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Date **June 22, 2022** **Report No. 2022-271**

To Chair and Members
Vision Zero Road Safety Committee

From Inderjit Hans, P. Eng., PMP
General Manager, Public Works Commission

1.0 Type of Report

Consent Item	<input type="checkbox"/>
Item For Consideration	<input checked="" type="checkbox"/>

2.0 Topic Mount Pleasant Street at Bell Lane – Pedestrian Crossing [Financial Implication – None]

3.0 Recommendation

- A. THAT report no. 2022-271 regarding “Mount Pleasant Street at Bell Lane – Pedestrian Crossing” BE RECEIVED; and
- B. THAT an Intersection Pedestrian Signal BE APPROVED on Mount Pleasant Street at Bell Lane; and
- C. THAT the Intersection Pedestrian Signal BE FUNDED from capital project TS2002 – Bell Lane & Mt. Pleasant Pedestrian Crossover Works; and
- D. THAT the necessary by-law BE PRESENTED to Council for adoption.

4.0 Executive Summary

This report provides the Vision Zero Road Safety Committee with the results of the pedestrian safety review and design study at the intersection of Mount Pleasant Street and Bell Lane. As outlined in the Analysis section of this report,

the consultant concluded that an Intersection Pedestrian Signal (IPS) is the safest option for this location.

5.0 Purpose and Overview

The purpose of this report is to by-law an Intersection Pedestrian Signal (IPS) at the intersection of Mount Pleasant Street at Bell Lane / Helen Avenue.

6.0 Background

City Council passed the following resolution at its meeting held April 30, 2019:

Mount Pleasant Street at Bell Lane – Traffic Control [Financial Impact – None], 2019-143

- A. THAT Mount Pleasant Street at Bell Lane – Traffic Control, Report No. 2019-143 BE RECEIVED; and
- B. THAT Staff BE DIRECTED to include the following as part of its report back to the Estimates Committee in June 2019 regarding a revised 2020-2028 Capital Forecast:
 - Installation of pedestrian crossovers (PXO) at the intersection of Mount Pleasant Street and Bell Lane – inclusion in the 2020 (design) and 2021 (construction) Capital Budget

At the time Council approved the resolution, PXO's were not an official crossing treatment recognized by City by-law. Traffic by-law 144-88 needed to be amended to include PXO's and an informational campaign was undertaken to educate citizens on the safe and accurate use of PXO's.

In review of PXO best practices, staff determined a PXO may not be the safest alternative at the intersection. CIMA Canada Inc. (CIMA+) was retained to conduct a pedestrian crossing review to determine the appropriate crossing treatment. Their review and recommendation is summarized in the analysis section of this report.

7.0 Corporate Policy Context

City of Brantford Council Priorities, 2020-2021, #3:

- A safe, efficient transportation system connects the community across neighbourhoods, with neighbouring communities and provincial transportation network.

8.0 Input from Other Sources

Not applicable.

9.0 Analysis

Staff retained CIMA+ to provide recommendations regarding the location, crossing type and design of a pedestrian crossing at the intersection of Mount Pleasant Street and Bell Lane / Helen Avenue.

CIMA+ conducted a field investigation on Wednesday, September 8, 2021, from 7:00 a.m. to 7:00 p.m. The study area was divided into five (5) pedestrian crossing sections as outlined in Figure 1 below.

Figure 1 - Pedestrian Crossing Sections



Most of the pedestrians observed were elementary school students or Brantford Transit riders boarding or alighting buses at the bus stop on the south-west corner of Bell Lane at Mount Pleasant Street. A total of 104 pedestrians were observed crossing Mount Pleasant Street during the twelve (12) hour study. Ten pedestrians crossed at location “A”, seventy-nine (79) pedestrians crossed at location “B”, ten (10) pedestrians crossed at location “C” and five (5) residents crossed at location “D” and “E”. Given the high concentration of pedestrians crossing Mount Pleasant Street at location “B”, it was selected for the pedestrian crossing.

CIMA+ noted that driver workload within the study area is high because of the offset intersection, driveway density, and potential for pedestrians crossing the road at or near the Bell Lane / Helen Avenue intersection.

Warrants for intersection pedestrian signals (IPS) and pedestrian crossovers (PXO) were reviewed based on the Ontario Traffic Manual (OTM) Book 12 and Book 15 respectively.

