City of Barrie
Ross/Collier/Bayfield Streets
Study Design

DRAFT

November 7, 2016
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1.0 Study Introduction

1.1 Preface

The City of Barrie has initiated this Municipal Class Environmental Assessment (EA) to review and validate Phases 1 and 2 and then to undertake the completion of Phases 3 and 4 of the Municipal Class EA Process for the proposed widening and realignment of Ross Street from Toronto Street to Bayfield Street to three lanes with buffered bicycle lanes and sidewalks on both sides. Intersection improvements will be considered for the intersection of Ross Street, Collier Street and Bayfield Street including signalization, roundabout or traffic operations improvement in the downtown traffic analysis study area. Improvements would extend to Collier Street and Clapperton Street.

The project will obtain environmental clearance and seek stakeholder consensus for the improvements that will include definition of the municipal servicing to properties, roadway entrance locations, property requirements, stormwater management, sidewalks and bike lanes to support multiple modes of travel (pedestrian, bicycling, transit, vehicular traffic and truck traffic).

The roadway plan will establish the servicing for the land use plan to accommodate potential residential and commercial redevelopment for the next 30-50 years. It will need to have flexibility to accommodate future modifications to the lot fabric and land uses.

This report is the initial public document for the Ross/Collier/Bayfield Streets EA Study. It presents a blueprint of the Work Plan and Study Process for the planning and design of this future transportation project.

1.2 Study Area

The project location is within the City of Barrie. The Study will define the entire right-of-way protection plan to accommodate:

- Proposed horizontal alignment;
- Vertical alignment;
- Intersection modifications;
- Intersection treatments;
- Cross section elements (sidewalks, boulevards, bicycle lanes or shared lanes);
- Utilities and municipal services;
- Lighting;
- Driveway entrance locations; and
- Any required widening to accommodate grading.

The Study Area, illustrated in Figure 1, consists of Ross Street from Toronto Street to Bayfield Street (including both intersections); Bayfield Street from Ross Street to Collier Street (including both intersections); and, Collier Street from Bayfield Street to Clapperton Street (including both intersections).

The traffic analysis will involve a wider study area, as shown in Figure 1.
Figure 1: Study Area
1.3 Background
Ross/Collier/Bayfield is an east-west two-lane collector road with an urban cross section providing access to residential and commercial properties in downtown Barrie. Due to increased traffic volumes in the downtown core, the proximity of signalized intersections, the volume of pedestrians and recommendations from the MMATMP, there is a need to optimize the road network. Existing infrastructure limits the opportunity for road widening through downtown, therefore the offset T-intersections at Ross/Collier/Bayfield are recognized to be a critical location for improving traffic operations through the downtown core.

The current offset intersections restrict the movement of through traffic for Collier and Ross Streets and the conflicting left turn movements on Bayfield Street can result in gridlock. Intersection improvements will consider: realignment of Ross Street to Collier Street; construction of a roundabout at Ross/Bayfield Streets; or signalization of the intersection. With realignment of Ross and/or Collier Streets the installation of traffic signals in such close proximity would create a challenge for signal coordination and issues related to traffic queueing through the adjacent signals. Roadway widening is limited by the adjacent development; however, opportunities for auxiliary lanes and accommodating all active modes of transportation will be major considerations along with other municipal infrastructure improvements.

The City of Barrie “Waterfront/Downtown Transportation Improvements Class Environmental Assessment” dated December 2004, examined the need for improvements in the area of Lakeshore Drive, Bradford Street, Simcoe Street and Toronto Street. The Phase 3 and Phase 4 Class EA reviewed a subset of the previous Phase 1 and Phase 2 Class EA “Waterfront/Downtown Transportation Improvements Needs Assessment” dated November 2002, which had included the intersections of Ross Street and Collier Street at Bayfield Street within the study area.

A City of Barrie staff report, dated September 8, 2003, appended in the 2004 Class EA, indicated that the intersections of Ross Street and Collier Street at Bayfield Street operated inefficiently and that the 1999 Transportation Study by Read, Voorhees Ltd recommended realignment of the Ross/Bayfield/Collier intersection. Realignments considered, and presented to the public, as part of the 2002 Class EA, were: Collier Street to the north, Ross Street to the south and a combination of both. The recommended alignment, as shown in Figure 1, realigned Ross Street to the south. This option was generally consistent with the 1999 Transportation Study and was generally supported by the public, while not impacting the historically significant building on the northeast corner of the intersection of Collier and Bayfield Streets (or the Barrie Community Health Centre or Youth Centre occupying part of the building).

The final EA report was not advertised for a 30 day review period. The City chose to adopt the preferred alternative for planning purposes only because implementation was anticipated to occur beyond the 10 year window allowed under the Environmental Assessment Act.
Figure 2: City of Barrie Waterfront/Downtown Transportation Improvements Class EA (2004)
1.4 Need and Justification
The Multi-Modal Active Transportation Master Plan (MMATMP) addressed Phases 1 and 2 of the five-phase Municipal Class EA Process for City-wide transportation improvements.

Ross Street is an existing 2-lane major collector with an urban cross-section and sidewalks on both sides. The MMATMP recommends widening this road to 3 lanes with the addition of a continuous two way left turn lane, buffered bicycle lanes and sidewalks on both sides. This project will include an assessment of intersection alternatives at the intersection of Ross Street, Collier Street and Bayfield Street including signalization, roundabout or traffic operations improvements in the downtown traffic analysis study area. Transportation improvements would extend to Collier Street and Clapperton Street.

As part of the road widening, intersection improvements will be determined for each intersection within the study area as per the traffic operations assessment. In addition, all proposed improvements will be developed in consideration of lane widenings identified for 2031 and 2051 where applicable.

The intersection of Ross Street, Collier Street and Bayfield Street was previously studied as part of the Downtown/Waterfront Transportation Improvements Class EA. This study recommended the realignment of Ross Street to the south (through 56/66 Bayfield Street) to align with Collier Street. Council adopted this recommendation for planning purposes. The City wishes to re-evaluate alternatives for this intersection that improve traffic operations in the downtown and mitigate existing traffic congestion on Dunlop Street and Simcoe Street. This re-evaluation will include a traffic operation assessment of the downtown core.

As part of the transportation improvements, municipal infrastructure renewal is required. Renewal will be dependent on the project limits established by the preferred alternative design solution.

2.0 Study Approach
This Study will be completed as a standalone EA study meeting the requirements the Municipal Class EA. The final document will be an Environmental Study Report (ESR).

