



City of
Peterborough

To: **Members of the Committee of the Whole**

From: **W.H. Jackson, Director of Utility Services**

Meeting Date: **June 20, 2016**

Subject: **Report USTR16-008**
Douro Street Traffic Calming Study

Purpose

A report to present the findings and recommendations of the Douro Street Traffic Calming Study.

Recommendations

That Council approve the recommendations outlined in Report USTR16-008 dated June 20, 2016, of the Director of Utility Services, as follows:

- a) That restrictive Traffic Calming Measures not be implemented on Douro Street;
- b) That a Pedestrian Crossover Type C – Mid-block crossing complete with rectangular flashing beacons be implemented on Douro Street at the Rotary Trail crossing; and
- c) That the City of Peterborough and Peterborough Police Services undertake a joint educational and enforcement campaign to support the implementation of the Pedestrian Crossover on Douro Street at the Rotary Trail crossing.

Budget and Financial Implications

The implementation of a Pedestrian Crossover on Douro Street plus the education and enforcement campaign will cost approximately \$25,000.00, funds for which are available in the 2016 Capital Budget for Traffic Improvements Reference 5-13.04.

Background

City Council at its meeting of April 27, 2015, in considering Report PLPD15-021A, regarding the proposed Zoning By-law Amendment to permit a proposed apartment / condo development at 139 Douro Street, directed staff to conduct a traffic calming study on Douro Street to address neighbourhood concerns about short cutting traffic.

Traffic Calming

The objective of traffic calming is to slow down or reduce traffic using a local or a collector street in a residential neighbourhood by altering the road layout through physical changes or the implementation of traffic regulations to encourage lower speeds or prohibit certain vehicle movements. Such measures may slow traffic down and deter non local drivers from using the traffic calmed street and encourage drivers to use alternate routes to get to their destination.

While the implementation of traffic calming measures on local streets are intended to encourage drivers to use the arterial road network instead of cutting through neighbourhoods, it is recognized that some measures may simply move the problem to other local streets if the arterial road network is not able to serve the demand adequately. As such it is important to carefully evaluate each case and determine the need for such measures versus the potential impact to adjacent neighbourhoods. For that reason the City has developed an approach to evaluating traffic calming requests that combines a technical assessment to determine if traffic calming measures are appropriate for a given street, with a neighbourhood evaluation process to assess various options with the goal of achieving consensus on the most appropriate measures to implement.

The Study Area

The Douro Street study area included the neighbourhood bounded by Douro Street to the north, Driscoll Terrace to the west, Hunter Street to the south and Rogers Street and Armour Road to the east as shown on 'Appendix A – Douro Street Study Area'. Residents of Mark Street and Rogers Street were included in the study area as the implementation of traffic calming measures on Douro Street may indirectly increase traffic on these streets.

Douro Street between Mark Street and Rogers Street is a local urban road comprised of approximately 11 single family homes, 6 multi-unit dwellings and one medium density apartment building containing 32 apartments at 110 Douro Street. Within this section of Douro Street, the Rotary Trail crossing serves approximately 310 pedestrians and 340 cyclists crossing per day, based on a count taken in June 2015.

Driscoll Terrace and Mark Street are also local urban roads made up of single family homes and multi-unit dwellings. Rogers Street from Douro Street to Hunter Street is also comprised of predominantly residential homes however due to the higher traffic volumes and a city transit route that runs along Rogers Street, it is designated as a low capacity collector road.

The Study Process

The technical assessment undertaken as part of the study evaluated the need and justification for the implementation of traffic calming measures on Douro Street between Mark Street and Rogers Street and identified appropriate alternative traffic calming measures which are applicable to the local conditions and address the conditions identified through the technical review process.

The detailed review and analysis of existing operational conditions completed in June 2015 included:

- 24 hour – 7 day vehicle volume counts,
- Vehicle speed study,
- 4 year collision history,
- Intersection turning movement counts (TMC), and
- Licence plate trace study.

Vehicle Volumes

The average two-way vehicle volume on Douro Street is approximately 2,160 vehicles per day consisting of 1,211 westbound vehicles and 949 eastbound vehicles on a typical week day. Traffic counts have been undertaken on this section of Douro Street a number of times in the past, as part of previous reviews with daily traffic volume counts consistently around 2,100 – 2,220 vehicles a day since 2009. Volumes since 2009 are approximately 15-20% lower than counts taken between 1999 and 2004 which showed average volumes of about 2,600 vehicles per day.

The Transportation Association of Canada (TAC) guidelines suggest that 1,000 – 3,000 vehicles per day is typical for the average daily volume on an urban local road. While the City does not undertake annual traffic counts on every local road, there have been a number of counts done as part of other studies that suggest many other local roads in Peterborough have traffic volumes within this range. A few examples include Bellevue Street (2,800 / day), Mark Street (2,300 / day), McKellar Street (1,500 / day), Neptune Street (3,400 / day), Dalhousie Street (2,600 / day), Donegal Street (3,300 / day) and Townsend Street (2,600 / day).

The average daily volume on Douro Street is within the TAC guidelines for an urban local road, and is typical of many other local roads in the City.

Vehicle Speed Study

The speed limit on Douro Street is 50 km/h. Analysis of the vehicle speed study determined that 85% of the drivers on Douro Street are travelling at or below 48 km/h, with the average speed recorded as 40 km/h. The results of the Vehicle Speed Study are typical for an urban local road within the City of Peterborough.

Collision History

There have been three reported collisions between 2010 and 2014 related to the operation of Douro Street. One of the collisions was on Douro Street between Mark Street and Rogers Street and two collisions on Driscoll Terrace. Two of the reported collisions involved parked vehicles and one collision involved two vehicles in icy conditions. There have been zero reported pedestrian/cyclist collisions at the Rotary Trail crossing on Douro Street.

The four-year collision history within the Douro Street/Driscoll Terrace corridor does not reveal any safety concerns related to cut-through traffic and the number of reported collisions are within expected levels.

Licence Plate Trace and Turning Movement Counts

A Licence Plate Trace Study was conducted to determine the routing of traffic using Douro Street between Mark Street and Rogers Street. This type of study tracks the licence plates of vehicles at the entry and exit points along the corridor and by matching the licence plates between different stations the routing of the vehicles can be determined. This data is analysed along with the turning movement counts (TMC) collected at the intersections to identify local traffic versus cut-through traffic (vehicles traveling on the road with a destination outside of the neighbourhood). Analysis of the data shows between 7:00 am and 7:00 pm approximately 60% of westbound traffic and 83% of eastbound traffic on Douro Street (or about 1,264 vehicles) can be identified as cut-through traffic. The main cut-through pattern is east-west traffic traveling between Hunter Street and Rogers Street.

Technical Assessment

The traffic study shows that Douro Street vehicle volume is typical of an urban local road and vehicle speed and collision rates are at acceptable levels. The study clearly identified an east-west traffic cut-through pattern in the range of 60% - 83% of total traffic during the study period.

