

Ontario Ministry of Transportation

## **Highway 17 Planning Study**

**From 2.2 km east of Highway 531 easterly to 8.0 km east  
of Highway 630, GWP 5670-10-00**

## **STUDY DESIGN REPORT**

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**Date: March, 2013**

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# Table of Contents

	page
<b>1. Introduction and Purpose of Document .....</b>	<b>1</b>
<b>2. Study Process .....</b>	<b>2</b>
<b>3. Transportation Needs Assessment.....</b>	<b>4</b>
3.1 Function of Highway 17 .....	4
3.2 Statement of Problem and Opportunity .....	4
3.2.1 Highway Collision Overview .....	4
3.2.2 Highway Traffic Projections .....	6
3.3 Study Purpose .....	6
<b>4. Assessment and Selection of Alternatives to the Undertaking.....</b>	<b>7</b>
4.1 Rationale for and Assessment of Alternatives to the Undertaking .....	7
4.1.1 The Do Nothing Alternative .....	7
4.1.2 Optimize the Existing Area Transportation System.....	7
4.1.3 Expanded/ New Non-Road Infrastructure .....	7
4.1.4 Widen/ Improve Existing Municipal Arterial Roads or New Municipal Roads .....	8
4.1.5 Widen/ Improve Existing Provincial Highways and or Realign Provincial Highways .....	8
4.2 Selection of Alternatives to the Undertaking.....	9
<b>5. Alternative Methods for Carrying out the Undertaking and Evaluation Process.....</b>	<b>12</b>
5.1 Overview of Alternative Methods for Carrying Out the Undertaking .....	12
5.2 Selection of Preferred Highway Corridor Alternative.....	12
5.3 Highway Planning Alternatives .....	12
5.4 Highway Preliminary Design Alternatives.....	16
<b>6. Impact Assessment and Environmental Protection/Mitigation .....</b>	<b>17</b>
6.1 Impact Assessment Study .....	17
6.2 Environmental Protection/Mitigation .....	18
<b>7. Ongoing Stakeholder Consultation.....</b>	<b>19</b>
7.1 Consultation Plan.....	19
7.2 Key Stakeholders and Stakeholder Groups .....	19
7.3 Public Notices .....	21
7.3.1 Notification of Study Commencement .....	21
7.3.2 Notice of Filing of Study Design Report.....	21
7.3.3 Notice of Public Information Centre.....	21
7.3.4 Notice of Study Completion .....	21
7.4 External Consultation.....	21
7.4.1 Notice of Commencement Letter.....	21
7.4.2 Notice of Public Information Centre Letter .....	21
7.4.3 Notice of Public Information Centre Letter .....	22
7.4.4 Notice of Study Completion Letter.....	22
7.4.5 Initial Study Mailing List .....	22
7.4.6 Incorporation of Public/Regulatory Agency Feedback .....	22
7.4.7 Agency/Approval Authority Meetings.....	22
7.4.8 Consultation with the General Public and Interest Groups .....	22

7.4.9	Council Presentations .....	23
7.5	Public Information Centres (PICs) .....	23
7.6	Project Website .....	23
7.7	Issues/Concerns and Approaches Toward Resolving Concerns .....	24
<b>8.</b>	<b>Study Documentation – Transportation Environmental Study Report .....</b>	<b>25</b>
<b>9.</b>	<b>Project Environmental Clearance .....</b>	<b>26</b>
<b>10.</b>	<b>Statutory Context and Government Policies, including Formal Approvals Required .....</b>	<b>27</b>
10.1	Statutory Context .....	27
10.1.1	Environmental Assessment Act of Ontario .....	27
10.1.2	Class Environmental Assessment for Provincial Transportation Facilities .....	27
10.1.3	Canadian Environmental Assessment Act Requirements .....	28
10.1.4	Other Provincial and Federal Statutes .....	28
10.2	Government Policies Potentially Affecting the Study .....	28
10.2.1	The Provincial Policy Statement .....	28
10.2.2	Official Plans Applicable to Area Municipalities .....	29
10.2.3	MTO Environmental Standards and Practices .....	29
10.3	Formal Approvals Required .....	30
<b>11.</b>	<b>Work Required After Study Completion .....</b>	<b>31</b>