This project will complete all requirements of a Schedule C project under the Municipal Class EA by establishing the need and justification for the project, considering all reasonable alternatives with acceptable effects on the natural, social and cultural environments, and proactively involving the public in defining a recommended plan for improvements. Should the project trigger federal approvals, the documentation will present recommended mitigation measures to satisfy federal requirements in principle.
2.1 Guiding Principles
The study approach includes the following Ministry of the Environment and Climate Change’s (MOECC) five guiding principles for EA studies, namely:

- Consider all reasonable alternatives;
- Provide a comprehensive assessment of the environment;
- Utilize a systematic and traceable evaluation of net effects;
- Undertake a comprehensive public consultation program; and,
- Provide clear and concise documentation of the decision-making process and public consultation program.

2.2 Environmental Assessment Act Requirements
The Environmental Assessment will follow the Class EA process meeting the requirements of the Municipal Class EA (amended 2011 and 2015).

Based on the range of anticipated effects and capital cost of the project, the study is being initiated as a Municipal Schedule C project.

This Schedule C project will include two Public Information Centres (PICs) and will conclude with the preparation of an ESR report. Following this approach the public will be provided a 30-day review period at the Study conclusion. As the initial step in the Class EA process this Study Design Report is being made available to the public as the discretionary Step 1.2 in the Municipal Class EA process illustrated in Figure 3.

The public and agencies will have this initial opportunity to comment on the proposed approach.

2.3 EA Phases

2.3.1 Municipal Class EA
The Municipal Class EA Process is illustrated in Figure 3.

The following is the specific breakdown of tasks by phase for a Municipal Schedule C project:

Phase 1: Identify the Problem (completed by the MMATMP)
Step 1: Identification and description of the problem or opportunity.
Step 2: Discretionary public consultation (Draft Study Design available on the City’s website).

Phase 2: Alternative Solutions (completed by the MMATMP)
Step 1: Identification of alternative solutions to the problem.
Step 2: Identify the study area and a general inventory of the natural, social and cultural environments.
Step 3: Identification of the net positive and negative effects of each alternative solution.
Step 4: Review and validation of Alternative Solutions considered by TMP and preliminary recommendation of a preferred solution.
Step 5: Identification of reasonable design alternatives for the preferred solution.
Step 6: Public consultation at PIC No.1.

Step 7: Confirmation; finalization of Study Design for work program; and refinements and/or addition of design alternatives to be carried forward for Phase 3.

Step 8: Selection of the preferred solution, following public and agency review.

**Phase 3: Alternative Design Concepts for the Preferred Solution**

Step 1: Identification of alternative designs.

Step 2: Preparation of a detailed inventory of the social and economic environments.

Step 3: Identification of the potential impacts of the alternative designs.

Step 4: Evaluation of the alternative designs.

Step 5: Public consultation at PIC No. 2.

**Phase 4: Environmental Study Report (ESR)**

Step 1: Completion of the ESR.

Step 2: 30-day public review period

Step 3: File the ESR and Notice of Completion.

**Phase 5: Implementation**

Future phase after this Study.

A simplified generalized EA process is illustrated in Figure 4.
1. IDENTIFY PROBLEM OR OPPORTUNITY

2. DISCRETIONARY PUBLIC CONSULTATION TO REVIEW PROBLEM OR OPPORTUNITY STUDY COMMENCEMENT NOTICE – STUDY DESIGN AVAILABILITY

3. INVENTORY NATURAL, SOCIAL, ECONOMIC ENVIRONMENT

4. EVALUATE ALTERNATIVE DESIGN SOLUTIONS, IDENTIFY RECOMMENDED SOLUTIONS

5. CONSULT REVIEW AGENCIES & PREVIOUSLY INTERESTED & DIRECTLY AFFECTED PUBLIC

6. SELECT PREFERRED DESIGN SOLUTION (A PROJECT)

7. PRELIMINARY FINALIZATION OF PREFERRED DESIGN

8. REVIEW ENVIRONMENTAL, SIGNIFICANT & CHOICE OF SCHEDULE

9. DISCRETIONARY PUBLIC CONSULTATION ON REVIEW PREFERRED DESIGN

10. PART II ORDER GRANTED, PROCEED WITH INDIVIDUAL EA OR ABANDON PROJECT

11. PART II ORDER GRANTED AS PER MINISTERS DIRECTION OR ABANDON PROJECT

12. NOTICE OF COMPLETION TO REVIEW AGENCIES & PUBLIC

13. COPY OF NOTICE OF COMPLETION TO MOE EA BRANCH

14. OPPORTUNITY TO REQUEST MINISTER WITHIN 25 DAYS OF NOTIFICATION TO REQUEST AN ORDER

15. MATTER REFERRED TO MEDIATION

16. PART II ORDER DENIED WITH EA WITHOUT MINISTERS CONDITIONS

17. COMPLETE CONTRACT DRAWINGS AND TENDER

18. PROCEED TO CONSTRUCTION AND OPERATION

19. MONITOR FOR ENVIRONMENTAL PROVISIONS AND COMPLIANCE

20. IMPLEMENTATION

DETERMINE APPLICABILITY OF MASTER PLAN APPROACH

Note: This flowchart is modified from the Provincial Association of Water & Wastewater Authorities Municipal Class Environmental Impact Assessment Manual (June 2008) and approved by the Minister of the Environment on Oct. 2008.
Figure 4: Generalized Study Process
3.0 Study Process

3.1 Public Consultation Approach

The study will use several techniques to proactively involve the public including Public Information Centres (PIC’s), and meetings with external agencies. Meetings will be organized with a Technical Advisory Committee (TAC), and will include as a minimum, Lake Simcoe Region Conservation Authority (LSRCA), and Emergency Services. These meetings will be in addition to the progress meetings with the Project Team.

The use of separate meetings with project team and interest groups will ensure a high level of communication with the community on issues and alternatives.

Two rounds of Public Information Centre meetings will be held to present the project, the assessment of opportunities, the preliminary transportation improvement alternatives and the prioritization of improvements. The PIC’s will be an integral component of the studies - seeking input and comments from the local road users/stakeholders.

With respect to public involvement, the work program proposes the following key elements:

- Study commencement notice and PIC notices in local papers.
- Maintaining and updating study mailing lists.
- Facilitating a Value Planning workshop with agency, City and stakeholders early in the Study to solicit opinions and receiving early input to prepare the draft Study Design.
- Submission and review of a Draft and Final Study Design Report (Scoping Document) that will be available on the City’s web site for public review
- PIC No. 2 (1st PIC for this project stage) will present the project goals, problem and opportunity statement, Draft Study Design (Work Plan), environmental inventories, traffic analysis, assessment of Planning Solutions and seek public/agency input. A session will be scheduled to present information to agencies and elected officials in advance of the public.
- PIC No. 3 (2nd PIC for this project stage) will present the assessment of design alternatives and the Technically Preferred Alternative (TPA) for the Study Area. Council members will be invited to an advance session of the PIC and the consultant will be available to present to Council in advance of the public meeting.

