



City of
Peterborough

To: Members of the General Committee

From: Blair Nelson, Commissioner, Infrastructure, Planning and Growth Management (Acting)

Meeting Date: May 13, 2024

Report: Maria Street Pedestrian Crossover, Report IPGENG24-013

Subject

A report to recommend the implementation of a pedestrian crossover on Maria Street at Mark Street.

Recommendations

That Council approve the recommendations outlined in Report IPGENG24-013, dated May 13, 2024 of the Commissioner, Infrastructure, Planning and Growth Management (Acting) as follows:

- a) That a Pedestrian Crossover Level 2 Type B complete with rectangular rapid flashing beacons be implemented on Maria Street at Mark Street;
- b) That enhanced ladder crosswalk pavement markings be installed on Mark Street at Maria Street;
- c) That a By-law be passed to amend the appropriate Schedules and Articles of the Parking By-law 09-136 to authorize implementation of Recommendation a); and
- d) That the existing contract agreement awarded to Guild Electric Limited for Traffic Signal works be amended to increase the contract amount by \$35,000.00, exclusive of HST, to cover the cost of the electrical works required to construct the Pedestrian Crossover on Maria Street at Mark Street.

Executive Summary

- In response to resident concerns, staff undertook a traffic study to review the need for a pedestrian crossing on Maria Street in the vicinity of Rogers Cove splash pad.
- The study concluded that a pedestrian crossover is warranted based on the criteria outlined in the Ontario Traffic Manual Book 15 – Pedestrian Crossing Treatments.
- Staff recommend the implementation of a pedestrian crossover Level 2 Type B complete with rapid flashing beacons on Maria Street at Mark Street and that enhanced ladder crosswalk pavement markings be installed on the north leg of the intersection.

Background

In response to resident concerns, staff undertook a traffic study to review the need for a pedestrian crossing on Maria Street in the vicinity of Rogers Cove splash pad.

Site Details

Maria Street is a high-capacity collector roadway that runs from Engleburn Avenue in the west to Walker Avenue in the east. Maria Street is a two-lane road with sidewalks on both sides of the street and has a maximum speed limit of 50 km/h. Parking is permitted on both sides of the street (maximum 3-hour parking restriction). The bus route currently operates in the eastbound direction on Maria Street between Burnham Street and Rogers Street.

Maria Street intersects with several large arterial and collector roadways, including Ashburnham Drive, Armour Road, Rogers Street, and Burnham Street. Currently, the only controlled crossing location for pedestrians on Maria Street is at Ashburnham Drive. There are several pedestrian generators on Maria Street, the most prominent of which are the Rogers Cove splash pad and the Trans Canada Trail (TCT). Rogers Cove is located on the south side of Maria Street east of Mark Street and the TCT runs from Rogers Cove to Engleburn Avenue.

Mark Street is a two-lane collector roadway which runs from Douro Street in the north to a dead-end south of Maria Street known as the Mark Street Boat Launch. There are sidewalks on both sides of the street and has a maximum speed limit of 50 km/h from the boat launch to Sophia Street. Mark Street is a designated cycling route from Sophia Street to Maria Street and is part of the Peterborough and the Kawarthas Classic Road Cycling Route. A map of the subject area is shown in Appendix A.

Collision History

There were no reported collisions at the intersection of Maria Street and Mark Street between 2018 and 2023. There were two reported collisions on Maria Street between Mark Street and Rogers Street in 2022, neither of which involved pedestrians or cyclists.

Pedestrian Study

As there are no defined pedestrian crossing locations along this section of Maria Street, staff visited the site on several occasions to determine where most pedestrians were crossing the road. Observations revealed that most pedestrians (85%) were crossing at the Mark Street and Maria Street intersection, with the remainder (15%) crossing mid-block between Mark Street and Rogers Street. Based on this information, a 14-hour pedestrian count was conducted at the intersection of Mark Street and Maria Street. A summary of the pedestrian count is shown in Table 1.