Based on traffic calming policies in other municipalities and the experience in undertaking reviews in various areas of the City, a technical assessment process has been developed as a screening process to determine if traffic calming measures are appropriate for a given street. The data collected on Douro Street was compared to the

thresholds in the Traffic Calming Screening process and the results are summarized in Table 1.

Table 1 – Traffic Calming Screening Results for Douro Street

Traffic Calming Screening Process			
Factor	Criteria	Douro Street	Criteria Satisfied
Road Type	Local or Collector	Local	Yes
Road Length	Block Length greater than 300 m	600m	Yes
Operating Speed or Cut-through traffic	85 th ile speed greater than 55km/h or Infiltration (non local Traffic) exceeds	48km/h 60% - 83%	Yes
Transit Route	Not a transit route	No transit	Yes
Vehicle Volume	Greater than 1,000 vehicles/day, less than 5,000 vehicles/day	2,160 vehicles /day	Yes
Sidewalks	Minimum – sidewalk on one side of street	Two sides	Yes
Results	All Criteria Satisfied		Yes

In summary, the Traffic Calming Screening Process concluded that Douro Street meets the criteria to be considered for traffic calming measures and that traffic calming alternatives to address the cut-through traffic pattern would be appropriate for this location.

Traffic Calming Alternatives

Traffic calming alternatives were developed to address the noted pattern of cut-through traffic on Douro Street between Mark Street and Rogers Street. These measures included:

- Traffic Island (right-out only) on Douro Street at Rogers Street,
- One-way traffic on Douro Street between Mark Street and Rogers Street, and
- Raised Crosswalk with Centre Median Island on Douro Street at the Rotary Trail crossing.

For detailed sketches of these traffic calming options, including a listing of some advantages and disadvantages see 'Appendix B - Douro Street Traffic Calming Alternatives'.

Other traffic calming measures considered but not selected included: Textured Trail Crossing, Chicane, Right-In-Right-Out Island at Rogers Street and Cul-de-Sac Douro Street at Mark Street or Rogers Street. These options were found to be very costly and/or less effective at reducing cut-through traffic and were not carried forward in the study.

Neighbourhood Survey

On November 2, 2015, City staff hand delivered 212 surveys (see 'Appendix C - Douro Street Neighbourhood Survey') to study area households asking them to indicate their preference of traffic calming measures, with the objective of identifying a preferred neighbourhood option. The options included:

1. Leave as is.
2. Right-Out Only Traffic Island at Rogers Street.
3. One-way Traffic on Douro Street between Mark Street and Rogers Street.
4. Raised Crosswalk with Centre Median Island on Douro Street at the Rotary Trail Crossing.

The survey responses are summarized in Table 2.

Table 2 – Neighbourhood Survey Results

Option	Number of Surveys	Percentage of Total
1. Leave as is	37	17.5%
2. Right-Out Only Traffic Island at Rogers Street	26	12.3%
3. One-way Traffic on Douro Street between Mark Street and Rogers Street	1	0.5%
4. Raised Crosswalk with Centre Median Island on Douro Street at the Rotary Trail Crossing	13	6.1%
Other Suggestions	6	2.8%
Did Not Respond	129	60.8%
Total	212	100%

The results indicate that 60.8% of Douro Street study area households chose not to engage in the survey. Of the 39.2% or 83 households that participated in the survey, 44.6% or 37 households preferred to leave as is. Only 46 households or 21.7% indicated a desire to implement some form of traffic calming on Douro Street, although there was no clear consensus of a preferred option amongst these residents.

Preliminary Recommendation

A review of the comments on the survey responses revealed that many of the respondents in favour of traffic calming measures are concerned with pedestrian safety on the street and principally at the Rotary Trail crossing. This trail crossing supports approximately 650 pedestrians/cyclists per day.

The existing crossing is marked with warning signs and an overhead amber flashing beacon to warn drivers of pedestrians in the area. This type of crossing is defined as an uncontrolled crossing and under the Highway Traffic Act (HTA) does not give pedestrians the right-of-way. The addition of the overhead flashing light was recommended to warn drivers of the trail crossing and installation was approved by Council at their meeting of August 16, 1999 following a traffic operations review of the area.

On June 2, 2015, Bill 31, the Transportation Statute Law Amendment Act (Making Ontario's Roads Safer) passed final reading in the Ontario Legislature. In response to requests from municipalities, Bill 31 includes amendment to the HTA to allow for new pedestrian crossing devices for low-speed and low-volume roads. Bill 31 took effect on January 1, 2016.

The amendments recently approved to the Highway Traffic Act through Bill 31 provide the legal authority for a series of three new variations of the Pedestrian Crossovers (PXOs) that were implemented in the 2015 update to the Ontario Traffic Manual (OTM) Book 15. This type of crossing treatment 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. Fines for violating the new rules are \$150 - \$500, plus 3 demerit points.

The new 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 which form a new passive treatment to provide pedestrians the right-of-way when crossing the roadway. 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 the busiest multi-lane roadways require enhanced crossing treatments with overhead signing, flashing beacons and enhanced markings. The Type C PXO recommended for Douro Street consists of a roadside mounted sign installed at the crossing, a pedestrian activated rapid flashing beacon mounted on top of the sign, and enhanced pavement markings as shown in 'Appendix C – Pedestrian Crossover Type C – Mid-block crossing'.

The implementation of the Type C PXO at the Rotary Trail would require the removal of the existing overhead flashing beacon and upgrades to the trail approaches including lighting and tactile warning plates to meet new AODA standards.

Based on study findings, staff are recommending enhancements to this trail crossing to improve pedestrian/cyclist safety and address the key concerns raised by many of the residents who indicated they wanted traffic calming measures. During the field reviews undertaken by staff during this study, confusion amongst drivers and pedestrians regarding the right-of-way at the existing crossing was evident. On a number of occasions staff noted drivers who would stop for a pedestrian waiting to cross, yet the driver in the opposite direction would not, as there is no legal requirement to stop. This situation creates a safety risk, and clarifying the right-of-way rules by requiring all drivers to stop for pedestrians will help to improve the safety of this busy trail crossing. In addition, given how busy the trail crossing is, since the new PXO treatment may influence drivers to slow down or stop for pedestrians this additional delay may also deter non local drivers from using the street and serve to reduce some of the cut through traffic pattern observed during the study. The preliminary recommendation for installation of this new trail crossing treatment was presented for public input and comment at a neighbourhood Public Open House.

Public Open House

A Public Open House (POH) was held on May 12, 2016 at Mark Street United Church to share the study findings, the preliminary recommendation and solicit feedback on the traffic calming options presented. City staff hand delivered 212 Notices of the Public Open House to residents within the Douro Street study area and advertisements were placed in Peterborough local newspapers. At the POH participants were given the opportunity to review the preliminary study findings, share their comments and discuss the project with City staff. A formal project presentation was given and the display material and comment sheets were posted online at www.peterborough.ca.