Note: PIC No. 1 occurred as part of the MMATMP. This project will have two PICs: PIC No. 2 and PIC No. 3.

It is essential that there be contact and interaction with the following major agencies and groups including: First Nations, Public, DFO (Federal Fisheries Act), LSRCA, Ministry of Natural Resources and Forestry (MNRF), Ministry of the Environment and Climate Change (MOECC), Ministry of Tourism, Culture and Sport (MOTCS), and Utility Companies.
3.2 Work Program

The major elements of the technical work program to be completed include the following:

Task 1: Project Start-Up

Upon initiation of the projects, meetings will be held to: review study scope; budget and schedule; establish membership, meeting dates and role of the Project Team, Staff Technical Committee, and Stakeholder’s Group; review the Notice of Study Commencement; and prepare all required agreements. The Project Team and Staff Technical Committee will provide guidance into the technical elements of the study including the study issues, data collection, and weighting of factors and the evaluation of alternatives.

Task 2: Information Gathering

The collection and organization of the data necessary for the analysis, evaluation and design activities will include:

- Assembly and review of study materials;
- Field reviews and the collection of photographs to maintain a visual record of existing conditions;
- Collect reports and modelling data/output from the City’s MMATMP;
- Review the Official Plan, relevant Official Plan Amendments and Secondary Plans;
- Gather existing natural/social environmental inventories and stormwater reports; and
- Review of existing and projected traffic volumes as identified in any area traffic studies and the Multi-Modal Active Transportation Master Plan (MMATMP).

Task 3: Study Design and Value Planning Workshop

This Study Design document will help establish the foundation for all of the remaining environmental planning and public consultation processes. The Study Design allows the early identification of the major issues and concerns, and in addition, recognizes areas of consensus or agreement and defines the Problem Statement. The preliminary identification and assessment of Planning Solutions/Alternatives to the Undertaking in the Study Area will be presented in this report for public/agency review and comment.

An early Value Planning workshop will be organized for the TAC to attend. This early workshop will allow open discussion with stakeholders as an event before the study presents any conclusions.

Task 4: Transportation Analysis

The transportation analysis will build upon the previous work that has been completed. The operational implications of existing and projected traffic demands and the improvement alternatives will be examined. In this regard, the transportation analysis will involve the following key tasks:

- An initial review of the previous traffic modelling activities;
- Documentation of existing profile of road users including all modes of travel (vehicular, bicycles,
pedestrians and emergency services);
- Analysis of forecast traffic demands and future projections, and identification of level of service for roadway links and intersections (building and documenting on previous forecasts) for land use development;
- Examination of area collision histories to identify areas of concern and possible improvement opportunities; and identification of existing /future operational problems and timelines for need for additional capacity of the transportation network;
- Providing input into the performance of each alternative (traffic operation and safety); and
- Confirmation of the need and justification for roadway improvements and timing.

The Traffic Analysis will provide documentation of the Synchro modelling within the study area and measure the operational performance of intersections and roadway links. The traffic report will also provide recommendations on the timing of the improvements. This analysis will be used to identify the preliminary design level of geometric needs of the various alternatives (i.e. storage lengths, auxiliary lanes, signal/traffic controls, etc.) and in addition, will be used to evaluate the impacts/benefits of the various competing alternatives.

**Active Transportation:**

The roadway design should reflect physical geometric design elements that match the community design objectives.

Safety of bicycle lanes and pedestrian crossings and potential buffering of any bicycle lanes will be key elements. The key task will be the development and approval of design criteria.

**Task 5: Inventory of Natural, Social and Cultural Environment**

**Social Environment:**

Areas of investigation include existing and proposed land uses, land use policies and regulations, aesthetics, recreation facilities, and links with pedestrian and cycling facilities. This will document the community plan of the existing and future land uses and form the baseline from which alternatives will be measured.

**Noise Analysis:**

The acoustical assessment for this project will determine existing daytime sound level contours and future sound levels associated with the improvements for areas with existing residential (noise sensitive) land uses. STAMSON noise software will be used for the noise assessment. Noise mitigation will be assessed in accordance with applicable standards and bylaws and the MTO Environmental Reference Manual. Any proposed noise mitigation will be consistent with the existing land uses and will define the future sound levels that might need to be mitigated by land developers and noise sensitive land uses in the study area. The need for mitigation will be preliminary based on the forecasted sound change created by the proposed improvements.
**Natural Habitat Assessment:**

This non-fisheries natural environment assessment will investigate and categorize the natural and near-natural habitats of the study area, identify native biodiversity and identify their supporting ecological functions. These investigations, aided through advance consultation with the Conservation Authority and/or Ontario Ministry of Natural Resources and Forestry, will particularly address the potential for agency-designated significant features and functions as well as any provincially or regionally rare or ecologically significant features to be present. Particular attention will be paid to the potential occurrence of designated Species at Risk (SAR).

**Cultural Heritage:**

A desktop assessment of available historical sources, mapping and City of Barrie information to identify potential for significant cultural heritage resources within or adjacent to the study area will be completed. The local heritage staff will be contacted to determine if any listed or designated properties are located within or adjacent to the study area. A technical memorandum outlining the preliminary screening will be completed, recommending whether additional study may be necessary to confirm the presence of cultural heritage resources; assess the potential impact of any of the selected alternatives; and identify mitigation measures that may be required to reduce adverse impacts to any identified cultural heritage resources.

**Archaeology:**

The Stage 1 archaeological assessment to be undertaken for this project will be conducted in accordance with the Ministry of Tourism, Culture and Sport (MTCS) Standards and Guidelines for Consultant Archaeologists (2010).

The objectives of a Stage 1 archaeological background study are: to develop an inventory of archaeological resources in the proposed area; to determine the presence of any archaeological sites in the area; and, to recommend appropriate strategies for future planning consideration. This will be accomplished by conducting detailed documentary research of the land use, archaeological history, and present condition of the property. This information will be gathered by reviewing the National Archaeological Site Registration Database. The data gathered will advise of the location, type, and significance of registered archaeological sites for a typical radius of one kilometre around the subject property. Reviewing the registered archaeological site database will identify significant heritage resources on or adjacent to the study area, and will summarize the form and extent of previous cultural heritage investigations undertaken within the general project vicinity.