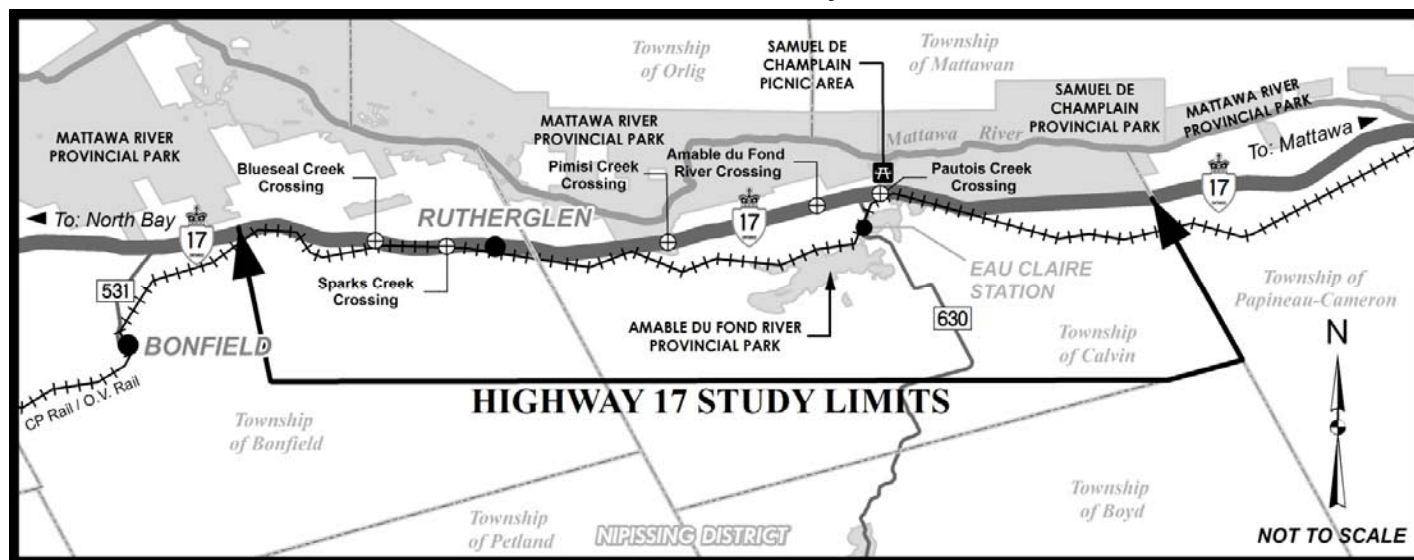
## List of Exhibits

Exhibit 1-1: Study Area .....	1
Exhibit 2-1: Study Process .....	3
Exhibit 3-1: Highway 17 and the Provincial Highway Network .....	4
Exhibit 3-2: Overview of Highway Collision Severity .....	5
Exhibit 3-3: Highway 17 Traffic Projections, from Highway 531 to Highway 630 .....	6
Exhibit 4-1: Assessment of Alternatives to the Undertaking .....	10
Exhibit 5-1: Highway Corridor for Further Study .....	13
Exhibit 5-2: Typical Cross-Section of Widened/Improved/Realigned Highway 17 .....	14
Exhibit 5-3: Criteria for Evaluation of Highway Planning Alternatives .....	15
Exhibit 7-1: Key Stakeholders and Stakeholder Groups .....	20

# 1. Introduction and Purpose of Document

The Ministry of Transportation (MTO) has retained AECOM to undertake a Planning, Preliminary Design and Class Environmental Assessment (Class EA) for a 23.5 km section of Highway 17 from Bonfield easterly to the boundary road between the Townships of Calvin and Papineau-Cameron, as shown in **Exhibit 1.1** below.

**Exhibit 1-1: Study Area**



This study is one of three separate Highway 17 route planning projects between North Bay and the Nipissing District/ Renfrew County boundary.

The purpose of this Study Design Report (SDR) is three-fold:

1. Outline the study process that MTO proposes to follow for the study and thereby provide a focus for early consultation as an important element in the Environmental Assessment process.
2. Document, for stakeholder review and comment, the planning decisions that have been made on a preliminary basis with respect to:
  - transportation needs assessment;
  - selection of alternatives to the undertaking; and
  - selection of the corridor for highway alternatives.
3. Provide the basis for moving the study forward with confidence once any stakeholder comments regarding the above have been addressed.

MTO will follow the plans and decisions outlined in this document unless:

- modifications are made as a result of the consultation conducted during the review of the Study Design Report; or
- new and directly applicable information is revealed during the course of the study, or a different study process is developed by MTO.

In either case, all affected parties will be apprised of the change.

## 2. Study Process

As indicated in Section 10.1.2, this Highway 17 study complies with the Class EA process for Group 'A' projects, which are undertakings that involve new facilities. The study was initiated as a Group 'B' project, but because it was determined there are viable highway realignment alternatives that are not as closely tied to the existing highway as originally anticipated, the project has been reclassified to Group 'A' under the '*Class Environmental Assessment for Provincial Transportation Facilities*'.

The EA study process is based on a sequence of decision-making in which alternatives are assessed at an increasing level of detail as they become more focused, starting with a broad perspective, and narrowing to a more focused perspective as the study progresses. The process of collecting additional environmental data as the project becomes more focused ensures that current information is sought and used throughout the study process. Stakeholders and stakeholder groups will be consulted/ engaged during the assessment and evaluation of alternatives, and to refine issues/concerns in an attempt to develop measures for resolving them.

Key steps in the study process are the following:

- **Transportation Needs Assessment:**
  - Undertake a transportation needs assessment to identify the problem and opportunity, and the need for improvements to Highway 17. Section 3 of this Study Design Report documents the transportation needs assessment for this study for stakeholder review and comment.
- **Transportation System Alternatives to the Undertaking:**
  - Assess alternatives to the undertaking and identify those that will be carried forward for further study. Section 4 of this Study Design Report documents the assessment and selection of alternatives to the undertaking for this Highway 17 study, for stakeholder review and comment.
- **Alternative Methods for Carrying Out the Undertaking**
  - Highway Corridor Alternatives:
    - Section 5.2 of this Study Design Report documents the selection of a preferred corridor alternative, for stakeholder review and comment.
  - Study Design Report to document the above;
  - Highway Planning Alternatives (see Section 5.3):
    - Generate and assess highway planning alternatives within the preferred corridor alternative, including highway realignments, highway widenings, interchanges and service roads.
    - Comparatively evaluate highway planning alternatives and select a preferred highway planning alternative.
  - Highway Preliminary Design Alternatives (see Section 5.4):
    - Generate and assess preliminary design alternatives for the preferred planning alternative.
    - Comparatively evaluate preliminary design alternatives to select a preferred preliminary design (the Recommended Plan) to assist municipalities, landowners and businesses with planning and development in the study area.
- **Impact Assessment and Environmental Protection/Mitigation for the Proposed Highway Improvements** (see Section 6):
  - Identify and assess potential environmental impacts of the proposed highway improvements through environmental investigations.

