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**TO:** GENERAL COMMITTEE

**SUBJECT:** ROSS STREET / COLLIER STREET / BAYFIELD STREET  
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT PHASES 3 AND 4

**WARD:** 2

**PREPARED BY AND  
KEY CONTACT:** B. GRATRIX, P. ENG.  
INFRASTRUCTURE PLANNING ENGINEER (Ext. 5117)

**SUBMITTED BY:** R. SUTTON, P. ENG.  
DIRECTOR OF ENGINEERING

**GENERAL MANAGER  
APPROVAL:** R. J. FORWARD, MBA, M.Sc., P. Eng.  
GENERAL MANAGER OF INFRASTRUCTURE & GROWTH MANAGEMENT

**CHIEF ADMINISTRATIVE  
OFFICER APPROVAL:** C. LADD  
CHIEF ADMINISTRATIVE OFFICER

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**RECOMMENDED MOTION**

1. That the preferred design alternative for the Municipal Class Environmental Assessment for Ross Street/Collier Street/Bayfield Street Phases 3 & 4 be adopted as outlined in Staff Report ENG006-17.
2. That in accordance with the requirements of the Class Environmental Assessment process, the Engineering Department publish a Notice of Completion for the Ross Street/Collier Street/Bayfield Street Class Environmental Assessment Phases 3 & 4 Environmental Study Report.
3. That based on the successful conclusion of this Class Environmental Assessment process and available budgets being approved through the capital planning process:
  - a) The Engineering Department proceed with implementation of the preferred design alternative for transportation improvements on Ross Street/Collier Street/Bayfield Street.
  - b) That the preferred design alternative be considered for inclusion in future budgets.
  - c) That the Director of Legal Services be authorized to commence negotiations for the acquisition of all required property interests subject to the property acquisition budget being approved.
  - d) That the Director of Legal Services be delegated the authority to settle any negotiated agreements up to the maximum amount budgeted for property acquisition.
  - e) That the City Clerk be authorized to execute all associated and required documents in a form approved by the Director of Legal Services.

**PURPOSE & BACKGROUND**

4. This study was undertaken to provide property protection for the realignment of the Ross Street/Collier Street/Bayfield Street intersection to ensure that future redevelopment will not preclude the City's ability to improve traffic operations and enhance pedestrian safety at this intersection.
5. The two (2) closely spaced intersections of Ross Street/Collier Street/Bayfield Street operate inefficiently and do not facilitate pedestrian movements.

6. The realignment of the Ross Street/Collier Street/Bayfield Street intersection has been identified since 1999 as a priority transportation improvement in the downtown core. Improvements to this intersection would provide a more operationally efficient east-west link and provide an alternative to Dunlop Street and Simcoe Street for motorists.
7. Based on recommendations from the 2004 Waterfront/Downtown Transportation Improvements Class EA, the realignment was presented to General Committee in Staff Report #ENG033-06 on May 29, 2006 and per Motion 06-G-281, the realignment was adopted for planning purposes based on realignment of Ross Street to the south to align with Collier Street (refer to Appendix "A" for a figure of the currently adopted planning solution).
8. On December 2, 2013, City Council adopted motion 13-G-289 regarding Growth Management Update: Infrastructure Master Plans and Fiscal Impact Analysis as follows:

"That the six Infrastructure Master Plans (Water Supply, Water Storage and Distribution, Wastewater Treatment, Wastewater Collection, Drainage and Stormwater Management, and Multi-Modal Active Transportation) related to growth from 2012-2031 be approved so that staff may complete the public consultation process in accordance with the Municipal Class Environmental Assessment process."
9. The preferred design alternative from Phases 1 & 2 of the Class EA process completed as part of the MMATMP endorsed by Council carried forward the recommendation to realign Ross Street to Collier Street.
10. The Growth Plan for the Greater Golden Horseshoe requires 40% of the planned population growth to occur within the former City limits. To better facilitate the City's efforts in achieving this requirement, staff re-evaluated opportunities to reduce impacts associated with the current planned realignment in an effort to minimize impacts to existing properties and potential future development. The completion of this Municipal Class EA will provide clear guidance for redevelopment efforts in the vicinity of the Ross Street/Collier Street/Bayfield Street intersection.
11. Phases 3 & 4 of the Class EA process developed alternative design concepts for the preferred alternative identified in the MMATMP and documented the process and methodology employed throughout the study to prepare the Environmental Study Report (ESR).
12. Although the primary focus of the study is the Ross Street/Collier Street/Bayfield Street Intersection, additional streets were included to assess impacts as follows:
  - Ross Street – Toronto Street to Bayfield Street
  - Collier Street – Bayfield Street to Clapperton Street
  - Bayfield Street – Worsley Street to Collier Street
13. Two Public Information Centres (PIC) were held as part of a joint study with the Bell Farm Road Class EA Phases 3 & 4 Study. The first PIC was held on Wednesday, November 23, 2016; the public was invited to attend the PIC to review and provide comment on alternative concepts under consideration.
14. The second PIC was held on Wednesday, May 3, 2017; the public was invited to the PIC to review and provide comments on the preliminary preferred design alternative.