**Landscape Architecture:**

The aesthetics of the corridor will be evaluated and recommendations for complementing/enhancing the aesthetics of the roadway will be incorporated into the preliminary streetscape design. Urban/rural corridor
‘greening’ techniques will be recommended in appropriate areas in consideration of City standards. These techniques could include plantings for canopy cover, buffer plantings, riparian zone restoration and general aesthetic upgrades to the roadway. The use of salt tolerant, drought tolerant and native species wherever appropriate will be recommended.

**Tree Inventory Plan and Arborist Report:**

The inventory component of this project is anticipated to take approximately one day to complete for each study area, with an anticipated delivery of a preservation plan and an arborist report two weeks following the completion of field work. The report component of the program will identify trees that pose a specific risk, as well as any trees that may require removal or specific preservation criteria dependent upon the type and limits of construction, construction staging areas, and access points to successfully complete the work.

**Task 6: Technical investigations**

**Illumination:**

The existing roadway illumination will be reviewed. Available documentation will be studied and the design criteria for the roadway classification will be established. Based on these site investigation findings and the proposed roadway design, the requirements for illumination will be determined and identified. Lighting calculations with photometric printouts for various alternatives will be carried out.

**Topographic & Legal Survey:**

A detailed topographic & legal survey will be completed within the project limits and extended as necessary where topography might deal with grading/elevation differences. The survey will establish the location of property lines in the project limits.

**Drainage and Hydrology:**

The drainage and storm water management design criteria will be confirmed with the City. Hydrologic calculations will be performed to determine the flows for the 2 to 100 year return period rainfall events, including regulatory event, and to establish the capacities of the existing and required system. As the various alternatives are developed, the corresponding drainage and storm water design will be developed and detailed in a storm water management plan, sufficient to permit identification of constraints and prepare preliminary cost estimates. The following is a breakdown of the drainage and hydrology work plan:

1. Background information review, field investigations, and documentation of existing conditions;

2. Determining the design criteria for drainage and stormwater management, and conceptual storm water management; and

3. Completion of hydrology studies, analyze conveyance system alternatives, preliminary design, and final design of the recommended solution.
**Watermain and Sanitary Sewer**

Watermain and sanitary sewer improvements and upgrades in the study area will also be identified. This will include location and analysis of existing facilities, and detailed design of the new alignments, services, tie-ins etc.

**Task 7: Development, Analysis and Evaluation of Alternatives**

As previously noted, the consideration of all reasonable alternatives is a guiding principle for EA studies. The context sensitive design roadway alignment, cross section, intersection alternatives will be generated through discussions with the City, Project Team, Stakeholders Group, agencies and the general public. The list of design alternatives will be confirmed with the public, as required as part of the EA process, including the “Do Nothing” option. These alternatives will consider the community and planning visions of the study area.

This study will include a systematic, traceable analysis and evaluation of the needs in the study area, the process used to identify alternatives and the methodology used to analyze and evaluate alternative planning solutions. Additionally, this assignment will include a comprehensive public consultation programme which will assist in the development of a recommended plan.

The identification of evaluation criteria will include potential factors such as roadway level of service, traffic safety, property impacts, noise, natural environment and cost. The evaluation process Multi Attribute Trade-off System (MATS) will assign a “weight” to each criteria and an iterative process will be used for the evaluation of individual competing alternatives. The iterative process will involve one, or possible two levels of evaluation and sensitivity testing.

The evaluation process is transparent and can be readily defended where significant trade-offs are involved. The Project Team and Staff Technical Committee will participate in weighting exercises to provide direct input into the decision-making process.

The evaluation and analysis of design alternatives will identify all improvement options and associated cost estimates including lifecycle costs, development charges, alternative construction/material options, proposed timeline and innovative solutions.

Based on the results of the MATS evaluation results, a technically preferred alternative (TPA) will be identified. A technical memorandum outlining the results of the MATS process/Analysis and Evaluation will be completed and will include: the assessment of alternatives to the undertaking; generation and assessment of preliminary design alternatives; evaluation criteria (i.e. environmental inventories and technical investigations); selection of the technically preferred alternative; and alternative refinements to the technically preferred alternative (if applicable).

**Task 8: PIC No. 2* (1st project PIC)**

Public Information Centre (PIC) No. 2 will present the Problem Statement,
Draft Study Design, and our preliminary analysis of Planning Alternatives. This meeting will be consistent with our open and objective fresh approach to the study. We will listen before decisions are made. It will present preliminary recommendations for a basket of solutions.

PIC No. 2 will summarize the traffic and needs analysis, the environmental inventories, an initial list of preliminary design alternatives and potential coarse screening of those planning alternatives. The public will be given the opportunity to provide input on the priorities of evaluation criteria “Factor Groups”.

**Task 9: PIC No. 3* (2nd project PIC)**

The second Public Information Centre will present the detailed MATS evaluation of alternatives and recommendation for a Preferred Plan. This will quantify measurable differences between the options (performance and environmental effects). This evaluation will present a sensitivity analysis of the distribution of weights by evaluators for the evaluation criteria, which will demonstrate the trade-offs involved in the Study.

Each PIC will include coloured graphics and text boards to describe the process and opportunities for the public to provide comment. In addition, we will hold an initial viewing and briefing of the materials for elected officials and external agencies (afternoon) before opening the meeting to the public (evening).

* PIC No. 1 occurred as part of the MMATMP. This project will have two PICs, PIC No. 2 and PIC No. 3.

**Task 10: Preparation of Environmental Study Report (ESR)**

The preparation of the draft and final report will follow the format and content for an ESR accepted by MOE. The ESR will document the study methodology, findings, public involvement and recommendations. A draft version will be submitted to the City and external review agencies and made available for PIC No. 3. After PIC No. 3, the document will be updated and finalized. A presentation will be made to City Council.

The project schedule includes a provisional presentation of the ESR at the General Information Committee meeting.

**Task 11: Public Notification of the PIC/ESR**

Individual letters (or emails) will be sent to persons/organizations on the contact lists maintained throughout the course of the study advising of the PIC dates and availability of the ESR. The ESR is anticipated to be available for PIC No. 3.

The ESR will be made available for review on the project website, City Hall (Clerks Office and 6th Floor Engineering), the Downtown and Painswick Libraries.
4.0 Study Schedule
A draft schedule for this Study is shown in Table 1.