- Develop mitigation measures to address the identified environmental impacts associated with the proposed highway improvements.
- **Ongoing Stakeholder Consultation for the above** (see Section 7):
  - Consult with stakeholders (landowners; area residents; municipal, provincial, and federal representatives; etc.) on the above.
  - Public Information Centres (PICs) at key decision points.
- **Study Documentation** (see Section 8):
  - Prepare a Transportation Environmental Study Report (TESR) to document the study.
- **Project Environmental Clearance** (see Section 9)

The above key steps in the study process are illustrated in **Exhibit 2-1**.

**Exhibit 2-1: Study Process**



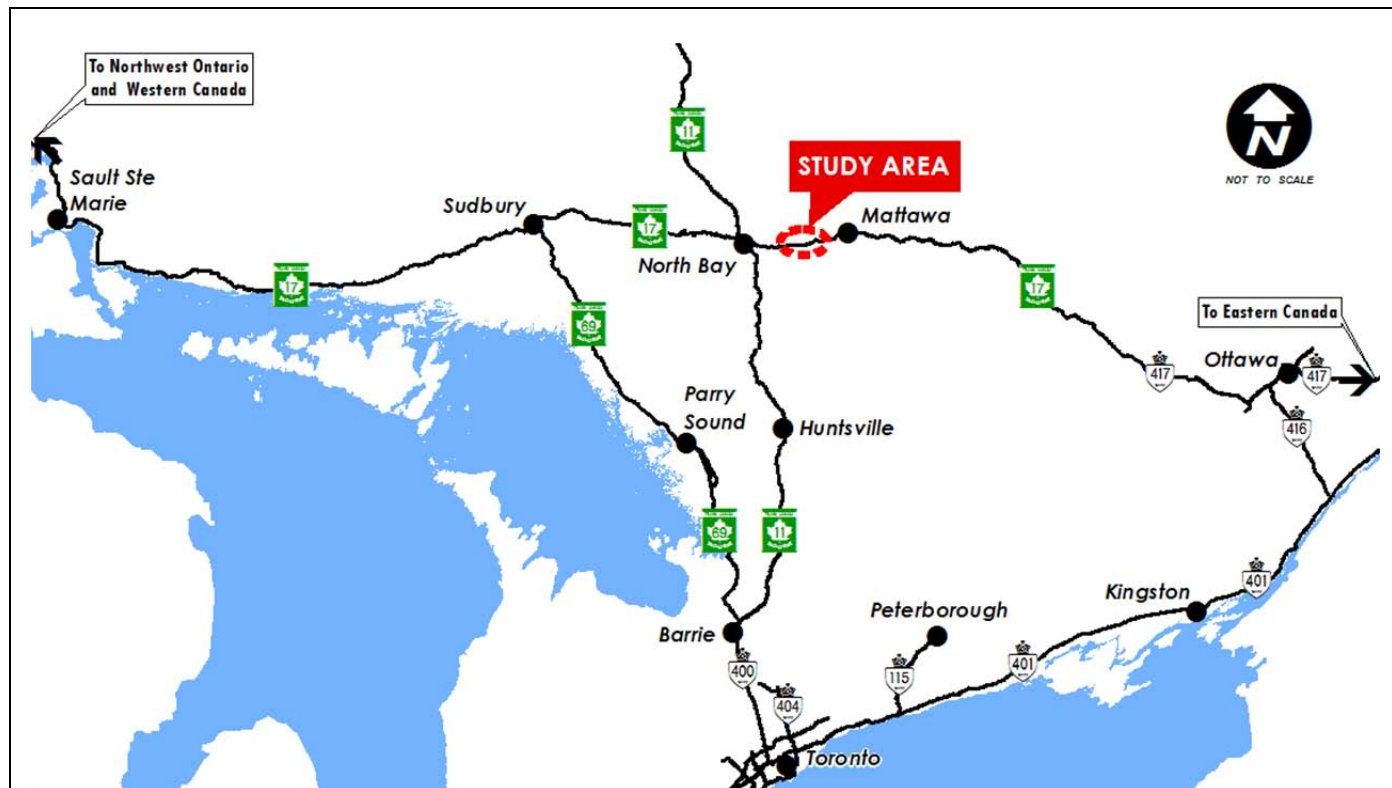


### 3. Transportation Needs Assessment

#### 3.1 Function of Highway 17

Highway 17 traverses northern Ontario, providing a strategic link in the Trans-Canada Highway. Besides providing for basic travel needs for residents as well as visitors to the area, this section of Highway 17 provides a transportation corridor for long haul trucks from eastern Canada to northern Ontario and western Canada (see **Exhibit 3-1**).

**Exhibit 3-1: Highway 17 and the Provincial Highway Network**



#### 3.2 Statement of Problem and Opportunity

The Province of Ontario is committed to provide and maintain a safe and efficient transportation system throughout Ontario. Highway 17 has been characterized as having several issues that require the attention of the Ministry of Transportation. These issues/concerns are defined in general terms as including the need to:

- improve highway safety (see highway collision overview in Section 3.2.1); and
- provide the additional highway traffic capacity that will be required for the 20-year planning horizon to 2035 (see highway traffic projections in Section 3.2.2).