## **ANALYSIS**

15. A comprehensive set of alternatives including several standard intersection configurations as well as roundabouts of varying size and location were evaluated to determine the optimal intersection configuration.

16. Comments received throughout the Class EA process, along with the Engineering Department's responses to the comments, are summarized in the ESR which is available in the Councillors' Lounge for review and on the City of Barrie website at [www.barrie.ca/eastudies](http://www.barrie.ca/eastudies). Areas of major concern include:

- Private property impacts.
- Ability for cyclists to navigate roundabouts.
- Public education on roundabout use.
- Accessibility concerns of a roundabout.

See Appendix "B" for responses to major concerns.

17. Twenty-two (22) people signed the attendance register at the first PIC and eleven (11) people signed the attendance register at the second PIC.

18. Through evaluation of impacts to the physical, natural, social, economic and cultural environments as well as comments and responses received from the PIC, the following alternative was selected as the preferred design alternative (refer to Appendix "C" for figures of the preferred design alternative):

- 40 m diameter roundabout and associated transportation improvements listed below:

Preferred Design Alternative	Proposed ROW	No. of Lanes	Bicycle Infrastructure	Side-walk	Median	Official Plan Property Protection	Existing No. Parking Stalls	Proposed No. Parking Stalls
Ross Street – Toronto to Bayfield	20 m with minor intersection widening requirements	2 + LTL	Bicycle sharrows	Both sides	N/A	27 m	No Parking	No Parking
Bayfield Street – Worsley to Ross	Refer to Appendix "C"	2 + LTL	Bicycle sharrows	Both Sides	Round-about approach	29 m	5	0 <sup>1</sup>
Bayfield Street – Ross to Collier	Refer to Appendix "C"	2	Bicycle sharrows	Both Sides	Round-about approach	Existing ROW matches OP	6	4 <sup>2</sup>
Collier Street – Bayfield to Clapperton	Refer to Appendix "C"	2	Bicycle lanes (interim sharrows)	Both Sides	Yes	Existing ROW matches OP	10	6 <sup>3</sup>

LTL – left turn lane

1 – Parallel parking stalls on east side removed to accommodate bicycle lanes/roundabout approach

2 – Parallel parking stalls on west side reduced to accommodate roundabout approach

3 – Parallel parking stalls on north side removed and angle parking on south side converted to parallel parking to accommodate roundabout approach

19. The preferred design alternative is recommended for the following reasons:

Ross Street/Collier Street/Bayfield Street Intersection

- The implementation of a roundabout at the Ross Street/Collier Street/Bayfield Street intersection addresses inefficient traffic operations of the present offset T intersection configuration and significantly improves east-west traffic movement by eliminating left turns that result in queuing on Bayfield and Collier Streets (traffic is directed to the roundabout where it can make the desired movement);
- The realignment of the Ross Street/Collier Street/Bayfield Street intersection supports the overall improvement of traffic flow around, and within the downtown /waterfront area as the Ross Street/Collier Street corridor will attract trips due to decreased delays as compared to Dunlop Street and Simcoe Street;

- Provides traffic calming as vehicles travel slower through roundabouts than traditional intersections and will eliminate the current free flow condition on Bayfield Street leading to the downtown;
- Allows vehicles to complete left turns on to Bayfield Street from Ross Street (presently prohibited);
- Provides improved pedestrian safety through the provision of dedicated pedestrian crossings at each roundabout leg;
- Provides flexibility through staged implementation;
- Provides a gateway feature into the downtown;
- Generally supported through public consultation; and
- Generally consistent with recommendations in the MMATMP and the previous Waterfront /Downtown Transportation Improvements Class EA.

