pedestrian Crossing Treatments.
- 7. 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 ≥ 100 pedestrians with vehicle volume ≥ 750 vehicles
 - b) And the site $> 200m$ from another traffic control device
 - c) Requirement for connectivity or pedestrian desire lines
- 8. In anticipation of Council motion 23-G-227, 8-hour pedestrian and vehicle volume counts were completed at Livingstone Street West and Longman Drive on October 3, 2023. The results of the investigation are as follows.

Decision Support Tool - Preliminary Assessment (OTM Book 15)			
Requirements		Data	Criteria Met
Pedestrian Volume (8 Hours)	≥ 100 Pedestrians	52	✘
Vehicle Volume (8 Hours)	≥ 750 Vehicles	3,450	✓
Distance from Traffic Control Device	$< 200m$	580m	✓
Connectivity or Desire Lines	Yes/No	Yes	✓

- 9. Staff have analysed the 8-hour pedestrian and vehicle volume on Livingstone Street West. In the total 8-hours, there were 52 pedestrians crossing north/south on Livingstone Street West and 3,450 vehicles. This does not meet the minimum pedestrian volume requirements but exceeds the vehicle volume warrants.
- 10. The intersection of Livingstone Street and Longman Drive is in close proximity to Emma King Elementary School. The times pedestrians were observed crossing Livingstone Street West are in direct correlation with the arrival and dismissal times of the school. Based on this observation, staff are linking the intersection of Livingstone Street West and Longman Drive as a desire line to Emma King Elementary School which satisfies the criteria for connectivity and desire lines.
- 11. 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 Livingstone Street West and Longman Drive is a PXO level 2 Type D.

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

12. 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 Livingstone Street West. The added signage enhancements of the Level 2 Type B will bring additional visibility to the presence of the PXO. Similar pedestrian crossing treatments are installed at all arterial road locations within Barrie. Please refer to Appendix “B” for a layout of a Level 2 Type B PXO.
13. Due to the amount of time that has elapsed between the Council direction, and this report, staff undertook additional data collection in the area on October 9, 2024. The results of the investigation are as follows.

Decision Support Tool - Preliminary Assessment (OTM Book 15)			
Requirements		Data	Criteria Met
Pedestrian Volume (8 Hours)	≥100 Pedestrians	41	✘
Vehicle Volume (8 Hours)	≥750 Vehicles	3,364	✓
Distance from Traffic Control Device	<200m	580m	✓
Connectivity or Desire Lines	Yes/No	Yes	✓

14. Data collection at two points in time, approximately a year apart, shows pedestrian volumes to be constant.
15. 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, pedestrian desire lines and roadway cross-section, the recommended treatment for Livingstone Street West and Longman Drive is a PXO level 2 Type B. Please refer to Appendix “B”.
16. Barrie Police Service, Barrie Fire and Emergency Service and Municipal Law Enforcement Staff do not oppose the recommendation.

ENVIRONMENTAL AND CLIMATE CHANGE IMPACT MATTERS

17. There are no environmental and/or climate change impact matters related to the recommendation.

ALTERNATIVES

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



Alternative #1

General Committee could choose not to install a pedestrian crossing at Livingstone Street West and Longman Drive. (i.e. Status Quo).

This alternative is not recommended as the site meets the minimum vehicle volume and has been identified by staff that there is a need for pedestrian connectivity with Emma King Elementary School and the intersection.

FINANCIAL

19. That the approximate cost of \$150,000 for the design, permitting and construction of the PXO Level 2, Type B at Livingstone Street West and Longman Drive be funded 60% from Development Charges reserves and 40% Tax Capital Reserve.