<table>
<thead>
<tr>
<th>TASKS</th>
<th>DATES</th>
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<tbody>
<tr>
<td>Project Start-up Meeting</td>
<td>August 2016</td>
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<tr>
<td>Study Design</td>
<td>September 2016</td>
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<tr>
<td>Alternative Design Solutions</td>
<td>September 2016</td>
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<tr>
<td>Assessment of Planning Alternatives</td>
<td>September 2016</td>
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<tr>
<td>Value Planning Workshop</td>
<td>September 7, 2016</td>
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<tr>
<td>PIC No. 2</td>
<td>Fall 2016</td>
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<tr>
<td>Transportation Analysis</td>
<td>Fall 2016</td>
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<td>Municipal Infrastructure Memorandum</td>
<td>Fall 2016</td>
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<td>Archaeological Assessment</td>
<td>Fall 2016</td>
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<td>Built Heritage and Cultural Heritage Assessment</td>
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<td>Natural Heritage Impact Assessment</td>
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<td>Arborist Report/Tree Survey</td>
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<td>Complete Draft Final ESR / Initiate 30% Detailed Design</td>
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<td>Spring 2017</td>
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5.0 Assessment of Planning Solutions

This section is a summary of the recommendations from the MMATMP. For a full assessment, please refer to the original report.

Alternative Planning Solutions represent alternative ways or methods of addressing the problem to be solved by the project. These reflect different strategies and include the “Do Nothing” approach (maintaining the status quo). Following the assessment of Alternative Planning Solutions, those alternatives judged to address the problem statement will be carried forward and will form the Recommended Planning Solution. The recommended planning solution will address the problem statement required to plan for the safety of the travelling public, while providing the best overall balance between transportation engineering objectives, life cycle costs, and other environmental, cultural, socio-economic, and land use planning objectives.

The City’s MMATMP has previously identified the need for a roadway and intersection improvements.

5.1 Alternative Planning Solutions

In determining the preferred planning alternative for the City, Alternative Planning Solutions were analyzed in the MMATMP. These included:

1) Do Nothing;
2) Transportation Demand Management;
3) Limited Land Use planning; and,
4) Provide Transportation / Municipal Infrastructure.

The “Do Nothing” Alternative – as mandated by the Class EA, must be considered. It represents a baseline from which other approaches can be compared.

Transportation Demand Management (TDM) – This strategy would reduce vehicular demand and would encourage more active modes of transportation (cycling and walking).

Limited Land Use Planning – this strategy would be an approach that would limit any new residential development and therefore eliminate the need for roadway improvements.

Provide Transportation / Municipal Infrastructure – This strategy would be to provide roadway and intersection improvements to accommodate future demand and vehicular turning movements.

Coarse Screening of Planning Solutions

Based on traffic demands, the “Do Nothing” alternative and Limited Land Use Planning are not recommended to be carried forward.

TDM is not carried forward as a standalone solution, but rather will be incorporated with the Provide Transportation/Municipal Infrastructure alternative as a Recommended Solution. This recommendation is consistent with
the findings of the MMATMP and will be presented to the public at PIC No. 2. Should no objection to this recommendation be received by the public at PIC No. 2, then it will be accepted and the study will continue forward to assess preliminary design alternatives.

5.2 Preliminary Design Alternatives
Preliminary design alternatives are site specific design solutions to implement the recommended planning solution. The following sections describe the consideration of roadway and intersection improvements. The assessment of roadway and intersection improvements will be presented at PIC No. 2.

5.2.1 Study Area Evaluation Areas
The study area will be divided into two sub-study areas to reflect the problem statement/needs of each geographic area and to allow alternatives that address these needs. The sub-study areas include:

Study Area 1: Ross Street from Toronto Street to Bayfield Street, cross section alternatives

Study Area 2: Collier Street connection to Ross Street, intersection alternatives.

5.2.2 Coarse Screening of Preliminary Design Alternatives

Study Area 1 Cross Section Alternatives:
The long list of preliminary design alternatives for the roadway includes the following:

- 2-lane urban (Do Nothing)
- 3-lane continuous centre turn lane urban
- 4-lane urban
- 3-lane urban with improvements for active transportation

The recommendation from the MMATMP is to carry forward the 3-lane urban cross section with improvements for active transportation. This recommendation will be presented at PIC No. 2 and should no comments be received to object to this recommendation it will be carried forward.

Study Area 2 Intersection Alternatives
The long list of intersection alternatives, illustrated in Figure 5, includes to the following:

- Alternative A: Existing geometrics and Traffic Control (Do Nothing);
- Alternative 0: Existing alignment with improved signalization (carried forward as Alternative B);
- Alternative 1A: Realignment of Ross to Collier with a signalized
intersection (carried forward as Alternative C);
• Alternative 1B to 1D: Four-leg roundabout with relocation of intersecting roadways (not carried forward);
• Alternative 1E: Three-leg roundabout (not carried forward);
• Alternative 1F and 1G: Three-leg roundabout (carried forward as Alternative E and F, respectively);
• Alternative 2A: Realignment of Ross to Collier with a signalized intersection (carried forward as Alternative D);
• Alternative 2B: Roundabout with relocation of intersecting roadways (not carried forward);
• Alternative 2C: Roundabout with relocation of intersecting roadways (45 m diameter) (carried forward as Alternative G).
• Alternative 2D: Roundabout with relocation of intersecting roadways (35 m diameter) (carried forward as Alternative H);
• Alternative 3: Block roundabout; and,
• Alternative 4: Roadway realignment of Ross and Collier using one-way east/west roadways with provision for green space or parking.

Those alternatives not carried forward are due to a limited amount of geometric space available to accommodate individual legs of the roundabout, do not provide sufficient left turn storage and/or do not accommodate turning movements.

The alternatives carried forward were renumbered as alternatives A to H as presented in Figure 6, Figure 7 and Figure 8. These carried forward alternatives may have a 35 m, 40 m or 45 m radius, shown in Figure 9.
Figure 5: Long List of Ross/Collier/Bayfield Intersection Alternatives
Figure 6: Carried Forward Intersection Alternatives A, B and C
Figure 7: Carried Forward Intersection Alternatives D, E and F
ALTERNATIVE CONCEPT G
ROSS-COLLIER REALIGNMENT WITH FOUR LEGGED ROUNDBOUT (45m DIAMETER)
✓ -Preliminary Recommendation to Carry Forward

ALTERNATIVE CONCEPT H
ROSS-COLLIER REALIGNMENT WITH FOUR LEGGED ROUNDBOUT (35m DIAMETER)
✓ -Preliminary Recommendation to Carry Forward

Figure 8: Carried Forward Intersection Alternatives G and H
Figure 9: Range of Roundabout Inscribed Circle Diameters under Design Consideration
Road Improvements for Active Transportation

Road improvement alternatives for active transportation will include but not be limited to the following:

- Raised cycle tracks and sidewalks on both sides of Ross Street;
- Shared bike/vehicular lane;
- Dedicated bike lanes (1.5-2.0 m) and sidewalks on both sides of Ross Street;

Two cross-section alternatives for Ross Street will be carried forward for evaluation and are shown in Figure 10. These alternatives carried forward would facilitate the implementation of the MMATMP recommendations.