Table 1: Maria Street 14-hour Pedestrian Count Results

Maria Street	Children Crossing	Adults Crossing	Total
14-hour (7 A.M. to 9 P.M)	53	104	157
A.M Peak hour	6	12	18
Noon hour	5	14	19
P.M. Peak hour	6	10	16
8-hour Peak	35	75	110

Intersection Pedestrian Signal

Intersection Pedestrian Signals (IPS) and Mid-block Pedestrian Signals (MPS) are pedestrian activated traffic signals designated solely to provide a gap in traffic to assist pedestrians in safely crossing a major roadway. The key elements for a City of Peterborough Intersection Pedestrian Signal Warrant include, but not limited to:

- Pedestrian Crossing Volume converted to Equivalent Adult Units (EAU’s)
- Total Safe Gaps (Crossing Opportunities)

The data was reviewed in accordance with the City of Peterborough Intersection Pedestrian Signal Warrant (Appendix B). The warrant examines the number of pedestrians during the peak pedestrian hour (converted to Equivalent Adult Units or EAU’s) compared to the number of safe crossing opportunities during the same period. The warrant analysis shows that an IPS is not warranted for any of the peak hours.

Pedestrian Crossover Warrant

On January 1, 2016, Bill 31, the Transportation Statute Law Amendment Act (Making Ontario’s Roads Safer) came into effect. Bill 31 includes amendments to the Highway Traffic Act (HTA) to allow for four variations of Pedestrian Crossovers (PXOs) to be used for low-speed and low-volume roads. This type of crossing treatment is typically used where the requirements for a full pedestrian signal have not been satisfied. Under the HTA, a PXO will provide the right-of-way to pedestrians to cross the road and the legislation requires drivers to stop until all pedestrians have cleared the crosswalk.

The PXOs are limited to roads with a posted speed limit of 60 km/h or less and must be implemented in conjunction with a defined set of roadside signs and road pavement markings. This provides pedestrians the right-of-way when crossing the roadway, as illustrated in Appendix C. There are four different variations of the PXO treatment defined in the OTM Book 15 standards for different roads with different levels of traffic.

The basic installation features signs and enhanced pavement markings, while busier roadways require enhanced crossing treatments with overhead signing, flashing beacons, and enhanced markings. The City of Peterborough currently has several PXOs throughout the City, with the newest being on Monaghan Road at Gillespie Avenue which was installed in 2022.

Based on guidelines set out in the Ontario Traffic Manual Book 15 – Pedestrian Crossing Treatments, the data collected on Maria Street was applied to the PXO assessment guidelines to determine the suitability for a PXO on Maria Street. The results of the assessment are summarized in Table 2.

Table 2: Pedestrian crossover assessment for Maria Street

Factor	Criteria	Maria Street and Mark Street	Criteria Satisfied
Traffic Signals	Traffic Signals and IPS not warranted	The location did not meet either the Traffic Signals Warrant or IPS Warrant.	Yes
Pedestrian Volume	8-Hour equivalent pedestrian units greater than 100 pedestrians. (110 Peds = 158 EAUs)	158	Yes
Vehicle Volume	8-Hour vehicle volume greater than 750 vehicles	2696	Yes

Location	Is the location greater than 200 m from another traffic control device?	~500 m	Yes
OR			
Connectivity	Is the location on a desired pedestrian path?	Yes	
All Criteria Satisfied			Yes

As shown in Table 2, all the assessment criteria were satisfied, suggesting that a PXO would be appropriate for this area. Given the vehicle volume, the high pedestrian demand, and the overall width of Maria Street, staff recommend the implementation of a Level 2 Type B PXO at the intersection of Maria Street and Mark Street. An example of a Level 2 Type B PXO is shown in Appendix C.

The study also revealed a significant number of pedestrians crossing on the north leg of the Mark Street / Maria Street intersection; therefore, staff recommend the installation of enhanced ladder crosswalk pavement markings on the north leg of the intersection.

Strategic Plan

Strategic Pillar: Community & Well-being

Strategic Priority: Support opportunities for multi-modal transportation including walking, cycling and transit services.

Pedestrian crossovers promote community and wellbeing by providing the community with designated pedestrian crossing locations to access community spaces and resources. They also lower carbon footprints through the encouragement of active transportation.

Budget and Financial Implications

The implementation of a Pedestrian Crossover (PXO) Level 2 Type B on Maria Street and enhanced ladder crosswalk pavement markings on Mark Street will cost approximately \$80,000, funds for which are available in the 2024 Capital Budget for Traffic Improvements (Project Reference 17-154).

Timeline

If the recommendations are approved, construction will start immediately and utilize Public Works, Engineering Services, and, Construction Services resources. The project is anticipated to be complete in the fall of 2024.