##### 3.2.1 Highway Collision Overview

As shown in **Exhibit 3-2**, there have been a total of 149 collisions (57 of which were single-motor-vehicle collisions with animals) within the study corridor between 2004 and 2008 (5 years). The locations of the collisions involving

animals were generally dispersed over the entire study corridor but the following two segments have been identified as those with a cluster of collisions involving animals:

1. Highway 17 in the vicinity of Boundary Road (8 animal collisions recorded); and
2. Highway 17 east of Rutherglen (7 animal collisions recorded).

The current Accident Rate for Highway 17 within the study limits is 0.8 which is a little higher than the Provincial Accident Rate of 0.7. Accident Rate is defined as the number of reportable accidents occurring annually on a particular highway section for every million vehicle kilometres (MVKM) travelled on that section during the same period. "Reportable Accidents" are those causing any death, injury or property damage exceeding a certain established amount.

### Exhibit 3-2: Overview of Highway Collision Severity

Year	Fatal	Injury	Property Damage Only (PDO)	Grand Total
2004		4	21	25
2005		2	23	25
2006	1	3	30	34
2007		7	30	37
2008	1	7	20	28
<b>Grand Total</b>	<b>2</b>	<b>23</b>	<b>124</b>	<b>149</b>

The breakdown of collisions by collision category was as follows:

#### Severity:

- Fatal: 2
- Injury: 23
- Property Damage Only: 124

#### Initial Impact Type:

- 125 - Single-Motor-Vehicle (SMV)
- 3 - Approach (2 of which were fatal)
- 14 - Rear-end
- 4 - Sideswipe
- 1 - Angle
- 2 - Turning

#### Lighting Condition:

- 6 - Dawn
- 71 - Daylight
- 10 - Dusk
- 62 - Dark

#### Environment Condition:

- 96 - Clear
- 8 - Rain
- 26 - Snow
- 19 - Other (Freezing Rain, Windy, Fog, and Drifting Snow)

**Road Surface Condition:**

- 72 - Dry
- 29 - Wet
- 48 - Slippery (Ice, Packed Snow, Loose Snow, Slush, etc.)

**3.2.2 Highway Traffic Projections**

The traffic projections for the 2008 through 2035 time period are shown in **Exhibit 3-3**.

**Exhibit 3-3: Highway 17 Traffic Projections, from Highway 531 to Highway 630**

Traffic Projections	Time Period (Year)				
	2008	2012	2015	2025	2035
Average Annual Daily Traffic (AADT)	4,900	5,075	5,700	7,000	8,200
Summer Average Daily Traffic (SADT)	6,050	6,363	7,100	8,700	10,200
Design Hour Volume (DHV)*	480	500	560	690	800
Peak Hourly Volume (PHV)**	735	760	860	1,050	1,240
<i>Growth rate = 0.9% (2008 to 2012), *DHV = Commuter Tourist Recreation 9.8%, Trucks 14.6%, PHV**=15% of AADT</i>					

A widened/ improved/ realigned Highway 17 within the study area will improve road safety by:

- providing increased opportunities for safe passing;
- physically separating opposing lanes of traffic;
- providing horizontal and vertical alignments that meet current design standards;
- eliminating turning movements along the highway by providing grade-separated interchanges with ramps at key crossing roadways, and eliminating all other direct access to the highway (i.e. other crossing roads and private entrances); and
- reducing congestion.

The benefits of a widened/ improved/ realigned Highway 17 within the study area are expected to be:

- a transportation system with improved reliability, safety and convenience that will support the tourism and recreation industry by continuing to attract visitors and seasonal residents, thereby boosting the local economy; and
- enhanced economic growth both in the study area and northern Ontario in general.

**3.3 Study Purpose**

The purpose of the study is to identify a recommended plan for a four-lane access controlled Highway 17 within the study limits with access restricted to interchange locations. The study will include the development and evaluation of a range of reasonable alternatives, including improvements to/ widening of the existing highway, highway realignments and/ or combinations of the two. A Recommended Plan will be selected and designated at the completion of the study to assist municipalities, landowners and businesses with planning and development in the study area. Maintaining access to the provincial parks within the study area will be a key study consideration.

## 4. Assessment and Selection of Alternatives to the Undertaking

### 4.1 Rationale for and Assessment of Alternatives to the Undertaking

The rationale for, and the assessment of alternatives to the undertaking is discussed below.

#### 4.1.1 The Do Nothing Alternative

The “do nothing” alternative is considered the status quo, where the area transportation system would be limited to maintenance of current transportation infrastructure and the implementation of approved provincial, regional municipality and local municipality initiatives.

The do nothing alternative does not address the study problem and need for Highway 17 improvements, and would have the following negative impacts:

- Increased costs for the delivery of goods and services;
- Negative economic impact on tourism, industry and community quality of life;
- Negative environmental impacts through increased fuel consumption and emissions;
- Increased driver delay and stress;
- Constrained employment and economic growth in the study area; and
- Loss of opportunity to improve highway safety and ensure adequate future highway capacity and operational needs.

In spite of the above, the do nothing alternative is utilized as the baseline for comparative evaluation of alternatives.