LINKAGE TO 2022-2026 STRATEGIC PLAN

20. The recommendation(s) included in this Staff Report support the following goals identified in the 2022-2026 Strategic Plan:
- Community Safety
21. The recommendation of installing a PXO Level 2 Type B at the intersection of Livingstone Street West and Longman Drive 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"

Livingstone Street West and Longman Drive PXO Investigation



APPENDIX "B"

PXO Level 2 Type B

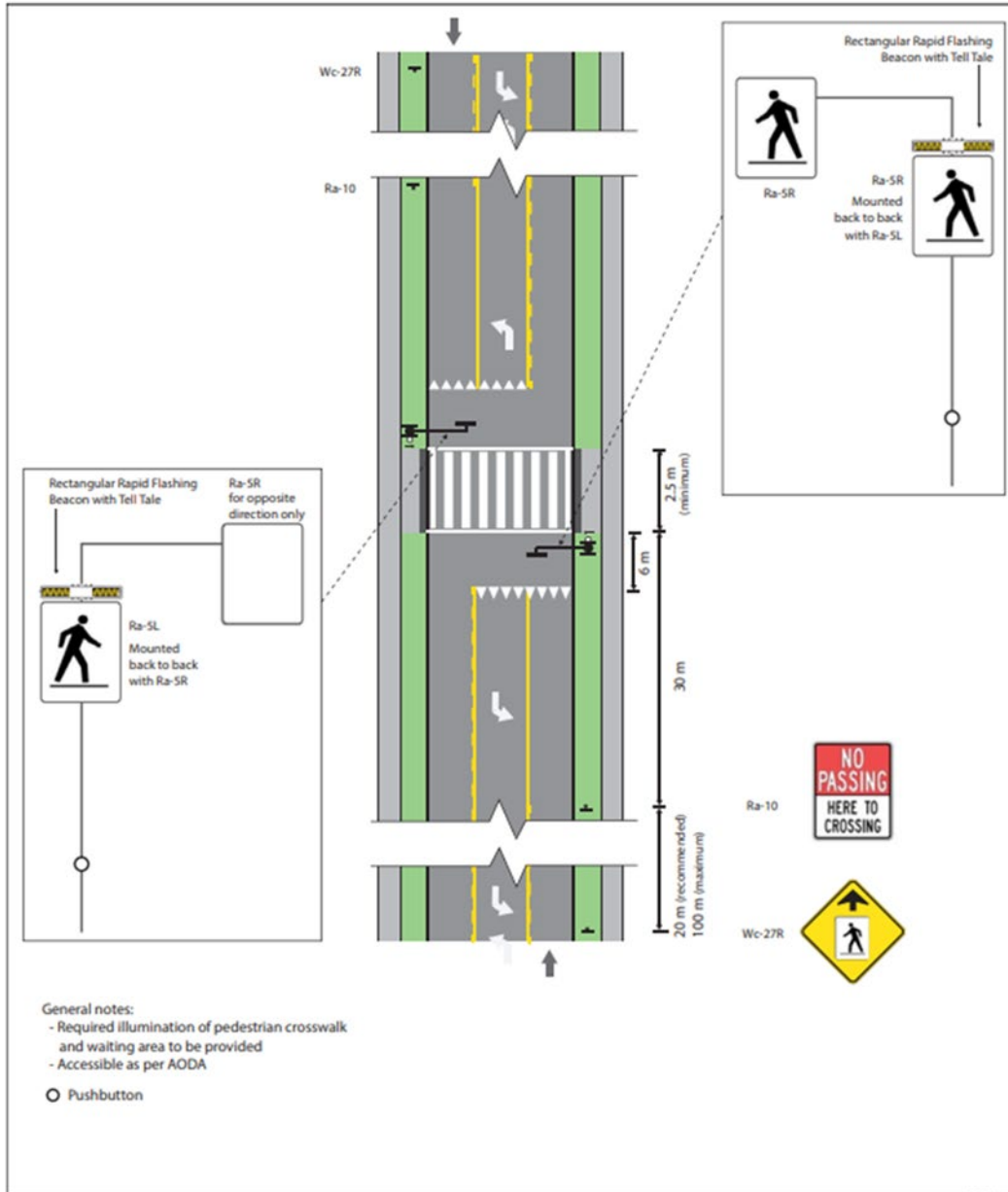


Figure 22: Pedestrian Crossover Level 2 Type B – Mid-block (3-lane with centre 2-way left-turn lane)