Conclusion

A pedestrian study was undertaken on Maria Street and has shown that the installation of a Pedestrian Crossover Level 2 Type B on Maria Street at Mark Street is warranted. The study also identified a significant number of pedestrians crossing on the north side of Mark Street at the intersection. Enhancing the crosswalk pavement markings would improve the visibility of pedestrians crossing Mark Street.

Attachments

Appendix A: Maria Street Area Diagram

Appendix B: IPS Warrant

Appendix C: PXO Level 2 Type B

Appendix D: Draft By-law to amend By-law 09-136 The Parking By-law

Submitted by,

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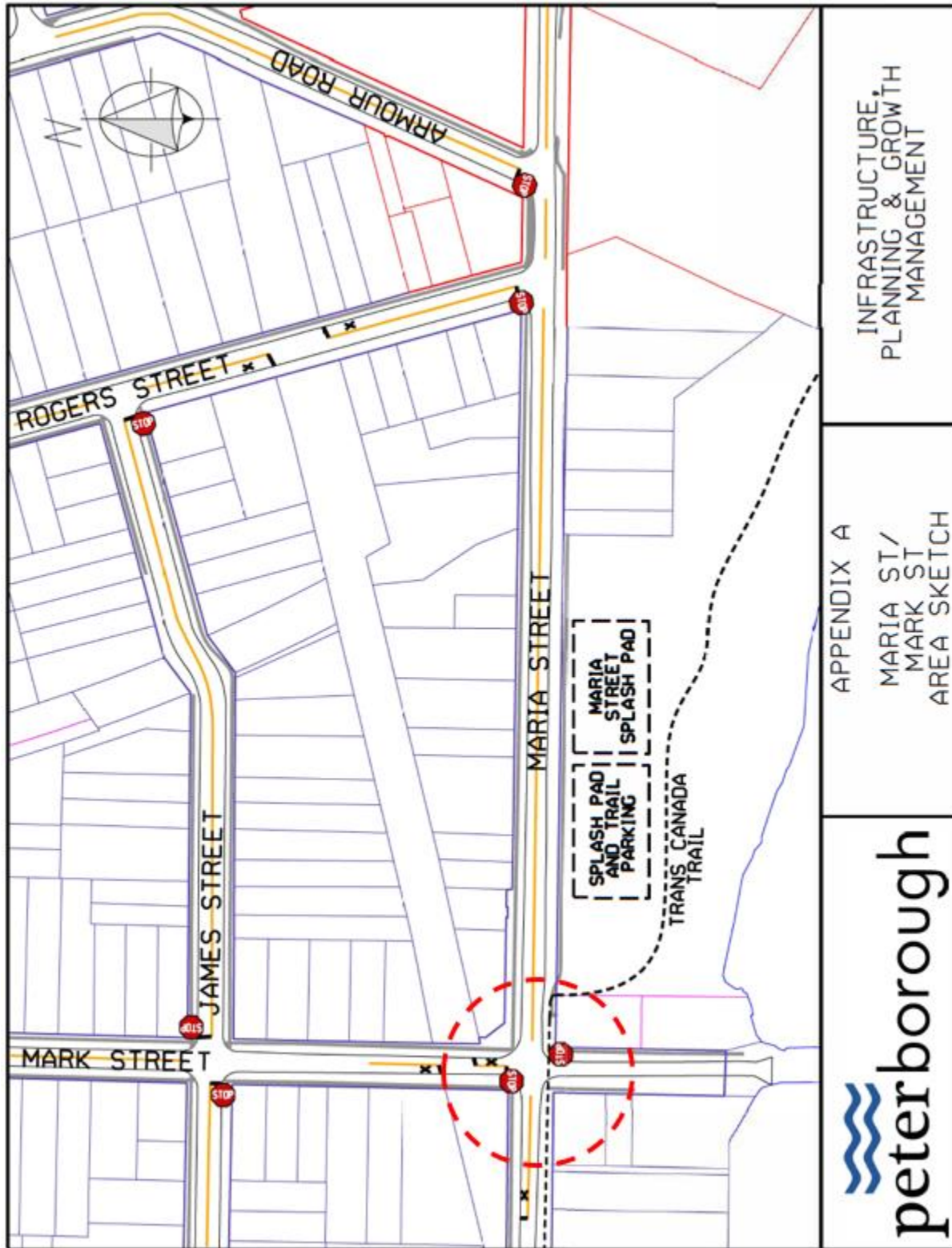
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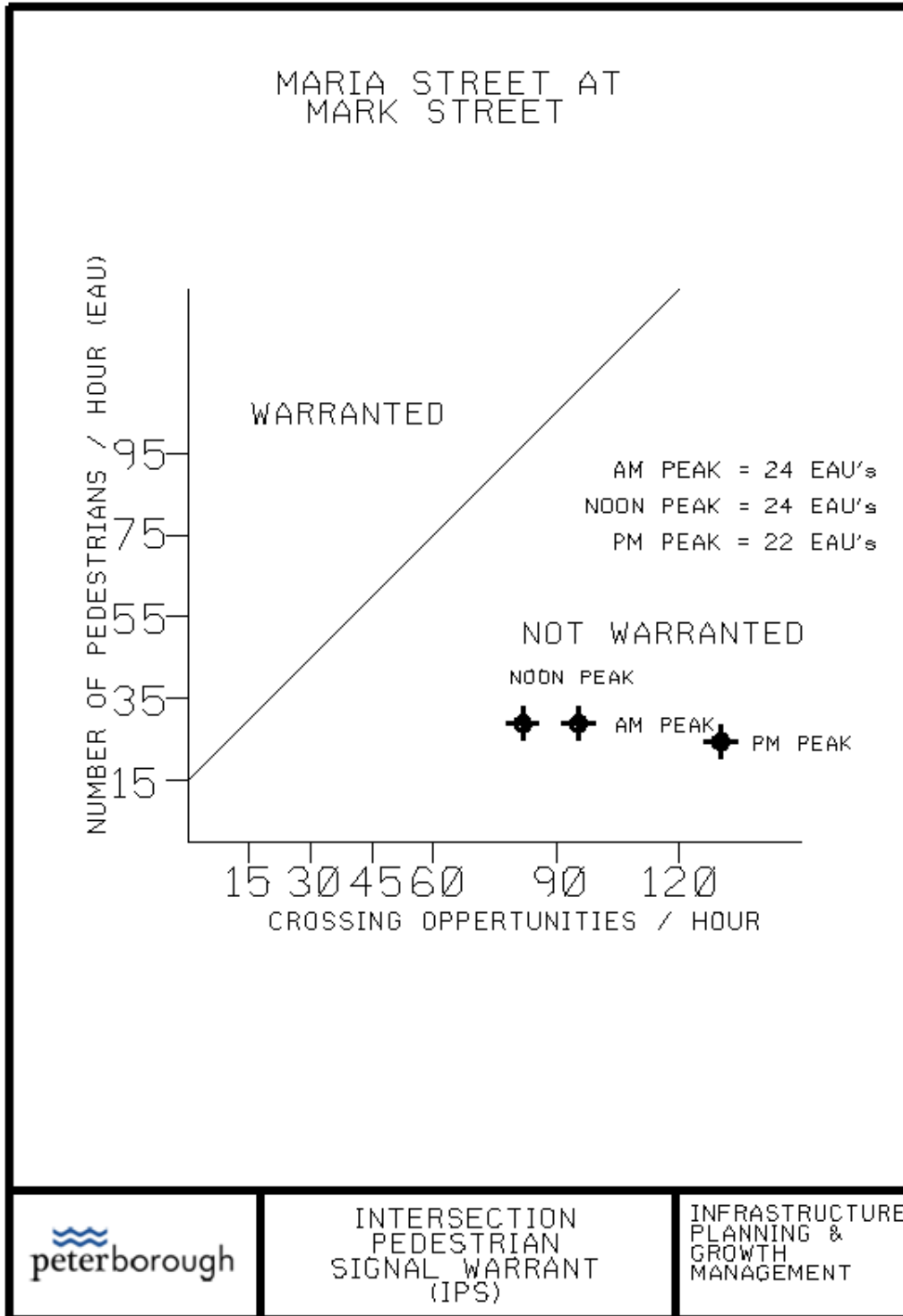
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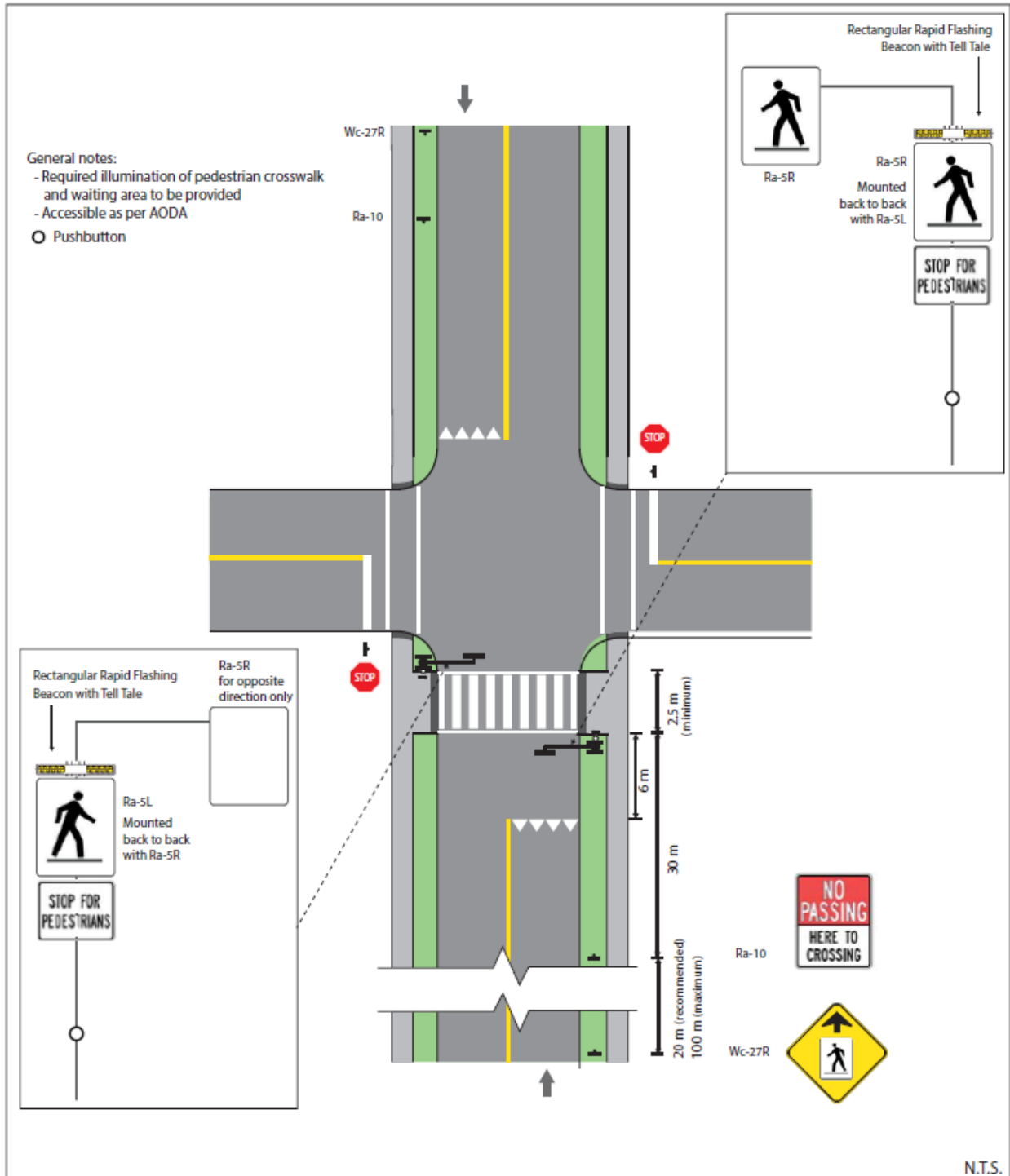
Appendix A: Maria Street Area Diagram



Appendix B: IPS Warrant



Appendix C: PXO Level 2 Type B



Appendix D: Draft By-law to amend By-law 09-136



The Corporation of the City of Peterborough

By-Law Number 24-[Clerk's Office will assign the number]

Being a By-law to Amend By-Law 09-136 being a By-law to for the Regulation of Parking in the City of Peterborough.

Now Therefore, The Corporation of the City of Peterborough by the Council thereof hereby enacts as follows:

1. That Schedule I of By-Law 09-136 be amended by adding the following:

Highway	Side	Between	Prohibited Times or Days	Amending By-Law Number and Date
Maria Street	North	A point 15 m west of Mark Street to a point 30 m east of Mark Street	Anytime	
Maria Street	South	A point 30 m west of Mark Street to a point 15 m east of Mark Street	Anytime	

By-law read a first, second and third time this XXth day of May, 2024.

Jeff Leal, Mayor

John Kennedy, City Clerk