#### 4.1.2 Optimize the Existing Area Transportation System

Considerations for the optimization of the existing area transportation system include the following:

- Travel Demand Management (TDM) – The objective of TDM strategies is to improve the operation of the current area transportation system by managing travel demand independent of actually expanding or constructing new infrastructure; and
- Transportation Systems Management (TSM) – The objective of TSM is to improve the efficiency and safety of the current area transportation system and to optimize the use of existing and planned infrastructure through a wide range of strategies and technology policies and initiatives on existing municipal roads and existing provincial highways.

TDM and TSM are more applicable to commuter traffic with more defined origin/destination patterns than the local, recreational and commercial traffic that predominates on Highway 17. Optimization of the existing area transportation system is therefore not consistent with the role of Highway 17. The optimized existing area transportation system alternative does not address the study problem and need for Highway 17 improvements, and it is therefore eliminated from further consideration in this study.

#### 4.1.3 Expanded/ New Non-Road Infrastructure

Expanded/new non-road initiatives include the following:

- Local Transit – The provision of new or improved local transit service could divert people movement from private cars and relieve congestion on existing municipal roadways, or it could function as a component of inter-regional transit;
- Freight Rail – Increased freight rail services for goods movement within existing rail corridors and/or along new rail corridors could encourage the diversion of freight from trucks. The ability to expand rail service and

divert longer haul goods to rail may provide some relief to network congestion both on regional arterials and on the provincial highway network; and

- Inter-regional Transit/Passenger Rail, and/or Provincial Transitways – Providing inter-regional transit and passenger rail and/or provincial transitways through new/increased services within the existing area transportation system and/or through new services in new corridors, could relieve congestion and increase the performance of the area transportation system.

The vast majority of trips in the study area are made using automobiles and trucks. The scattered origin/destination patterns of travel within and beyond the study area are not conducive to supporting the use of non-road alternatives. The expanded/new non-road infrastructure alternative does not address the study problem and need for Highway 17 improvements, and it is therefore eliminated from further consideration in this study.

#### 4.1.4 Widen/ Improve Existing Municipal Arterial Roads or New Municipal Roads

Alternatives within this category include the following:

- Widened/ improved or new municipal arterial roads – The provision of improved capacity and operations/ congestion relief on existing facilities through additional lanes to increase the performance of the transportation network.

Municipal roads are not generally designed and maintained to the standards required for higher speed, long distance inter-regional travel that is required through this study area. They are intended to serve as area access roads, and are characterized by slower-moving and turning traffic. Mixing long-distance and local traffic creates other transportation network concerns. In addition there are no current continuous east-west municipal roads within the study area that could be improved for this purpose. Widened/ improved or new municipal roads are therefore eliminated from further consideration in this study.

#### 4.1.5 Widen/ Improve Existing Provincial Highways and or Realign Provincial Highways

Alternatives within this category include the following:

- Widened/ improved or realigned provincial highways – The provision of improved capacity and operations on existing provincial highways, and/or accommodating required capacity on realigned provincial highways, could provide lanes for HOV and lanes/shoulders for inter-regional bus transit, and could provide general purpose lanes to increase the performance of the area transportation system.

Widened/ improved provincial highway would provide the following:

- opportunity to improve highway safety and accommodate future highway capacity and operational needs;
- maximize the use of the existing Highway 17 corridor;
- opportunity to improve the existing highway to meet current MTO design standards;
- opportunity to stage the improvements in such a way that they can be incrementally applied on a priority basis.

Realigned provincial highway would provide the following:

- opportunity to accommodate future capacity and operational needs;
- opportunity to bypass areas of the existing highway constrained by adjacent development/ facilities;
- a realigned highway that meets current MTO design standards;
- opportunity to implement the improvements with lower impact to travel on the existing facility during construction.

Based on the above, a combination alternative composed of widened/ improved provincial highway and realigned provincial highway are the transportation system alternatives to the undertaking carried forward for further study.

## **4.2 Selection of Alternatives to the Undertaking**

The assessment of the alternatives to the undertaking is presented in **Exhibit 4-1**.

On the basis of the assessment presented in **Exhibit 4-1**, the alternatives to the undertaking being carried forward for further study are a combination that includes:

- segments of widened/ improved provincial highway; and
- segments of realigned provincial highway.