Ross Street /Collier Street /Bayfield Street Associated Improvements

- Minimizes impact to private property and need to purchase complete properties;
  - Incorporates cycling infrastructure through utilization of bicycle sharrows; and
  - Provides continuity with the roundabout.
20. As part of the preferred design alternative for the Ross Street/Collier Street/Bayfield Street intersection; the Notice of Completion will be filed on a 40 m diameter roundabout design (referred to as the ultimate configuration) to provide long-term property protection. The ultimate configuration roundabout is considered small in the context of highway design, but given the restrictions in an urban downtown core, the design captures the safety and traffic operational advantages of larger roundabouts with reduced property impacts.
21. The ultimate configuration roundabout maintains the City's permissive truck route (southbound Bayfield Street to eastbound Collier Street and westbound Collier Street to northbound Bayfield Street) and accommodates most truck turning movements with the exception of southbound Bayfield Street to westbound Ross Street. The following tables summarize the permitted turning movements for the ultimate configuration roundabout:

<b>Roundabout Turning Movement Assessment – 40 m Diameter Ultimate Configuration</b>	
<b>Design Vehicle</b>	<b>Permitted Movements</b>
Aerial Fire Truck	All
Transit Bus	All
Transport Truck WB-15 to WB-20.5	All movements permitted except SB Bayfield to WB Ross

22. The preferred design alternative includes provision for an interim configuration roundabout (30 m diameter). The interim configuration is a compressed roundabout that further mitigates property impacts and associated costs (refer to Appendix "D" for a figure of the interim configuration). The interim configuration maintains permissive truck movements; however transit and larger emergency services vehicles will need to navigate the roundabout at reduced speeds. The following tables summarize the permitted turning movements for the interim configuration roundabout:

<b>Roundabout Turning Movement Assessment – 30 m Diameter Interim Configuration</b>	
<b>Design Vehicle</b>	<b>Permitted Movements</b>
Aerial Fire Truck	All
Transit Bus	All
Transport Truck WB-15 to WB-20.5	SB Bayfield to EB Collier, WB Collier to NB Bayfield only

23. To minimize occurrences of transport trucks completing non-permitted turns; advanced warning signs advising of permitted moves will be further assessed during detailed design.
24. Implementation of the preferred design solution (ultimate configuration roundabout) is recommended to be deferred until the majority of lands are acquired by the City. If implementation of intersection improvements is identified as priority, the interim configuration can be implemented as the required lands avoid the active commercial building at the southwest quadrant of the intersection.
25. In the scenario where the interim configuration has been implemented; reconstruction will be required for the ultimate configuration.
26. Staff are recommending that the preferred design alternative be adopted by Council, in order that a Notice of Completion can be filed as required as part of the Class EA process. The Notice of Completion is the final point in the public process where the public can express their concerns if they feel issues raised through the Class EA process have not been sufficiently addressed. If there are no Part II requests received, Phases 3 & 4 of the Class EA process can be considered complete and the City can proceed with the implementation of the preferred design alternative subject to consideration in future budgets. This implementation would include the property acquisition, utility relocations, detailed design phase and construction of the infrastructure.
27. Subject to inclusion into the capital plan, this project shall be coordinated with proposed works in the immediate vicinity. Potential projects on Bayfield Street that are under consideration include upgrading the Sophia Creek trunk sewer.

### **ENVIRONMENTAL MATTERS**

28. This project has followed the guidelines for a Municipal Class EA, and physical, natural, social, cultural /heritage and economic environmental matters have been considered in the development of the recommendations. The ESR discusses how environmental matters have been considered in the development of the recommended preferred design alternative. The evaluation process considered criteria for natural, social, cultural/heritage and economic environmental matters and physical environment criteria such as traffic, pedestrians, cyclists, transit, property, noise, utilities, municipal services and driveway grades/operations.

### **ALTERNATIVES**

29. The following alternative is available for consideration by General Committee:

**Alternative #1** General Committee could alter the proposed recommendation by selecting another design alternative.

This alternative is not recommended because the preferred design alternative provides for transportation improvements which minimize the effects to the physical, natural, social, cultural /heritage and economic (financial) environments.

### **FINANCIAL**

30. The 2017-2026 Capital Plan does not include funding for this project.

31. The estimated capital cost for the preferred design solution (ultimate configuration) roundabout is \$1,200,000 (excluding property) plus \$1,000,000 for renewal costs. The capital cost and renewal cost for the interim roundabout is equivalent to the preferred design solution. The estimated cost for the provision of on-road bicycle sharrow markings on Ross Street is \$5,400.
32. Property required for implementation will be acquired through negotiation, acquisition and land dedication. Opportunities to acquire lands in exchange for existing City property will be explored. Due to the strategic importance of redevelopment in this area, the Director of Engineering and the Director of Business Development will support the Director of Legal Services during the property acquisition process.
33. The non-renewal components of the Ross Street/Collier Street/Bayfield Street Intersection preferred design alternative are development charges eligible with 65% eligible for cost recovery (35% is the benefit to existing development). As part of the Development Charges By-Law update; construction costs will be revised to reflect the development charge eligible costs in the latest cost estimate.
34. Operational cost increase is estimated at \$5,700.