The POH was attended by about 45-50 residents with 45 attendees signing in from 31 households. A total of 30 households submitted written comments on the preliminary study findings and recommendations by the May 24, 2016 deadline. Of the 30 households that submitted comments, 12 (40%) supported the recommended implementation of the new PXO, 11 (36.7%) supported Right-Out Only Traffic Island at Rogers Street, 1 (0.33%) supported "Leave as is" and the remaining 6 (2%) made other suggestions. Many residents who opposed the Right-Out Traffic Island were concerned about the potential impact of this restrictive traffic calming measure on traffic volumes directed to other streets within the neighbourhood.

Discussion

The Douro Street study area is comprised of approximately 212 households of which 83 (39.2%) households responded to the neighbourhood survey for traffic calming measures. Forty-six households (21.7%) indicated a desire to implement some form of traffic calming measures on Douro Street, although there was no clear consensus of a preferred option amongst these residents.

Approximately 45-50 (21%-23%) residents attended the Public Open House. Feedback from the attendees at the POH and responses from others after the open house was split between:

- those who were in support of the most restrictive traffic calming measure on Douro Street (Right-Out Traffic Island at Rogers Street); and
- those who were in support of the recommended PXO.

The Traffic Calming Screening Process concluded that this section of Douro Street met the technical criteria for the implementation of traffic calming measures, however; there are very different views amongst the neighbourhood residents about what type of measures should be implemented. Typically, where traffic calming measures are being considered staff will seek a consensus of at least 50% of residents in favour of the recommended treatments. In this case, none of the alternatives received support from 50% of neighbourhood respondents and accordingly, it is recommended that restrictive Traffic Calming measures not be implemented on Douro Street at this time.

The preliminary staff recommendation at the POH was to install a new Pedestrian Crossover plus enhanced signing and pavement markings at the trail crossing. This recommendation was designed to address the key safety concerns raised by residents and is appropriate given the heavy use of this trail by pedestrians and cyclists. A slight majority of residents who responded following the public open house agreed with the recommended solution, and the recommended solution also respects the concerns of a number of residents from Rogers Street and Mark Street who were concerned about potential traffic diversion resulting from the more restrictive alternatives to control use of Douro Street.

As this type of Pedestrian Crossover treatment is new for the City of Peterborough, an education and enforcement campaign in conjunction with the Peterborough Police Service would be beneficial to advise motorists of the new rules of the road and build awareness in the community. The City recently completed a similar campaign with the Peterborough Police Service to advise motorists of these new rules of the road which also apply to crossing guard locations.

The cost for advertising and targeted enforcement measures is estimated at \$5,000 out of the total recommended budget of \$25,000 for the pedestrian crossover signing, markings, and trail revisions.

Summary

The Douro Street Traffic Calming Study data revealed vehicle volume, vehicle speed and collision history typical of an urban local road. The study also identified that Douro Street is being used by drivers with a destination outside of the neighbourhood. The neighbourhood survey failed to identify a preferred option of traffic calming measures. Many of the residents who responded to the initial survey preferred that the Driscoll Terrace/ Douro Street corridor remain as is, and the impact of potential traffic diversion

to other streets (Mark Street and Rogers Street) played a significant role in the lack of support for a preferred traffic calming option. The implementation of restrictive traffic calming measures on Douro Street between Hunter Street and Rogers Street is technically justified but not supported by the neighbourhood.

Resident input through the study process highlighted the desire to improve pedestrian safety particularly at the Rotary Trail crossing on Douro Street. The recommended implementation of a new Pedestrian Crossover would address many of the concerns regarding the safety of the trail crossing and would be the first of its type in Peterborough, making it new to both drivers and pedestrians. The implementation of this new pedestrian crossover will be supported by a joint educational and enforcement campaign to target drivers and cyclists who fail to stop and yield to pedestrians at this crossing.

Submitted by,

W.H. Jackson
Director of Utility Services

Contact Person
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Transportation Services Coordinator
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Toll Free: 1-855-738-3755
Fax: 705-876-4621
E-Mail: pmalin@peterborough.ca

Attachments:

Appendix A: Douro Street Study Area
Appendix B: Douro Street Traffic Calming Alternatives
Appendix C: Douro Street Neighbourhood Survey
Appendix D: Pedestrian Crossover Type C – Mid-block

Appendix A: Douro Street Study Area

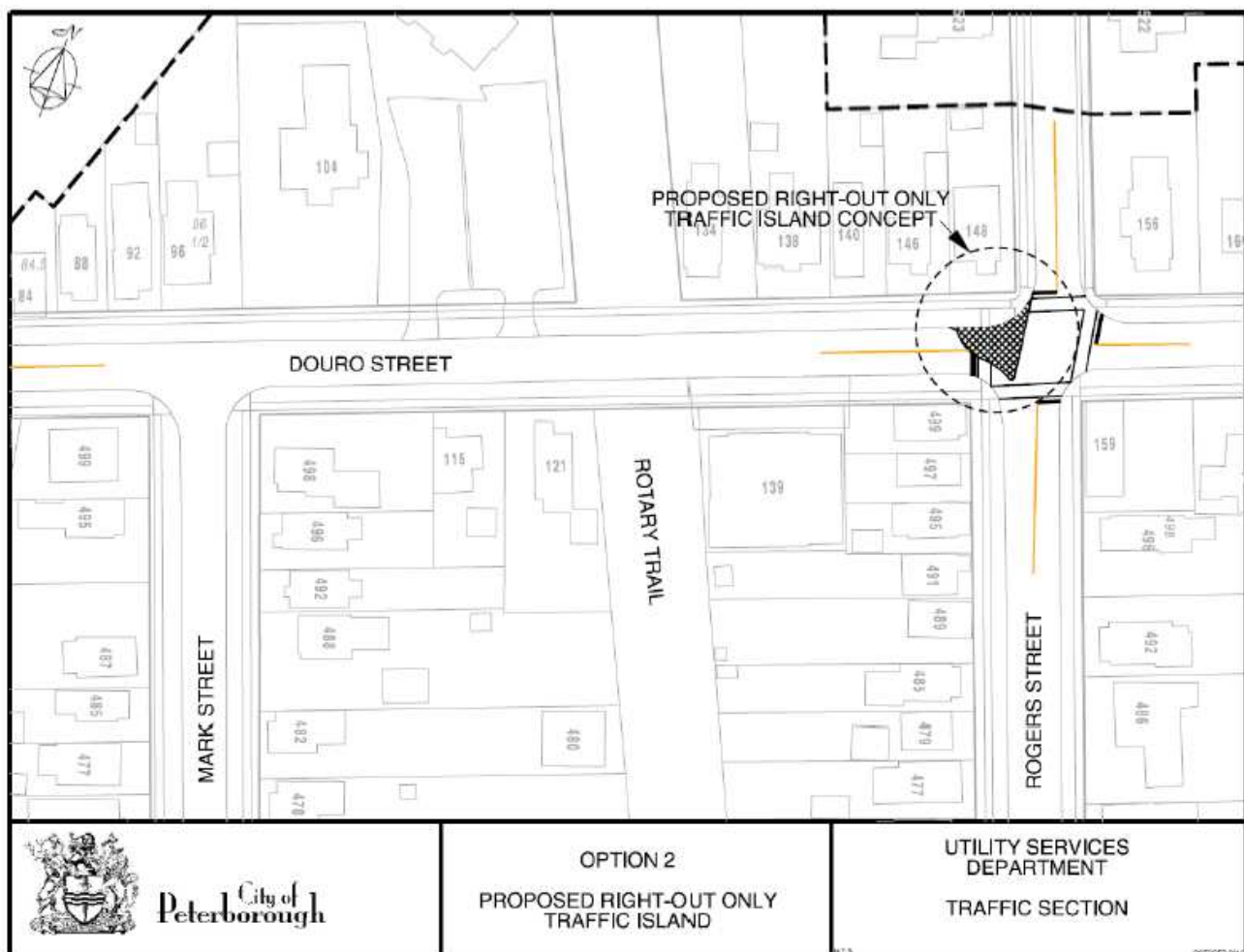
Appendix B: Douro Street Traffic Calming Alternatives