Exhibit 4-1: Assessment of Alternatives to the Undertaking

SCREENING CRITERIA	ALTERNATIVES TO THE UNDERTAKING					
	Do Nothing	Optimize the Existing Transportation System (TDM and TSM)	Expanded/New Non Road Infrastructure (Transit, Freight Rail, Passenger Rail)	Widen/Improve Existing Municipal Arterial Roads or New Municipal Roads	Widen/Improve Sections of Existing Highway	Realign Sections of Highway 17
LONG TERM NEEDS (Recognizing that in this area, highways will continue to be the major means of transportation)						
Highway 17 Traffic Congestion Reduced	Congestion would increase as traffic volumes increase over long term.			Minor traffic congestion reduction on Highway 17 due to diversion of some traffic to municipal roads.	Traffic congestion would be reduced on Highway 17 due to significant capacity improvements.	
Highway 17 Road Safety Improved	Road safety on Highway 17 would decrease over long term due to increased potential for collisions as traffic volumes increase.			Minor road safety improvement on Highway 17 due to diversion of some traffic to municipal roads.	Road safety would improve on Highway 17 due to design and capacity improvements.	
Serve Local Needs	Alternatives would not service local needs over the long term due to increased congestion on Highway 17.				Would service local needs over the long term due to decreased traffic congestion and increased road safety over the long term. Since private entrances to highway would be eliminated, changed access via municipal roads and service roads would be required.	
Construction Staging	Not applicable.	Construction can be staged in appropriate stand-alone segments.			Construction can be staged in appropriate stand-alone segments.	
MINIMIZE IMPACT						
Minimize Economic Impact	Alternatives do not enhance economic growth in the study area and northern Ontario, and do not support area tourism focus. No changes in local highway access to impact current highway businesses.				Alternatives enhance economic growth both in the study area and northern Ontario, and do support area tourism focus. Since private entrances to highway would be eliminated, changed access via municipal roads and service roads would impact current highway businesses. Major widening through Rutherglen or highway realignment through Rutherglen area would impact current highway businesses.	
Minimize Natural Environmental Impact	No impact.	Minimal impact.	Minimal impact since existing corridors for other modes considered adequate.	Degree of impact would relate to scope of the improvement, which municipal studies would work towards mitigating.	Degree of impact would relate to scope of the improvement, which this study would work towards mitigating.	
Minimize Socio/Cultural Effects						
CONSISTENT WITH EXISTING SYSTEMS						
Existing Corridor Available	No change to use of existing Highway 17 corridor.	Minimal change in use of Highway 17 corridor.	Since highways will continue to be the major means of transportation, existing corridors for other modes considered adequate. Some additional infrastructure required at local access points	Since existing municipal roads are not continuous in an east-west direction through the study area, this would require construction of new segments of municipal roads to “fill in the gaps”.	Existing highway right-of-way could not accommodate major widening through Rutherglen. In some areas, widening of existing right-of-way is constrained by proximity of adjacent railway and rivers.	Highway realignments could be accomplished where widening of existing highway is not possible.
Requires Different Modes	Travel modes would continue to be cars, trucks and buses		Although highways will continue to be the major means of transportation, would result in minor shift to transit, freight rail, passenger rail.	Travel modes continue to be cars, trucks and buses.	Travel modes would continue to be cars, trucks and buses.	

SCREENING CRITERIA	ALTERNATIVES TO THE UNDERTAKING					
	Do Nothing	Optimize the Existing Transportation System (TDM and TSM)	Expanded/New Non Road Infrastructure (Transit, Freight Rail, Passenger Rail)	Widen/Improve Existing Municipal Arterial Roads or New Municipal Roads	Widen/Improve Sections of Existing Highway	Realign Sections of Highway 17
Cost Effective	Not cost effective. Although there is no capital cost, area transportation needs are not addressed.	Not cost effective. Although capital cost is low, area transportation needs are not addressed.		Not cost effective. Although capital cost is moderate, area transportation needs are not addressed.	More costly solution. Economic benefits to the area and improved highway capacity, operation and safety offset capital costs.	
COMMENTS	Alternatives would not adequately address area's long term needs as highways will continue to be the major means of transportation. Alternatives are not consistent with the long-term strategy to provide a 4-lane freeway extending from Ottawa to Sault Ste Marie.				Alternatives would address area's long term needs as highways will continue to be the major means of transportation. Alternatives are consistent with the long-term strategy to provide a 4-lane freeway extending from Ottawa to Sault Ste Marie.	
RECOMMENDATION	Eliminate from further consideration				Carry forward for further analysis	Carry forward for further analysis
					Combinations of the above	



## 5. Alternative Methods for Carrying Out the Undertaking and Evaluation Process

As indicated in Section 4, the Alternatives to the Undertaking selected and carried forward for further evaluation are a combination that includes segments of widened/ improved provincial highway and segments of realigned provincial highway.

### 5.1 Overview of Alternative Methods for Carrying Out the Undertaking

As indicated in Section 3, the EA process is based on a sequence of decision-making in which alternatives are assessed at an increasing level of detail as they become more focused, starting with a broad perspective, and narrowing to a more focused perspective as the study progresses. Accordingly, alternative methods for carrying out these selected alternatives to the undertaking are generated, comparatively evaluated and selected in the following sequence:

1. Corridor alternatives that include segments of widened/ improved highway and segments of realigned highway.
2. Highway planning alternatives within the preferred corridor alternative, including highway realignments, highway widenings, interchanges and service roads.
3. Preliminary design alternatives for the selected highway planning alternative.
4. A preferred preliminary design (the recommended plan).