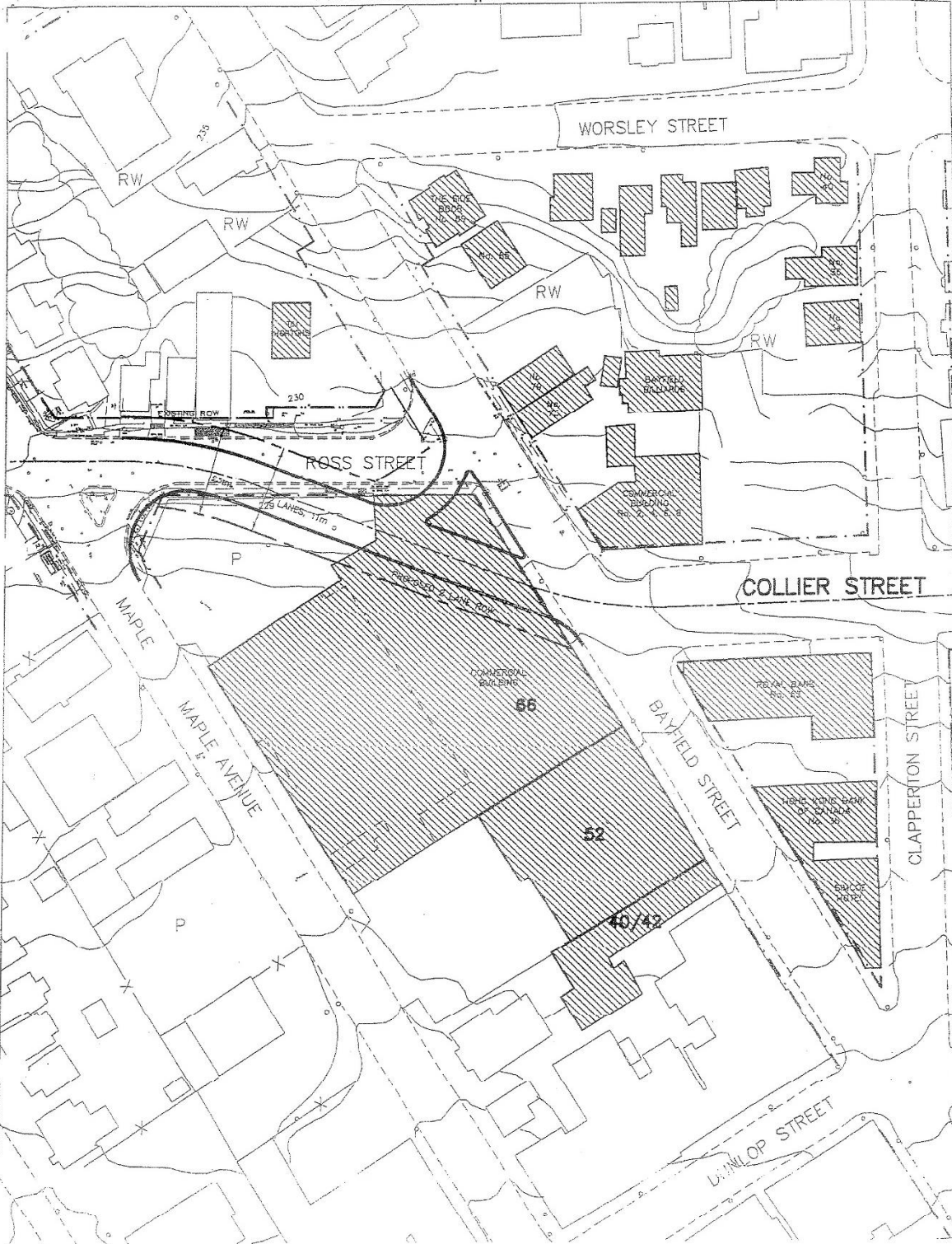
**LINKAGE TO 2014 – 2018 COUNCIL STRATEGIC PLAN**

35. The recommendation(s) included in this Staff Report support the following goals identified in the 2014-2018 Strategic Plan:
  - Responsible Spending
  - Well Planned Transportation
36. The preferred design alternative allows for staged implementation to mitigate property impacts and overall project cost.
37. The preferred design alternative will supersede the previously adopted planning solution; thus substantially reducing impacts to a large contiguous parcel in the downtown thereby increasing redevelopment potential.
38. The preferred design alternative will improve east-west traffic flow in the downtown; provide an alternative to Dunlop Street and Simcoe Streets for motorists and improve pedestrian safety.