Option 2 – Proposed Right-out Only Traffic Island at Rogers Street

Description: Installation of a raised concrete island at Rogers Street to allow eastbound right-turns only. This option will restrict the following traffic movements: Eastbound through/left, southbound right, westbound through and northbound left.

Factors to consider:

- Vehicle speed may not be reduced.
- Eliminates most cut-through traffic.
- May inconvenience residents.
- Reduce vehicle volume at the Rotary Trail crossing.
- Higher traffic volumes expected on Rogers Street.
- Second most expensive option to construct.
- May be problematic for emergency and service vehicles.
- May improve conditions for non-motorized vehicles.

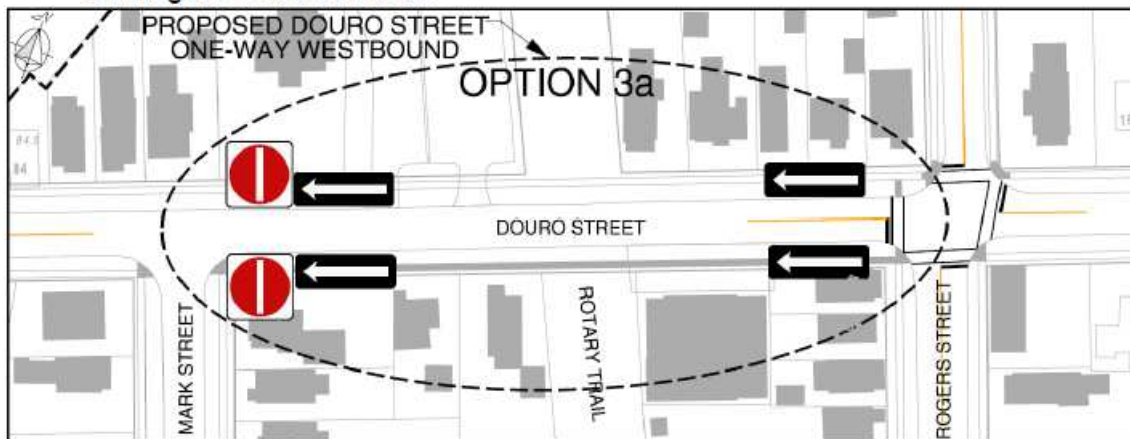


Option 3a – Proposed Westbound One-way

Description: Implementation of westbound one-way traffic on Douro Street between Mark Street and Rogers Street through the installation of regulatory traffic signs.

Factors to consider:

- Vehicle speed may not be reduced.
- Eliminates only eastbound cut-through traffic.
- Higher turn volumes at the Hunter St./Rogers St. intersection.
- May inconvenience residents.
- Reduce vehicle volume at the Rotary Trail crossing.

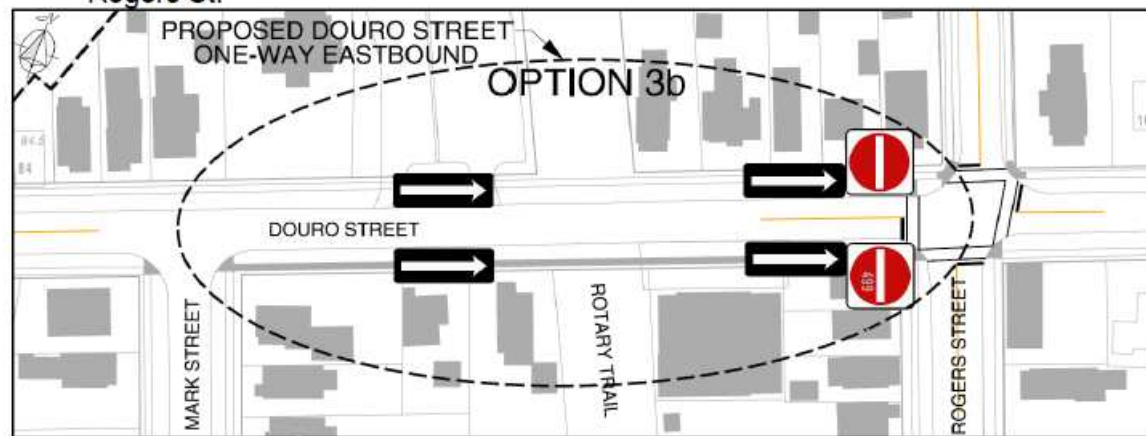


Option 3b – Proposed Westbound One-way

Description: Implementation of eastbound one-way traffic on Douro Street between Mark Street and Rogers Street through the installation of regulatory traffic signs.

Factors to consider:

- Vehicle speed may not be reduced.
- Eliminates only westbound cut-through traffic.
- Higher tragic volumes expected on Rogers St.
- May inconvenience residents.
- Reduce vehicle volume at the Rotary Trail crossing.