As the implementation of the intersection improvements is beyond the 10-year capital plan, alternatives are being studied that would facilitate the implementation of the MMATMP recommendations as an interim condition. The two alternatives carried forward for evaluation for Collier Street are illustrated in Figure 11. One alternative is being carried forward for Bayfield Street and is illustrated in Figure 12.

Sidewalk Alternatives

The sidewalk alternatives will include but are not limited to the following:

- 1.5 m sidewalk;
- 1.8 m sidewalk; and,
- 2.0 m sidewalk.

Road Alignment Alternatives

Road alignment alternatives for Ross Street includes the following:

- Widen to the north;
- Widen on the centre; and,
Figure 10: Ross Street Preliminary Alternative Concepts
Figure 11: Collier Street Preliminary Alternative Concepts
Figure 12: Bayfield Street Preliminary Alternative Concepts
Figure 13: TAC Sidewalk Requirements
6.0 Preferred Design Criteria
The design criteria for Bayfield Street and Ross/Collier Streets are illustrated in Table 1 and Table 2.

<table>
<thead>
<tr>
<th>Table 1: Design Criteria for Bayfield Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Class</td>
</tr>
<tr>
<td>Posted Speed</td>
</tr>
<tr>
<td>Design Speed</td>
</tr>
<tr>
<td>Minimum Horizontal Curve Radius</td>
</tr>
<tr>
<td>Maximum Superelevation</td>
</tr>
<tr>
<td>Minimum Vertical Crest Curve:</td>
</tr>
<tr>
<td>Crest:</td>
</tr>
<tr>
<td>Sag (headlight control):</td>
</tr>
<tr>
<td>Stopping Sight Distance</td>
</tr>
<tr>
<td>Lane Width</td>
</tr>
<tr>
<td>Bike Lane</td>
</tr>
<tr>
<td>Shared Bicycle Lane</td>
</tr>
<tr>
<td>Sidewalks</td>
</tr>
<tr>
<td>Right-of-way</td>
</tr>
<tr>
<td>Side Street Day-Lighting Distance Triangles:</td>
</tr>
<tr>
<td>Watermain Cover to Obvert (common)</td>
</tr>
<tr>
<td>Storm Cover to Obvert (common)</td>
</tr>
<tr>
<td>Sanitary Cover to Obvert (common)</td>
</tr>
<tr>
<td>Truck Route</td>
</tr>
<tr>
<td>Boulevard</td>
</tr>
<tr>
<td>Continuous Two Way Left Turn Lane</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 2: Design Criteria for Collier Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Class</td>
</tr>
<tr>
<td>Posted Speed</td>
</tr>
<tr>
<td>Design Speed</td>
</tr>
<tr>
<td>Minimum Horizontal Curve Radius</td>
</tr>
<tr>
<td>Maximum Superelevation</td>
</tr>
<tr>
<td>Minimum Vertical Crest Curve:</td>
</tr>
<tr>
<td>Crest:</td>
</tr>
<tr>
<td>Sag (headlight control):</td>
</tr>
<tr>
<td>Stopping Sight Distance</td>
</tr>
<tr>
<td>Lane Width</td>
</tr>
<tr>
<td>Bike Lane</td>
</tr>
<tr>
<td>Shared Bicycle Lane</td>
</tr>
<tr>
<td>Sidewalks</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Right-of-way</td>
</tr>
<tr>
<td>Side Street Day-Lighting Distance Triangles:</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Watermain Cover to Obvert (common)</td>
</tr>
<tr>
<td>Storm Cover to Obvert (common)</td>
</tr>
<tr>
<td>Sanitary Cover to Obvert (common)</td>
</tr>
<tr>
<td>Truck Route</td>
</tr>
<tr>
<td>Boulevard</td>
</tr>
<tr>
<td>Continuous Two Way Left Turn Lane</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Road Class</th>
<th>Major Collector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posted Speed</td>
<td>30-50 km/h</td>
</tr>
<tr>
<td>Design Speed</td>
<td>40-70 km/h</td>
</tr>
<tr>
<td>Minimum Horizontal Curve Radius</td>
<td>130 m</td>
</tr>
<tr>
<td>Maximum Superelevation</td>
<td>4 %</td>
</tr>
<tr>
<td>Minimum Vertical Crest Curve:</td>
<td></td>
</tr>
<tr>
<td>Crest:</td>
<td>K=24</td>
</tr>
<tr>
<td>Sag (headlight control):</td>
<td>K=20</td>
</tr>
<tr>
<td>Stopping Sight Distance</td>
<td>100 m</td>
</tr>
<tr>
<td>Lane Width</td>
<td>3.5 m</td>
</tr>
<tr>
<td>Bike Lane</td>
<td>1.5 m</td>
</tr>
<tr>
<td>Shared Bicycle Lane</td>
<td>4.5 m</td>
</tr>
<tr>
<td>Sidewalks</td>
<td>1.5 m to 2.0 m</td>
</tr>
<tr>
<td>Right-of-way</td>
<td>27 m</td>
</tr>
<tr>
<td>Side Street Day-Lighting Distance Triangles:</td>
<td>5 m (local to major collector)</td>
</tr>
<tr>
<td>Storm Cover to Obvert (common)</td>
<td>1.5 m</td>
</tr>
<tr>
<td>Sanitary Cover to Obvert (common)</td>
<td>2.5+ m or 2% from basement elevation</td>
</tr>
<tr>
<td>Truck Route</td>
<td>Yes</td>
</tr>
<tr>
<td>Boulevard</td>
<td>1.0 minimum</td>
</tr>
<tr>
<td>Continuous Two Way Left Turn Lane</td>
<td>4.0 m</td>
</tr>
</tbody>
</table>
7.0 Preliminary Design Considerations

The existing conditions in the study area present a variety of issues and constraints for the improvements to Ross/Collier/Bayfield Streets. Issues in the study area include:

**Transportation and Structures:**
- Accommodate major desire lines for vehicular and transit vehicles from Ross Street and Collier Street.
- The alternatives must accommodate requirements for access to businesses during and post construction.
- Accommodate wheel tracking of trucks and transit vehicles.
- Traffic capacity (accommodating turning movements).
- Accommodating safe active modes of transportation will be a focus (pedestrian friendly streetscapes and connectivity for cyclists are recognized as key components).
- Conflicts between bicycle lanes and existing on-street parking along Bayfield Street.
- Traffic impacts of design alternatives.
- The investigation and evaluation of minor and major gateways in the project area and the feasibility and impact of roundabouts and signalized intersections.