APPENDIX "A"

Realignment Approved for Planning Purposes

ATTACHMENT #2 - OPTION 2



**APPENDIX "B"**

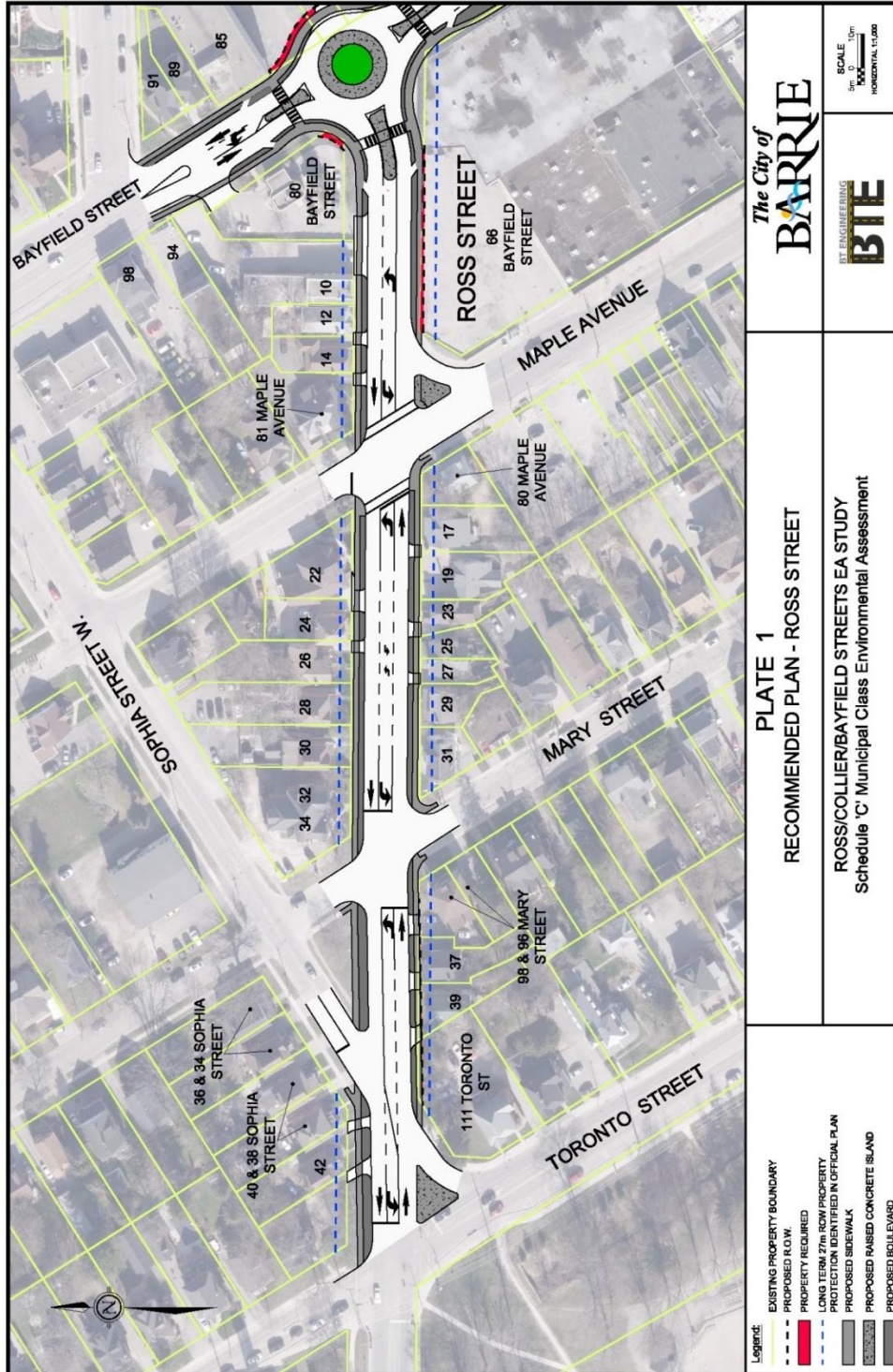
**Summary of Major Concerns and Responses**