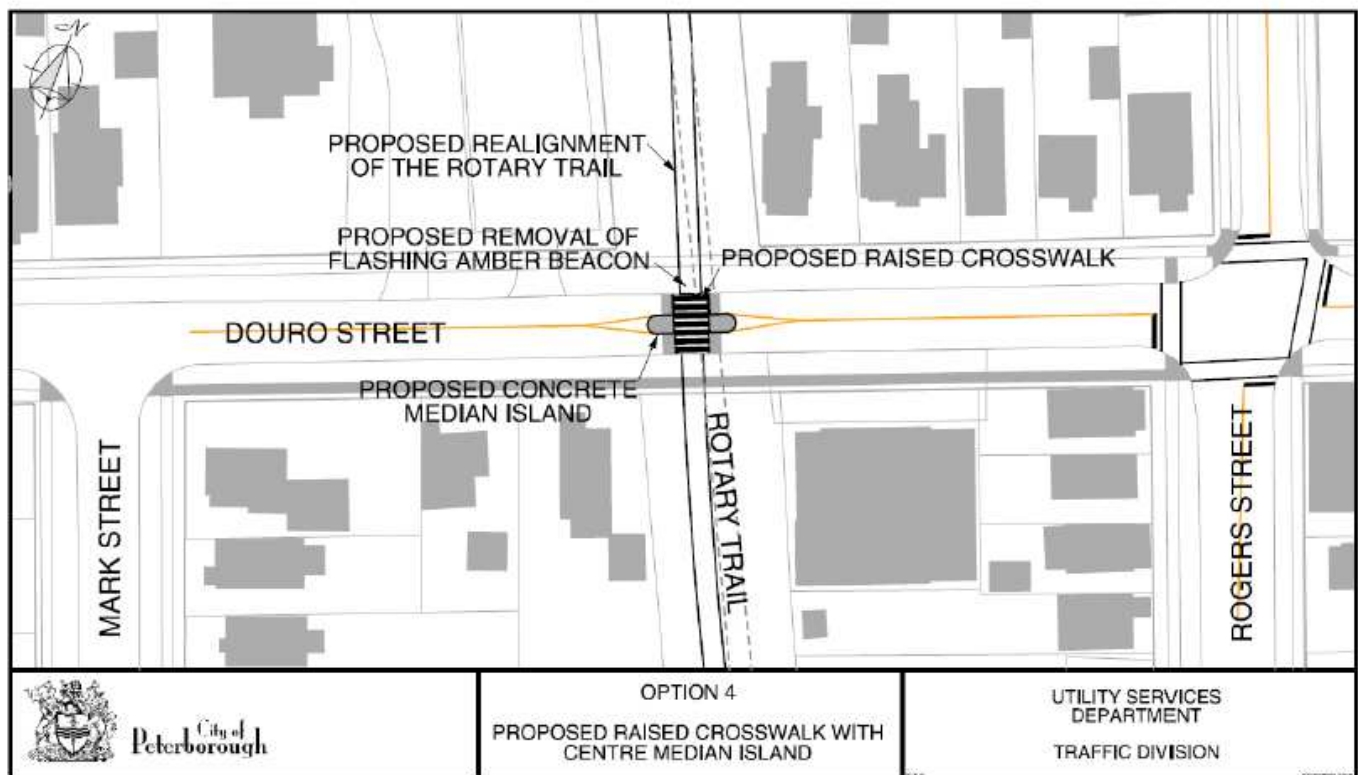


Option 4 – Proposed Raised Crosswalk with Centre Median Island

Description: Installation of a raised crosswalk with a centre median island and narrowed vehicle lanes. The Rotary Trail will need to be re-aligned and the amber flashing warning beacon will be removed.

Factors to consider:

- Vehicle speed will be reduced at the raised crosswalk.
- Some traffic may avoid area as the vehicle lanes will be narrowed and drivers will be delayed at the raised crosswalk.
- Does not eliminate cut-through traffic
- Improved visibility of pedestrians and cyclists at the trail crossing.
- May be problematic for emergency and service vehicles.
- Most expensive option to construct.



Appendix C: Douro Street Neighbourhood Survey**City of
Peterborough**

500 George Street North, Peterborough, ON K9H 3R9
Utility Services Department, Transportation Division
Tel: 705 742 7777, Extension 1846 Fax: 705 742 6273

November 2, 2015

Douro Street Traffic Calming Study - Neighbourhood Survey

At the City Council meeting on April 27, 2015, Council directed staff to undertake a traffic study on Douro Street and surrounding area with respect to the impact of the proposed redevelopment of 139 Douro Street to a five unit apartment dwelling. Previous conducted traffic studies on Douro Street identified cut-through traffic as an existing neighbourhood concern. Updated traffic data has been collected this fall and the analysis of this new data confirmed the presence of cut-through traffic on Douro Street. The travel patterns indicate that traffic calming may be beneficial in reducing the level of cut-through traffic on Douro Street.

The purpose of this survey is to gather input from neighbourhood residents to determine if there is a desire to implement traffic calming measures on Douro Street. The results of this survey will be tabulated and analyzed by Transportation Division staff to determine if changes are warranted and supported. Recommendations resulting from this survey will be forwarded in a report to Council for approval.

Please complete the survey, indicate your choice of options and return your survey in the attached envelope on or before November 13, 2015. We welcome any comments you may have and encourage you to complete the comments section provided. If you have any questions with respect to this survey, please feel free to contact the undersigned at your earliest convenience.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Peter I. M.', written over the printed name.

Peter I. M., Transportation Services Coordinator
Transportation Division

Douro Street Traffic Calming Study

The City's Transportation Division has recently conducted an operations review of Douro Street between Rogers Street and Mark Street which identified the presence of cut-through traffic (vehicles traveling on the road with a destination outside of the neighbourhood). To reduce cut-through traffic, Transportation Division staff is looking for neighbourhood input with respect to the implementation of traffic calming measures on Douro Street such as: turn restrictions, one-way restrictions and raised pedestrian facilities to reduce vehicle speed and cut-through traffic.

Recent traffic studies conducted on Douro Street between Mark Street and Rogers Street indicate:

- The average vehicle speed on Douro Street is 40 km/h.
- The average daily vehicle volume on Douro Street is approximately 2000 vehicles per day.
- The percentage of cut-through traffic on Douro Street ranges from 42% - 59% of the total daily traffic.
- There are approximately 340 cyclists per day using the Rotary Trail crossing at Douro Street.
- There are approximately 310 pedestrians per day using the Rotary Trail crossing at Douro Street.
- There have been 0 reported pedestrian/cyclist collisions at the Rotary Trail crossing between 2010 and 2014.

The purpose of this survey is to determine if there is neighbourhood support for traffic calming measures on Douro Street to reduce cut-through traffic.