### 5.2 Selection of Preferred Highway Corridor Alternative

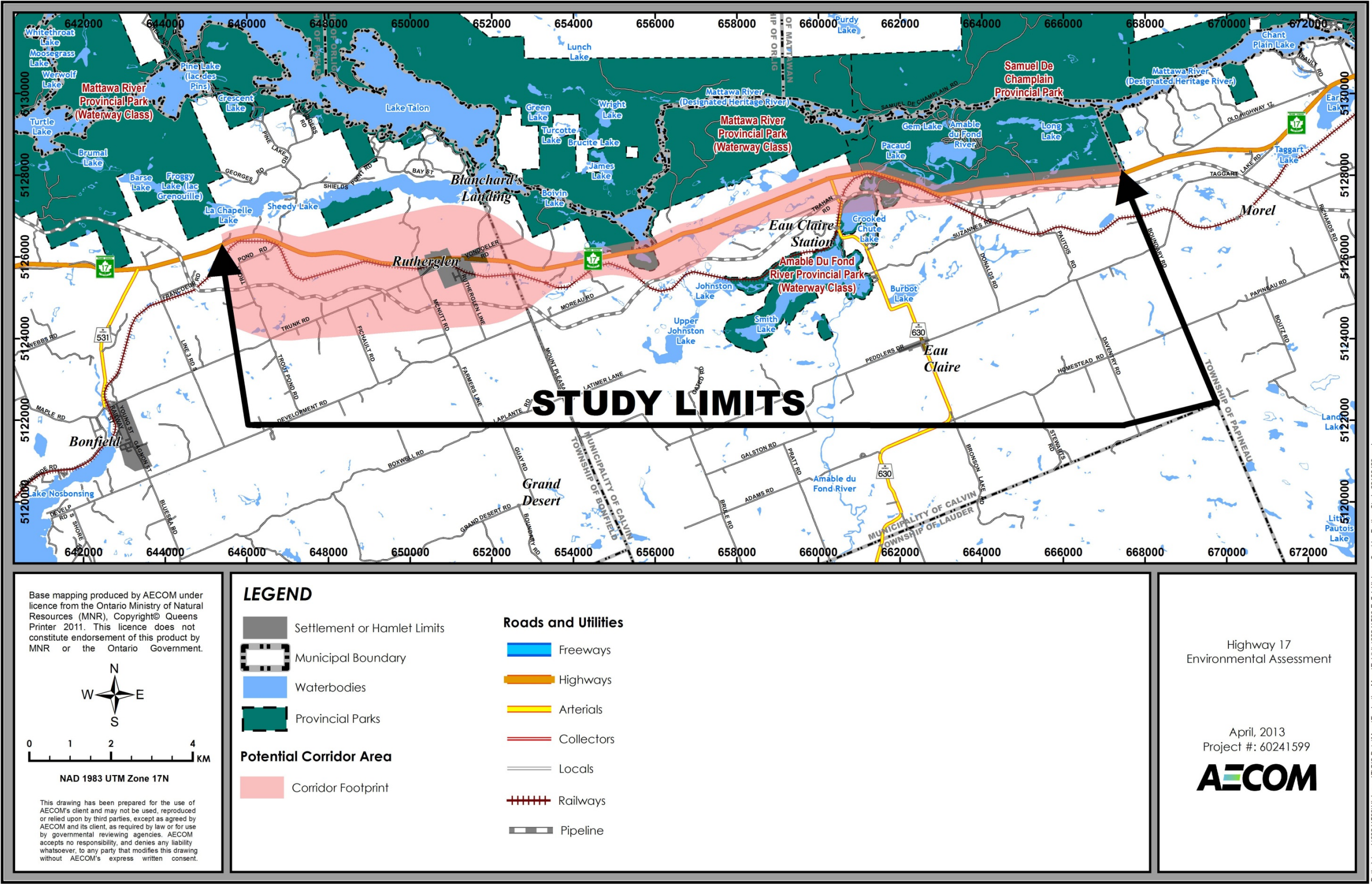
Given the study area constraints for this section of Highway 17, only a single highway corridor is being carried forward for further study as shown in **Exhibit 5-1**.

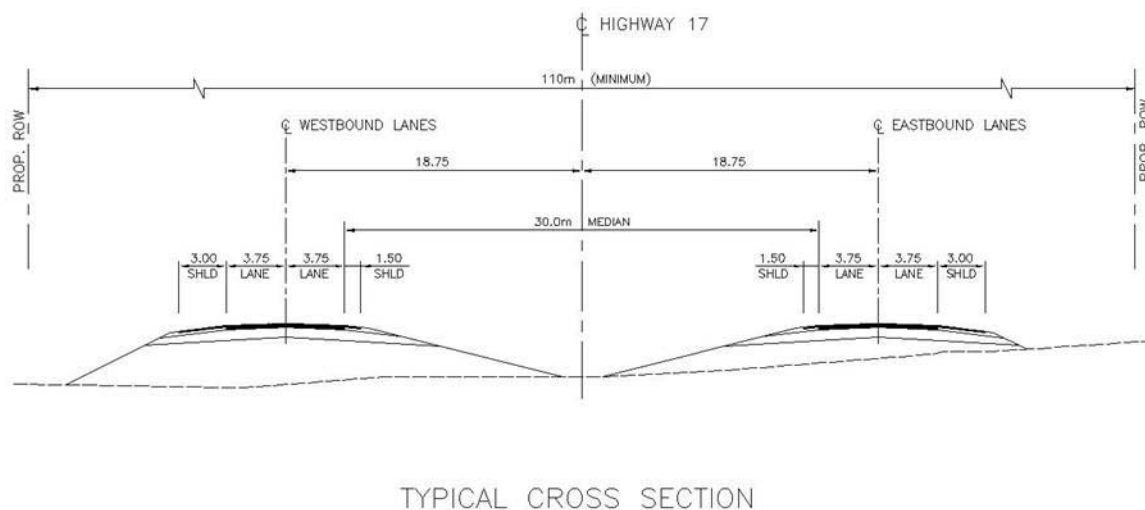
As indicated in Section 4.2, highway planning alternatives within this corridor will include segments of widening/improving the existing highway and segments of realigned highway. Because of the very significant community impacts that would occur, widening of Highway 17 (see **Exhibit 5-2**) through Rutherglen will not be considered a planning alternative.