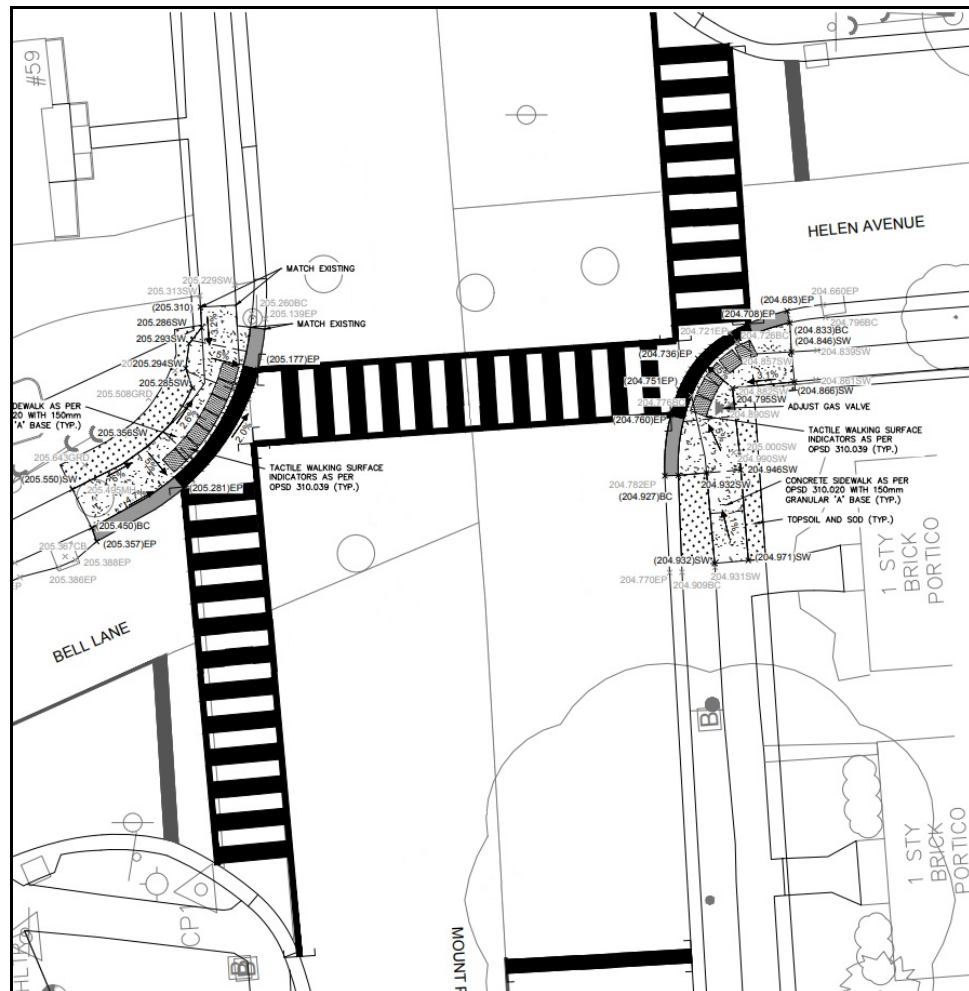
9.1 Intersection Pedestrian Signal (IPS) Warrant

The minimum net 8-hour delayed pedestrian volume to warrant an IPS is 75. Given that the net 8-hour pedestrian volume is only 76, there are less than 75 total delayed pedestrians. Therefore, the criteria is not met.

Considering the high driver workload at the skewed intersection, the number of school aged children and seniors using the crossing, the four-lane crossing distance, the substandard sightlines and identified speeding concern, an IPS is recommended.

An IPS will provide the desired pedestrian connectivity with a greater level of comfort and safety for crossing pedestrians compared to a PXO. The Intersection pedestrian crossing design is illustrated in Figure 2 below.

Figure 2 - Mount Pleasant St. at Bell Ln. / Helen Ave. Pedestrian Crossing



9.2 Pedestrian Crossover (PXO) Warrant

Justification criteria was not met for the installation of a PXO at Mount Pleasant Street and Bell Lane / Helen Avenue, based on the net 8-hour 100 pedestrian minimum volume. OTM Book 15 allows the installation of a PXO based on the pedestrian connectivity between residential neighbourhoods (pedestrian desire lines criteria). A PXO is not the preferred alternative.

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10.0 Financial Implications

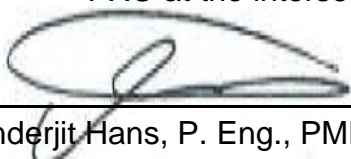
There are no financial implications resulting from the recommendations of this report. In the 2020 budget, City Council approved capital project TS2002 for the installation of a PXO at the intersection of Mount Pleasant Street and Bell Lane. Approximately \$75,000 of this funding will be used to install an IPS at the intersection.

11.0 Climate and Environmental Implications

Not applicable.

12.0 Conclusion

Staff will utilize the approved 2020 capital funding for the installation of an IPS PXO at the intersection of Mount Pleasant Street and Bell Lane / Helen Avenue.



Inderjit Hans, P. Eng., PMP
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Prepared By:

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Attachments:

Appendix "A" – Mount Pleasant Street at Bell Lane / Helen Avenue – Pedestrian Crossing – By-law Amendment

In adopting this report, is a by-law or agreement required? If so, it should be referenced in the recommendation section.

By-law required

☒ yes ☐ no

Agreement(s) or other documents to be signed by Mayor and/or City Clerk

☐ yes ☒ no

Is the necessary by-law or agreement being sent concurrently to Council?

☒ yes ☐ no

Appendix “A”

A. Mount Pleasant Street at Bell Lane / Helen Avenue – Pedestrian Crossing

- a) RECOMMEND that Schedule “3” of Traffic By-law 37-83 which pertains to “Traffic Control Signals” BE AMENDED to provide the following:

INTERSECTION LOCATION

IPS Mount Pleasant Street at Bell Lane / Helen Avenue