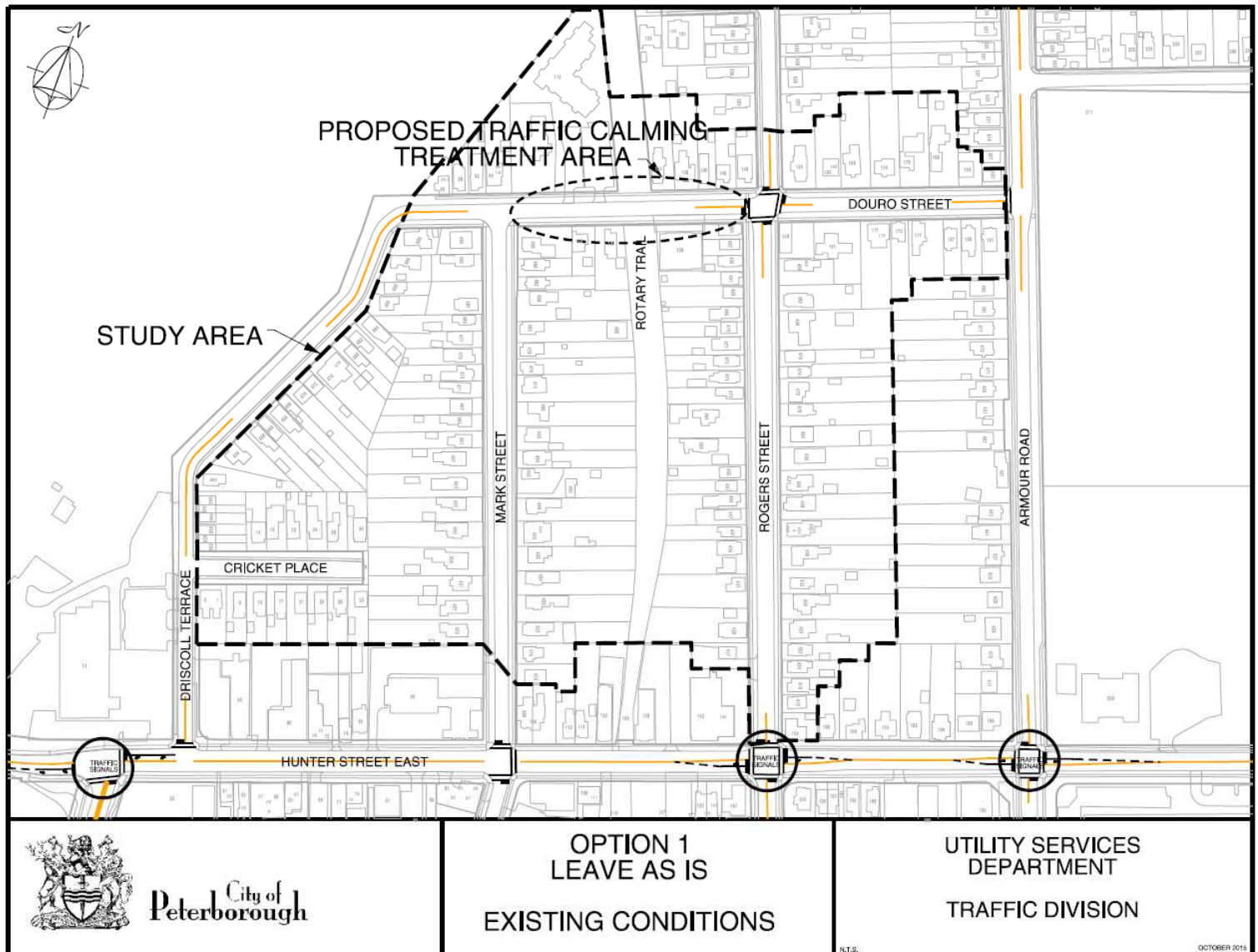
The proposed traffic calming measures (Options 1 through 4) are depicted on pages 3 to 6 and include a brief description and factors to consider when comparing the options. The options include:

1. Leave as is.
2. Turn restrictions at Rogers Street.
3. One-way street restriction between Rogers Street and Mark Street.
4. Raised Crosswalk at the Rotary Trail Crossing.

Please review the following options and indicate your preferred choice on the Preferred Traffic Calming Options and Comment Sheet (page 7). Once you have made your selection, return the Preferred Traffic Calming Options and Comment Sheet in the attached envelope on or before November 13, 2015.

Option 1 – Leave as is

Description: No Change to existing conditions.

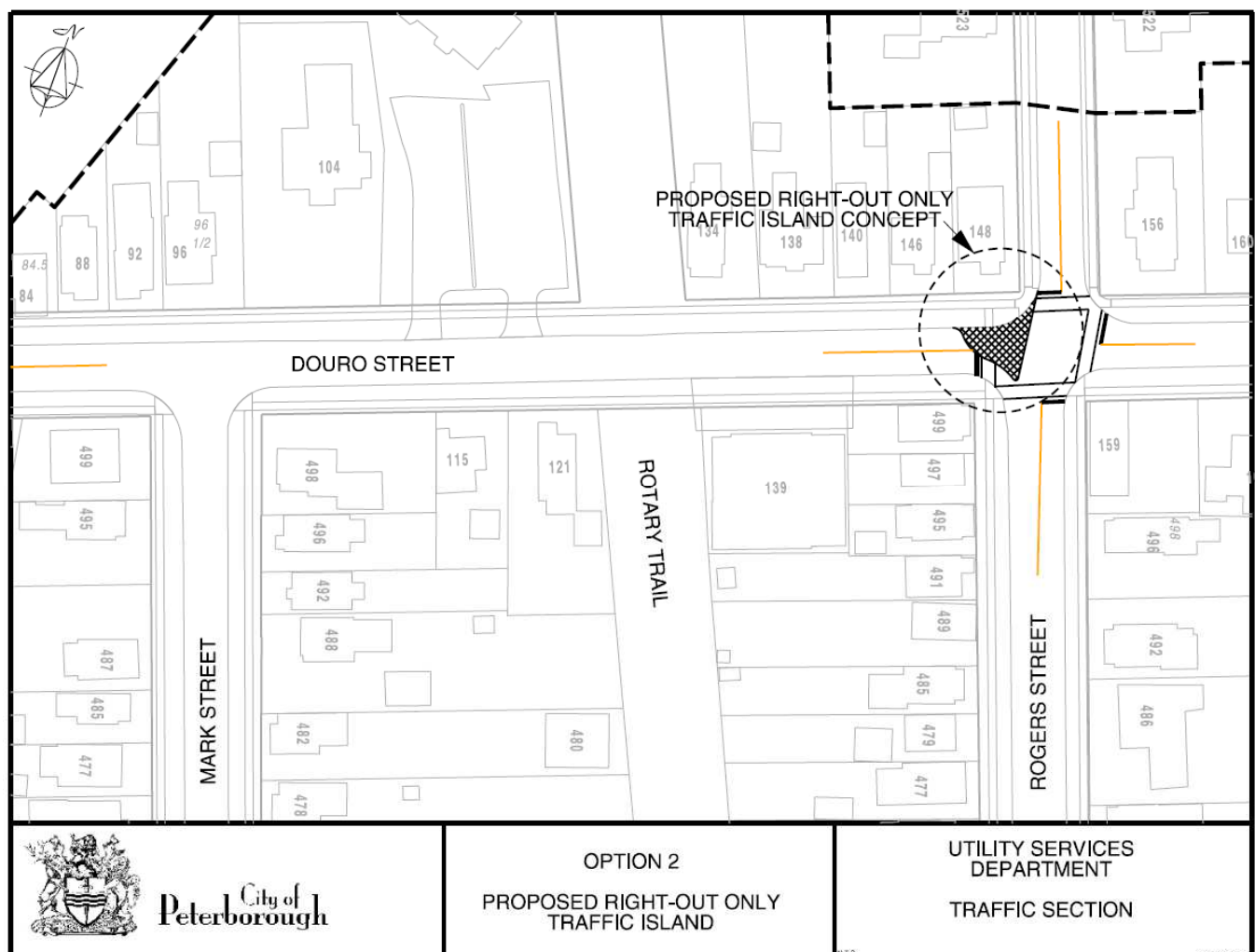


Option 2 – Proposed Right-out Only Traffic Island at Rogers Street

Description: Installation of a raised concrete island at Rogers Street to allow eastbound right-turns only. This option will restrict the following traffic movements: Eastbound through/left, southbound right, westbound through and northbound left.

Factors to consider:

- Vehicle speed may not be reduced.
- Eliminates most cut-through traffic.
- May inconvenience residents.
- Reduce vehicle volume at the Rotary Trail crossing.
- Higher traffic volumes expected on Rogers Street.
- Second most expensive option to construct.
- May be problematic for emergency and service vehicles.
- May improve conditions for non-motorized vehicles.

