

Subject: Wellington Heights Pedestrian Crossing Update**Recommendation:**

BE IT RESOLVED THAT Council receive Report #2023-0182 - Wellington Heights Pedestrian Crossing, for information;

AND THAT Council directs staff to not proceed with the installation of a LEVEL 2 – Type B PXO crossing on Canboro Road at Wellington Heights School as approved in the 2023 Capital Budget under project RD 10-23.

AND THAT Council directs staff to proceed with repainting the existing line markings and installing removable bollards along the road centerline within the crosswalk excluding the winter months November to March with project costs charged to RD 10-23.

Background:

There is an existing pedestrian crossover (PXO) on Canboro Road approximately 120m west of Cherry Ridge Boulevard that connects the walkway to Wellington Heights Public School to the south side of Canboro Road. Currently, the existing PXO is classified as a Level 2: Type D controlled crossing, complete with a painted crossing, shark teeth pavement markings, and “Stop for Pedestrians” signs mounted on standard roadside metal posts. There have been concerns raised by residents that the existing crossing is insufficient and should be evaluated for improvement. Therefore, a project (RD 10-23) was approved in the 2023 Capital Budget to improve the crossing in the amount of \$50,000.

The Niagara Region (Region) is responsible for the design and maintenance of all intersections in Niagara, including PXOs. In order to have an intersection or crossing altered, municipal staff must file a request through the Region’s intersection design portal and provide a topographic survey of the area. After that has been received, Region staff analyze the area for constraints, and to determine what type of intersection or crossing is warranted. Town staff filed a request through the Region’s system in March of 2023 and provided them with a topographic survey in June. Town staff requested that the existing crossing be upgraded to a Level 2: Type C, or Level 2: Type B. Both would see that a “Stop for Pedestrians” sign be mounted on a traffic pole with solar-powered flashing lights, as

well as updated line painting. The difference between the two is that a Type B would have overhead arms hanging above the road that have signage indicating the crossing and the Type C does not (see Appendix A for Level 2: Type C and Level 2: Type B crossings).

Town engineering staff met on-site with the Region intersection design staff in July. At that time, the Region staff identified numerous concerns with upgrading the existing crossing to a Type B and Type C, including safety concerns for vehicles, and timing and budget concerns for the amount of work that would be required.

Analysis:

While on-site, Region staff noted that there are no issues with sightlines as the road is straight and the crossing is visible for a good distance on both the east and westbound approaches, the speed limit on this section of road is 40 km/h which provides ample reaction time for drivers, and there is ample signage indicating that there is a crossing, which means the drivers should be aware of it. Region staff did identify numerous concerns with upgrading the PXO type, which would require large metal poles to be installed. The list of concerns is as follows:

- There are overhead hydro lines on the north side of the road, in line with where the metal poles would need to be installed. The hydro lines would be in direct conflict with the poles. Therefore, either the hydro lines would need to be buried, or the PXO crossing poles be moved.
- There is an asphalt swale on both sides of the road which direct runoff west. Since there is no underground storm infrastructure on this section of road, the swale needs to be maintained so that the drainage is not impacted, and flooding does not occur.
- Given the conflict with the hydro lines and the existing property lines, the metal PXO crossing pole would have to be installed in the existing road shoulder. This would result in the pole being installed close, or even in the clear zone. Clear zone is the minimum desired separation between roadside hazards and the travel lane. It is meant to provide recovery space for vehicles that veer out of the travel lane and reduce the potential for serious collisions. Clear zone distances are identified in the Transportation Association of Canada Geometric Design Guide for Canadian Roads Chapter 7 – Roadside Design and for a road with a speed less than 60 km/h and average daily traffic between 1,500 – 6,000 vehicles per day, the minimum desired clear zone distance is 3.5m.