Comments	Response
<p>Roundabouts represent a barrier to the visually impaired.</p>	<p>The preferred design alternative significantly improves pedestrian safety as compared to existing conditions at the Ross /Collier /Bayfield Street intersection. The roundabout includes pedestrian crossings at each leg and incorporate accessibility features including tactile warning surface indicator plates, painted cross-walks with contrasting colors to identify pedestrian crossings, splitter islands that serve as a pedestrian refuge and perimeter banding.</p> <p>Audible push-button cross-walk signals will be assessed for installation at the intersections of Bayfield Street /Sophia Street and Ross Street /Maple Street as part of detailed design.</p> <p>The Transportation Association of Canada notes that roundabouts provide a safer environment for pedestrians as compared to conventional intersections because of slower vehicle speeds and the creation of two shorter crossings of one-way traffic; further, they reduce pedestrian /vehicle conflict points by 50%, from four at a signalized intersection to two with a single lane roundabout.</p>
<p>Maintaining Truck Access</p>	<p>Both the preferred alternative design (ultimate configuration roundabout) and the interim configuration maintain truck access on the City's permissive truck route (southbound Bayfield Street to eastbound Collier Street and westbound Collier Street to northbound Bayfield Street).</p> <p>The ultimate roundabout configuration (40 m diameter) will facilitate all truck movements with the exception of southbound Bayfield Street to westbound Ross Street.</p> <p>The interim configuration roundabout (30 m diameter) restricts truck movements to the permissive route.</p>
<p>Concerned about private property impacts.</p>	<p>The preferred design alternative for the Ross /Collier /Bayfield Street intersection includes staged implementation that reduces property impacts.</p> <p>The preferred design alternative for Ross Street is the least impactful alternative and generally maintains the existing ROW width.</p>
<p>Roundabouts are difficult for cyclists to navigate.</p>	<p>Roundabouts slow vehicular traffic as they approach and proceed through the roundabout; cyclists are encouraged to navigate the roundabout in the same position as a car; alternatively, cyclists can choose to dismount and walk their bicycle on the sidewalks to navigate through the intersection. Bicycle sharrows will be placed on the road surface to remind motorists of the position that cyclists are expected to utilize when navigating the roundabout.</p>
<p>Supportive of implementing a roundabout but caution that the City should share information with residents on how to use a roundabout.</p>	<p>The preferred design alternative is based on a 40 m diameter roundabout with an interim 30 m design option; prior to implementation, the City will share helpful educational resources to residents via the City's webpage and social media on how to safely navigate a roundabout.</p> <p>The following websites provide information on how to navigate a roundabout:</p> <p><a href="http://www.mto.gov.on.ca/english/ontario-511/roundabouts.shtml">http://www.mto.gov.on.ca/english/ontario-511/roundabouts.shtml</a></p> <p><a href="http://www.regionofwaterloo.ca/en/gettingAround/How-To-Use-A-Roundabout.asp">http://www.regionofwaterloo.ca/en/gettingAround/How-To-Use-A-Roundabout.asp</a></p>



APPENDIX "C"

Preferred Design Alternative Drawings



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<p><b>Legend:</b></p> <ul style="list-style-type: none"> <li>--- EXISTING PROPERTY BOUNDARY</li> <li>- - - PROPOSED R.O.W.</li> <li>--- PROPERTY REQUIRED</li> <li>--- LONG TERM 27m ROW PROPERTY PROTECTION IDENTIFIED IN OFFICIAL PLAN</li> <li>--- PROPOSED SIDEWALK</li> <li>--- PROPOSED RAISED CONCRETE ISLAND</li> <li>--- PROPOSED BOULEVARD</li> </ul>	<p><b>PLATE 3</b></p> <p><b>RECOMMENDED PLAN</b></p> <p><b>ULTIMATE ROUNDABOUT CONFIGURATION</b></p> <p><b>ROSS/COLLIER/BAYFIELD STREETS EA STUDY</b></p> <p><b>Schedule 'C' Municipal Class Environmental Assessment</b></p>	<p>The City of <b>BARRIE</b></p> <p>BY ENGINEERING <b>BTE</b></p>	<p>SCALE 5m 0 10m VERTICAL 1:500 HORIZONTAL 1:500</p>
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APPENDIX "D"

Interim Configuration Roundabout (30 m Diameter)