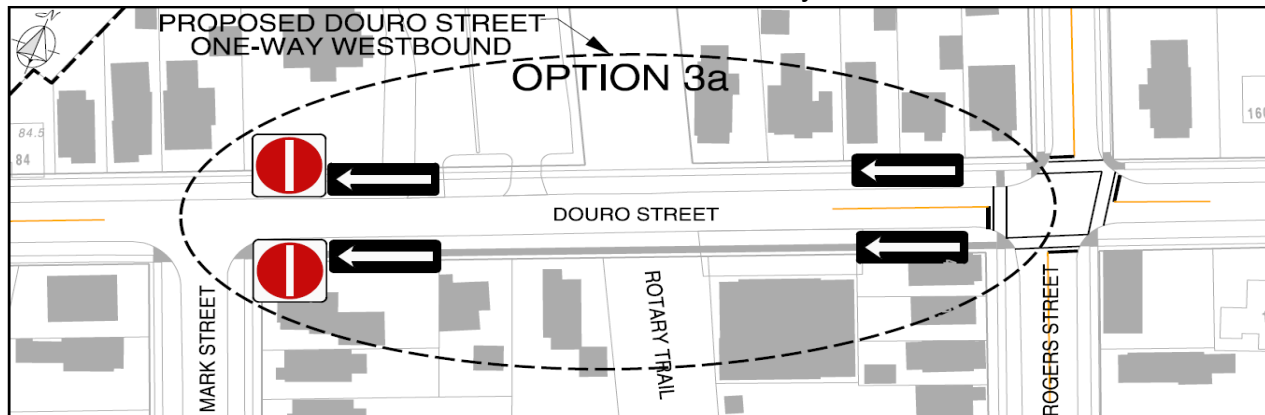


Option 3a – Proposed Westbound One-way

Description: Implementation of westbound one-way traffic on Douro Street between Mark Street and Rogers Street through the installation of regulatory traffic signs.

Factors to consider:

- Vehicle speed may not be reduced.
- St./Rogers St. intersection.
- May inconvenience residents.



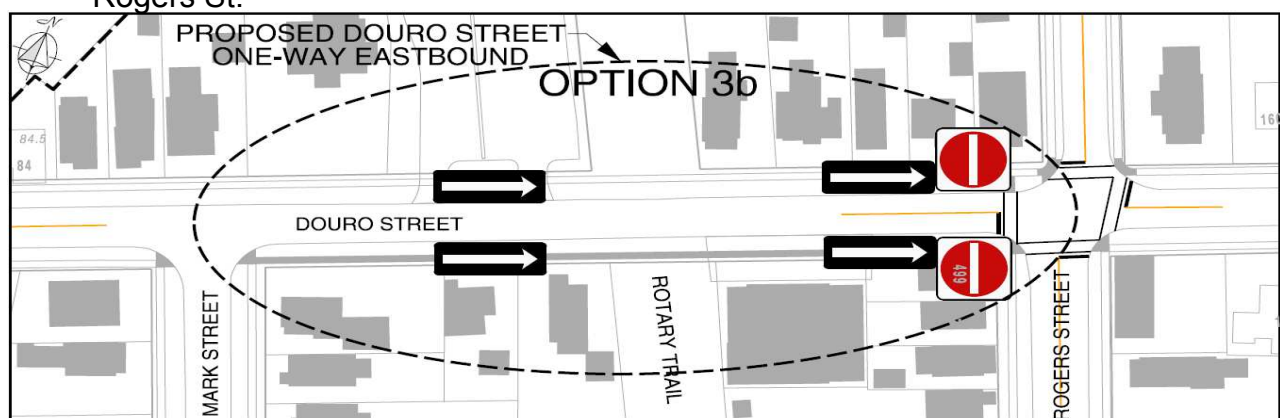
- Eliminates only eastbound cut-through traffic.
- Reduce vehicle volume at the Rotary Trail crossing.
- Higher turn volumes at the Hunter

Option 3b – Proposed Westbound One-way

Description: Implementation of eastbound one-way traffic on Douro Street between Mark Street and Rogers Street through the installation of regulatory traffic signs.

Factors to consider:

- Vehicle speed may not be reduced.
- May inconvenience residents.
- Eliminates only westbound cut-through traffic.
- Reduce vehicle volume at the Rotary Trail crossing.
- Higher tragic volumes expected on Rogers St.