**Utilities:**
- Condition and capacity of the existing storm and sanitary sewers in the study area.
- Evaluation of future capacity requirements for storm and sanitary sewers.
- Location of existing utility conflicts within the study area.

**Social Environment:**
- Disturbances to businesses during construction.
- Protection and mitigation of negative effects on existing commercial buildings during construction.
- Considerations for vulnerable road users (pedestrians, cyclists etc.).
- Potential property impacts to commercial properties and potential encroachment on privately owned land.
- Potential impacts to development potential.
- Potential for archeological and heritage sites.
- Landscaping/Streetscaping which will include an assessment of existing features and planning of new landscaping and potential street furniture to increase aesthetics and historical significance.

**Natural Environment:**
- Stormwater best management practices for widened roadways and consultation with the City.
Engineering:

- Future right-of-way protection to accommodate utilities and services, stormwater management, sidewalks, curbs and cycling facilities.
- Geometric Design Standards and potential horizontal and vertical alignment adjustments.
- Investigation of existing commercial properties and the impact and control of any hazardous or deleterious materials used in their operations (including the effect of new construction).
- The proximity and operations of adjacent signalized intersections (such as the Barnes Dance/Pedestrian Phasing at Bayfield/Dunlop/Clapperton) limits available queuing space and opportunities for coordination.

- Potential signalization or roundabout at Ross Street/Collier Street.

Economics:

- Capital costs including property acquisition.
- Life cycle costs including operations and maintenance costs.

Evaluation and alternatives of using innovative design throughout the project area, including but not limited to LID techniques and innovative materials.
8.0 List of References

Reference 1: Multi-Modal Active Transportation Master Plan (City of Barrie), 2013
## Appendix A: Glossary of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AADT</td>
<td>Annual Average Daily Traffic – the average 24-hour, two-way traffic per day for the period from January 1st to December 31st.</td>
</tr>
<tr>
<td>Alignment</td>
<td>The vertical and horizontal position of a road.</td>
</tr>
<tr>
<td>Alternative</td>
<td>Well-defined and distinct course of action that fulfils a given set of requirements. The EA Act distinguishes between alternatives to the undertaking and alternative methods of carrying out the undertaking.</td>
</tr>
<tr>
<td>Alternative Planning Solutions</td>
<td>Alternative ways of solving problems or meeting demand (Alternatives to the Undertaking).</td>
</tr>
<tr>
<td>Alternative Design Concepts</td>
<td>Alternative ways of solving a documented transportation deficiency or taking advantage of an opportunity. (Alternative methods of carrying out the undertaking).</td>
</tr>
<tr>
<td>Alternative Project</td>
<td>Alternative Planning Solution, see above.</td>
</tr>
<tr>
<td>ANSI</td>
<td>Area of Natural or Scientific Interest</td>
</tr>
<tr>
<td>Berm</td>
<td>Earth landform used to screen areas.</td>
</tr>
<tr>
<td>BMP</td>
<td>Best management practice.</td>
</tr>
<tr>
<td>Bump-Up</td>
<td>The act of requesting that an environmental assessment initiated as a class EA be required to follow the individual EA process. The change is a result of a decision by the proponent or by the Minister of Environment to require that an individual environmental assessment be conducted.</td>
</tr>
<tr>
<td>Bypass</td>
<td>A form of realignment in which the route is intended to go around a particular feature or collection of features.</td>
</tr>
<tr>
<td>Canadian Environmental Assessment Act (CEAA)</td>
<td>The CEAA applies to projects for which the federal government holds decision-making authority. It is legislation that identifies the responsibilities and procedures for the environmental assessment.</td>
</tr>
<tr>
<td>Class Environmental Assessment Document</td>
<td>An individual environmental report documenting a planning process which is formally submitted under the EA Act. Once the Class EA document is approved, projects covered by the class can be implemented without having to seek further approvals under the EA Act provided the Class EA process is followed.</td>
</tr>
<tr>
<td><strong>Class Environmental Assessment Process</strong></td>
<td>A planning process established for a group of projects in order to ensure compliance with the Environmental Assessment (EA) Act. The EA Act, in Section 13 makes provision for the establishment of Class Environmental Assessments.</td>
</tr>
<tr>
<td><strong>Compensation</strong></td>
<td>The replacement of natural habitat lost through implementation of a project, where implementation techniques and other measures could not alleviate the effects.</td>
</tr>
<tr>
<td><strong>Consortium</strong></td>
<td>A group of businesses or organizations allied to take on a project.</td>
</tr>
<tr>
<td><strong>Corridor</strong></td>
<td>A band of variable width between two locations. In transportation studies a corridor is a defined area where a new or improved transportation facility might be located.</td>
</tr>
<tr>
<td><strong>Criterion</strong></td>
<td>Explicit feature or consideration used for comparison of alternatives.</td>
</tr>
<tr>
<td><strong>Cumulative Effects Assessment</strong></td>
<td>Cumulative Effects Assessment assesses the interaction and combination of the residual environmental effects of the project during its construction and operational phases on measures to prevent or lessen the predicted impacts with the same environmental effects from other past, present, and reasonably foreseeable future projects and activities.</td>
</tr>
<tr>
<td><strong>Decibel (dB)</strong></td>
<td>A logarithmic unit of measure used for expressing level of sound.</td>
</tr>
<tr>
<td><strong>dBA</strong></td>
<td>‘A’ weighted sound level; the human ear cannot hear the very high and the very low sound frequencies as well as the mid-frequencies of sound, and hence the predicted sound levels, measured in dBA, are a reasonable accurate approximation of sound levels heard by the human ear.</td>
</tr>
<tr>
<td><strong>Detail Design</strong></td>
<td>The final stage in the design process in which the engineering and environmental components of preliminary design are refined and details concerning, for example, property, drainage, utility relocations and quantity estimate requirements are prepared, and contract documents and drawings are produced.</td>
</tr>
<tr>
<td><strong>DFO</strong></td>
<td>Department of Fisheries and Oceans.</td>
</tr>
<tr>
<td><strong>EA</strong></td>
<td>Environmental Assessment</td>
</tr>
</tbody>
</table>
| **Environment** | **Air, land or water,**  
|                 | **Plant and animal life, including human life,**  
|                 | **The social, economic and cultural conditions that influence the life of humans or a community,**  
|                 | **Any building structure, machine or other device or thing made by humans,**  
|                 | **Any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities,**  
|                 | **Any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario.** |
| **Environmental Effect** | **A change in the existing conditions of the environment which may have either beneficial (positive) or detrimental (negative) effects.** |
| **Environmentally Sensitive Areas (ESA’s)** | **Those areas identified by any agency or level of government which contain natural features, ecological functions or cultural, historical or visual amenities which are susceptible to disturbance from human activities and which warrant protection.** |
| **Equivalent Sound Level (Leq)** | **The level of a continuous sound having the same energy as a fluctuating sound in a given time period. In this report Leq refers to 24-hour, 16 or 18-hour averages.** |
| **ESR** | **Environmental Study Report. The final documentation for Schedule C project, defining the project, consultation process, preferred solution and mitigation measures.** |
| **Evaluation** | **The outcome of a process that appraises the advantages and disadvantages of alternatives.** |
| **Evaluation Process** | **The process involving the identification of criteria, rating of predicted impacts, assignment of weights to criteria, and aggregation of weights, rates and criteria to produce an ordering of alternatives.** |
| **External Agencies** | **Include Federal departments and agencies, Provincial ministries and agencies, conservation authorities, municipalities, Crown corporations or other agencies other than MTO.** |
| **General Arrangement** | **Structural plan of the bridge and proposed works including elevations and cross-sectional views of the bridge.** |
| **Factor** | **A category of sub-factors.** |
| **HADD** | **Harmful Alternation, Disturbance or Destruction of fish habitat.** |
**City of Barrie – Ross/Collier/Bayfield Streets EA Study**  
**Study Design Report – November 2016**