- If a pole were to be installed in the shoulder, it would directly impact the drainage. Curbs would have to be installed to create a safe landing for pedestrians as well as reduce the risk of cars veering off the road and striking the metal traffic pole. Since there is no underground storm infrastructure, the entire section of the right-of-way would have to be regraded to maintain the flow of runoff west, and not create a flooding hazard.
- The estimated budget from Region staff based on similar crossings they recently completed is over \$100,000. This is due to the rising cost of materials and the amount of civil work that would be required to make the crossing compliant. Given all the civil works required, the design would also not be finalized and tendered this year and would be deferred to 2024. The Town currently has \$50,000 that was approved in the 2023 Capital Budget for this project.

Based on the identified constraints, staff believes the best course of action is to repaint the existing line markings to accentuate the crossing and install removable centreline bollards in the centerline of the road within the crossing area. The removable bollards will make the travel lanes appear narrower and encourage vehicles to slow down. The bollards will need to be removed in the winter to allow for snowplows to pass through. Staff will also analyze alternative methods for traffic calming that may be applicable to this section of the road. The works will be completed in 2023, and staff can begin acquiring the bollards prior to the school year starting.

It should be noted that this section of Canboro Road has been identified in the Capital Budget 10-year forecast as being urbanized, which will likely include storm infrastructure, curb and gutter, and changes to the road cross-section. The work will be required once East Fenwick is developed. It will be more cost effective to evaluate the possibility of installing a Level 2: Type C or Level 2: Type B PXO crossing at that point in time.

Financial Considerations:

The budget amount approved for this project (RD 10-23) in the 2023 Capital Budget was \$50,000. Based on the topographic survey that was prepared, the cost to repaint the line markings, and install removable centreline flexible bollards, is estimated to be \$17,500 (plus applicable taxes). This would result in a total project savings of \$32,500.

Alternatives Reviewed:

Given all the constraints, Region staff provided the alternative solution of installing a "school crossing" instead. The school crossing would see that signage and solar-

powered flashing lights be installed on the road shoulder on a 6" x 6" wood breakaway post, and the pavement markings be repainted to be more visible. The lights would be set to timers based on the start and end times of the school, with leeway on either end. Region staff install these themselves and anticipate they will be able to have it completed this year. It is also much more cost-effective as there is less work involved. See the below picture for a similar school crossing the Region that has recently been installed.



A school crossing is technically a step down from a Level 2: Type D PXO crossing as it is legally considered an uncontrolled crossing. The lights will only be activated during the times they are programmed for. Unless a school crossing guard is present, vehicles have the right of way through the crossing. Therefore, to make it a controlled crossing, the school crossing will need a crossing guard. Staff are not in favour of this option as a Crossing Guard Warrant Study was prepared by Fire and Protection Services staff in 2019 which identified that a crossing guard is not warranted. A school crossing would also mean that pedestrians would only have the right-of-way when a crossing guard is present, instead of all the time as per current conditions.

Alternatively, Council could instruct staff to proceed with the design and installation of a Level 2: Type C or Level 2: Type B PXO. Staff is not in favour of this option as it would create many safety concerns for vehicles, the crossing would not be installed this year due to a backlog of work, and staff estimates it would cost between \$100,000 and \$120,000 due to the rising costs of materials and extensive civil works that would be required.

Strategic Plan Relationship: Infrastructure Investment and Renewal

Repainting the existing line markings and installing removable centreline flexible bollards will revitalize the existing PXO crossing and encourage the safe movement of pedestrians and vehicles.

Consultation:

Consultation was had with the Fire Chief and Niagara Region Staff in preparation of this report.

Other Pertinent Reports/Attachments:

Appendix A: Level 2: Type B and Level 2: Type C PXO crossing diagrams.

Prepared and Recommended by:

Lucas Smith, B. Eng., E.I.T.
Engineering Technologist

Jason Marr, P. Eng.
Director of Public Works

Prepared and Submitted by:

David Cribbs, BA, MA, JD, MPA
Chief Administrative Officer