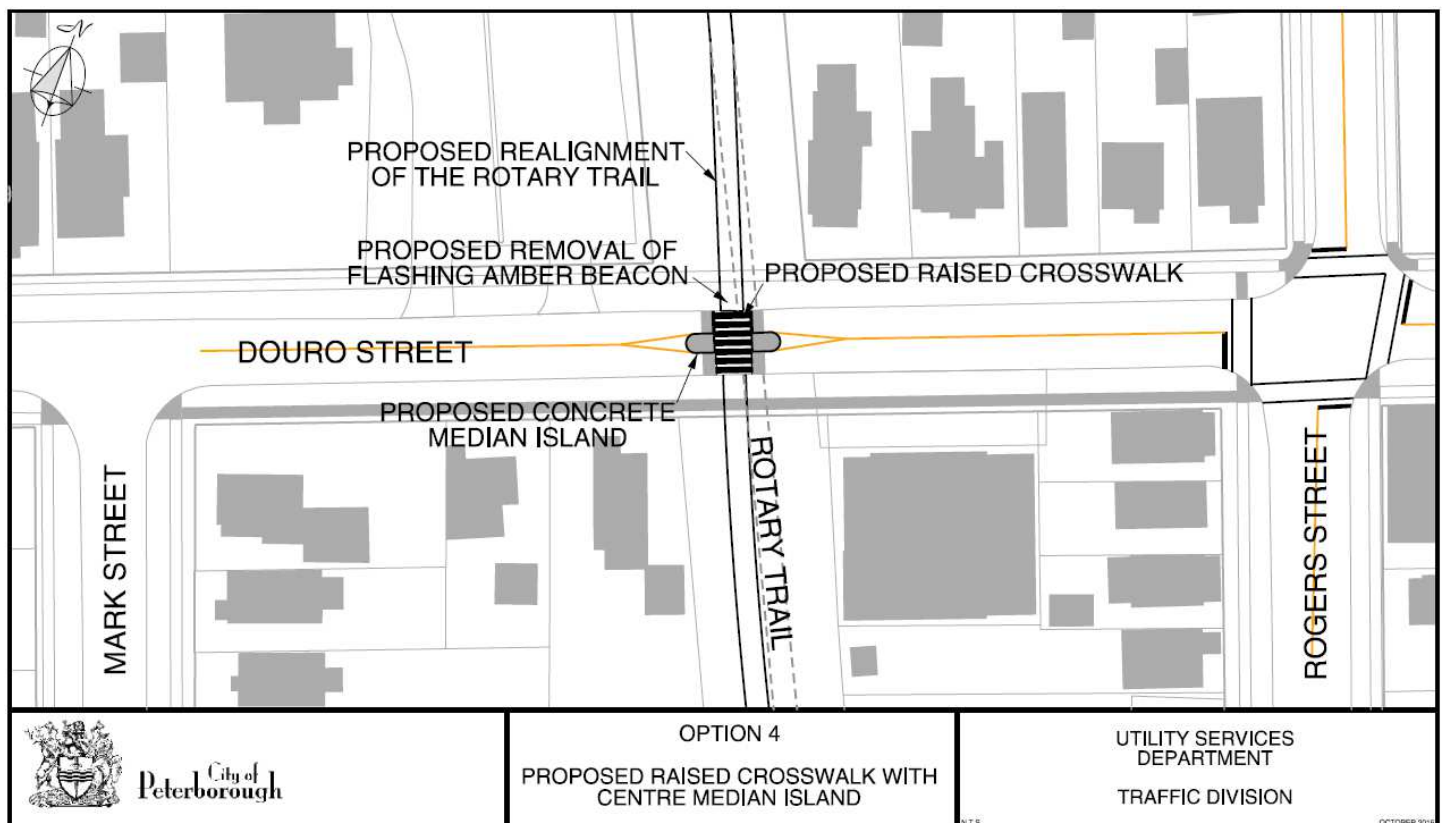


Option 4 – Proposed Raised Crosswalk with Centre Median Island

Description: Installation of a raised crosswalk with a centre median island and narrowed vehicle lanes. The Rotary Trail will need to be re-aligned and the amber flashing warning beacon will be removed.

Factors to consider:

- Vehicle speed will be reduced at the raised crosswalk.
- Some traffic may avoid area as the vehicle lanes will be narrowed and drivers will be delayed at the raised crosswalk.
- Does not eliminate cut-through traffic
- Improved visibility of pedestrians and cyclists at the trail crossing.
- May be problematic for emergency and service vehicles.
- Most expensive option to construct.



Preferred Traffic Calming Options and Comment Sheet

Please indicate your preferred choice...

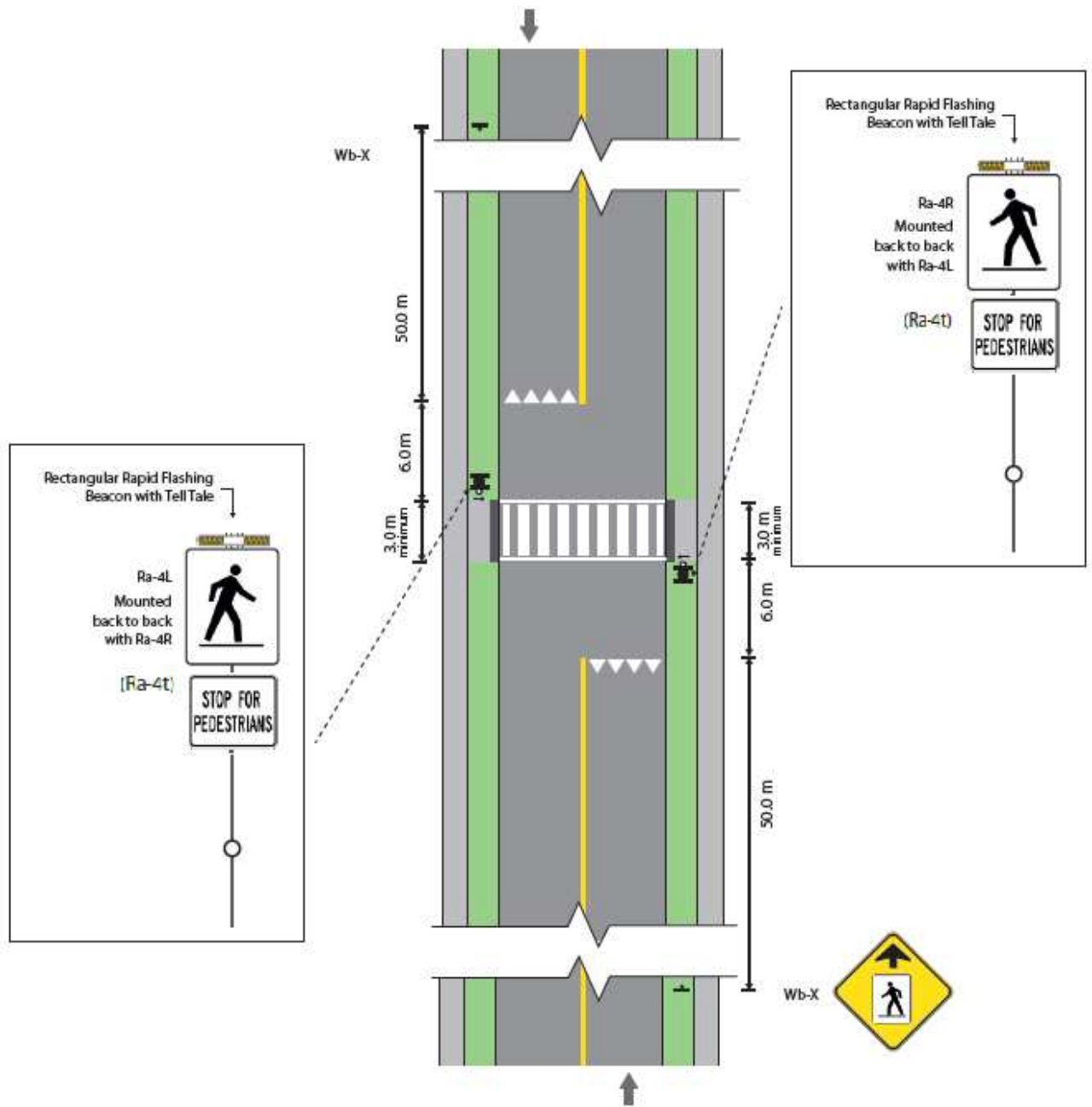
Option 1 - Leave as is Existing Conditions	<input type="checkbox"/>
Option 2 - Proposed Right-out Only Traffic Island at Rogers Street Installation of a right-out only raised concrete island.	<input type="checkbox"/>
Option 3a - Proposed Westbound One-Way Implementation of westbound one-way traffic on Douro Street between Mark Street and Rogers Street through the installation of regulatory traffic signs.	<input type="checkbox"/>
Option 3b - Proposed Eastbound One-Way Implementation of eastbound one-way traffic on Douro Street between Mark Street and Rogers Street through the installation of regulatory traffic signs.	<input type="checkbox"/>
Option 4 - Proposed Raised Crosswalk with Centre Median Island Installation of a raised crosswalk with centre median island and narrowed vehicle lanes.	<input type="checkbox"/>

My address is: _____

Comments:

The City of Peterborough appreciates your co-operation in completing this survey and returning your comments in the attached envelope on or before November 13, 2015.

Appendix D: Pedestrian Crossover Type C – Mid-block



General notes:

- Required illumination of pedestrian crosswalk and waiting area to be provided
- Accessible as per AODA

○ Pushbutton