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual Environmental Assessment</strong></td>
<td>An environmental Assessment requiring the submission of a document for approval by the Minister, pursuant to the EA Act and which is neither exempt from the EA Act nor covered by a Class EA approval.</td>
</tr>
<tr>
<td><strong>LSRCA</strong></td>
<td>Lake Simcoe Region Conservation Authority</td>
</tr>
<tr>
<td><strong>Mitigating Measure</strong></td>
<td>A measure that is incorporated into a project to reduce, eliminate or ameliorate detrimental environmental effects.</td>
</tr>
<tr>
<td><strong>Mitigation</strong></td>
<td>Taking actions that either remove or alleviate to some degree the negative impacts associated with the implementation of alternatives.</td>
</tr>
<tr>
<td><strong>MMATMP</strong></td>
<td>Multi-Modal Active Transportation Master Plan</td>
</tr>
<tr>
<td><strong>MNRF</strong></td>
<td>Ministry of Natural Resources and Forestry.</td>
</tr>
<tr>
<td><strong>MOECC</strong></td>
<td>Ministry of the Environment and Climate Change.</td>
</tr>
<tr>
<td><strong>MTCS</strong></td>
<td>Ministry of Culture, Tourism and Sport.</td>
</tr>
<tr>
<td><strong>MTO</strong></td>
<td>Ministry of Transportation Ontario.</td>
</tr>
<tr>
<td><strong>Noise Attenuation</strong></td>
<td>A mitigation measure used to lessen the intensity of the noise level (dBA) where the noise level is increased in a noise sensitive area greater than 5 dBA 10 years after completion.</td>
</tr>
<tr>
<td><strong>NSA</strong></td>
<td>Noise Sensitive Area is a noise sensitive land use, which has an outdoor living area associated with the residential unit.</td>
</tr>
<tr>
<td><strong>NVCA</strong></td>
<td>Nottawasaga Valley Conservation Authority</td>
</tr>
<tr>
<td><strong>OLA</strong></td>
<td>Outdoor Living Area is the part of an outdoor amenity area provided for the quiet enjoyment of the outdoor environment.</td>
</tr>
<tr>
<td><strong>PIC</strong></td>
<td>Public Information Centre (see POH).</td>
</tr>
<tr>
<td><strong>Planning Alternatives</strong></td>
<td>Planning alternatives are “alternative methods” under the EA Act. Identification of significant transportation engineering opportunities while protecting significant environmental features as much as possible.</td>
</tr>
<tr>
<td><strong>Planning Solutions</strong></td>
<td>That part of the planning and design process where alternatives to the undertaking and alternative routes are identified and assessed. Also described as “Alternative Project” under the federal EA Act.</td>
</tr>
<tr>
<td><strong>POH</strong></td>
<td>Public Open House (see PIC).</td>
</tr>
<tr>
<td><strong>Prime Agricultural Areas</strong></td>
<td>Prime agricultural areas as defined in municipal official plans and other government policy sources.</td>
</tr>
<tr>
<td><strong>Project</strong></td>
<td>A specific undertaking planned and implemented in accordance with the Class EA including all those activities necessary to solve a specific problem.</td>
</tr>
</tbody>
</table>
- **Project File**
  The final product of a Schedule B project. This is a completion of all data/reports produced for the project.

- **Proponent**
  A person or agency that carries or proposes to carry out an undertaking, or is the owner or person having charge, management, or control of an undertaking.

- **Public**
  Includes the general public, interest groups, associates, community groups, and individuals, including property owners.

- **Realignment**
  Replacement or upgrading of an existing roadway on a new or revised alignment.

- **Recommended Plan**
  That part of the planning and design process, during which various alternative solutions are examined and evaluated including consideration of environmental effects and mitigation; the recommended design solution is then developed in sufficient detail to ensure that the horizontal and vertical controls are physically compatible with the proposed site, that the requirements of lands and rights-of-way are satisfactorily identified, and that the basic design criteria or features to be contained in the design, have been fully recognized and documented in sufficient graphic detail to ensure their feasibility.

- **Route Alternatives**
  Location alternatives within a corridor.

- **SADT**
  Summer Average Daily Traffic – the average 24-hour, two-way traffic for the period from July 1st to August 31st including weekends.

- **Screening**
  Process of eliminating alternatives from further consideration, which do not meet minimum conditions or categorical requirements.

- **Sub-factor**
  A single criterion used for the evaluation. Each sub-factor is grouped under one of the factors.

- **Technical Advisory Committee**
  The Advisory Committee will include the City and Consultant. It will act as the decision-making body for the study recommendations.

- **TESR**
  Transportation Environmental Study Report

- **TMP**
  Transportation Master Plan

- **Traceability**
  Characteristics of an evaluation process which enables its development and implementation to be followed with ease.

- **Undertaking**
  In keeping with the definition of the Environmental Assessment Act, a project or activity subject to an Environmental Assessment.