### 5.3 Highway Planning Alternatives

Highway planning alternatives within the preferred corridor will be generated to provide a freeway with two lanes in each direction and a 30m median within a 110m right-of-way, and access restricted to two (possibly three) interchange locations. In some areas, this will require service roads on one or both sides of the highway, each within its own 30m right-of-way. A typical cross-section for such a highway facility is shown in Exhibit 5-2.

Exhibit 5-1: Highway Corridor for Further Study



**Exhibit 5-2: Typical Cross-Section of Widened/Improved/Realigned Highway 17**

The generation of highway planning alternatives will consider constraints and opportunities within the study area according to the following principles:

- **Principle 1: Minimize impacts to significant natural features, functions, systems and communities:**
  - Avoid where possible, or minimize encroachment on or loss of:
    - water bodies and associated riparian zones;
    - fish habitat features;
    - species of conservation concern (vegetation, fish and wildlife);
    - Species at Risk habitat;
    - ecologically functional areas;
    - significant wildlife habitat and travel corridors. Other areas to be considered are any identified wildlife management, rehabilitation and research program sites;
    - Provincially Significant Wetlands (PSWs) and avoid impairment to wetland functions, including ecological function;
    - other evaluated and unevaluated wetlands;
    - designated significant vegetation;
    - other important vegetation;
    - individual farm fields/ operations (i.e. follow headlands/ property lines where possible);
    - known groundwater recharge and discharge areas;
    - impairment of ecological function to environmentally significant features, and where appropriate associated functions, including Significant Valleylands, ESAs, ANSIs, or other areas of provincial, regional or local significance; and
    - impairment of ecological function to special spaces (including recreational activity zones).
- **Principle 2: Minimize impacts to existing and planned (approved under Official Plans) population and employment areas:**
  - Maximize where possible separation distance from sensitive receptor locations;
  - Avoid where possible or minimize encroachment on, or loss of developed properties;
  - Minimize access impacts;
  - Maximize the access provided to major generators of economic activity;

- Avoid where possible, or minimize encroachment on, or loss of mineral and mineral aggregate resources;
  - Avoid where possible operating and "non-operating" waste disposal sites; and
  - Avoid where possible, minimize encroachment on, or loss of known archaeological sites/built heritage features/cultural heritage landscape areas of extreme significance.
- **Principle 3: Transportation service criteria:**
    - Generate alternatives that are efficient and direct, while meeting standards for design; and
    - Select alternatives that address the transportation problems and transportation opportunities.

**Exhibit 5-3** provides the criteria for evaluation of highway planning alternatives.

### **Exhibit 5-3: Criteria for Evaluation of Highway Planning Alternatives**

Natural Environmental Factors
Fish and fish habitat*
Designated Areas (e.g. Significant Valleylands, ESAs, ANSIs, or other areas of provincial, regional or local significance)
Vegetation*
Wetlands
Wildlife and wildlife habitat*
Surface water
Groundwater
(* including Species at Risk)
Socio-Economic/ Land Use Factors
Residential
Commercial/ business
Provincial parks
Community/ recreational/ tourist facilities
Contaminated properties/ waste management
Highway noise
Air quality
Aggregates and mineral resources
Water wells
Cultural Environment Factors
Built heritage and cultural landscapes
Archaeology
Transportation Factors
Accommodation of long term planning objectives
Accommodation of projected traffic demand
Enhancement of safety
Traffic operations on municipal roads and intersections
Design consistency with geometric standards for Ontario
Travel time/ out of way travel

<b>Cost Factor</b>
Cost, including construction, utility relocation and property requirements
<b>Constructability Factor</b>
Existing traffic flow and operations accommodated during construction
Availability of staged construction

## 5.4 Highway Preliminary Design Alternatives

Highway Preliminary Design involves defining the selected highway planning alternative in greater detail and generating alternatives for the following (as applicable):

- roadway profile and sight lines;
- roadway cross section (lane/shoulder widths, median treatment, etc.);
- interchange design;
- service road design;
- driveway entrance treatments to replace current direct access to Highway 17;
- drainage requirements;
- lighting requirements;
- snowmobile crossing details;
- property requirements;
- environmental protection/mitigation.

## 6. Impact Assessment and Environmental Protection/Mitigation

### 6.1 Impact Assessment Study

For all environmental factor groups, the impact study will include collection of background data; site investigation and field testing; determination of significance and sensitivity; consideration of alternatives; identification of environmental impacts; assessment of environmental impacts; and development of environmental protection/mitigation.

Existing conditions information will be collected as follows:

- For the most part, secondary source information will be used to generate, evaluate and select corridor alternatives. Secondary sources such as aerial photographs, large-scale mapping from government agencies and municipal official plans will be used to identify significant features within the study area.
- For the selected corridor, detailed data collection will be used to generate, evaluate and select highway planning alternatives (including highway realignments, highway widenings, interchanges and service roads) and preliminary design alternatives. Detailed data will be acquired through means such as field investigations and information from interested stakeholders.

On a preliminary basis, some key environmental concerns/constraints associated with this study have been identified to be the following:

- three provincial parks: Samuel de Champlain, Mattawa River (waterways class), and Amable du Fond River (waterway class and living legacy site);
- Pimisi Roadside Picnic Area;
- OVR/ CPR rail line;
- Trans Canada pipeline and Union Gas spur pipeline;
- hamlet of Rutherglen and its associated residential development, two churches and a cemetery;
- highway oriented businesses along existing Highway 17 (gas station, outfitter);
- the Columbia Forest Products plant;
- private entrances onto existing Highway 17;
- tourist-related businesses (cabins, campgrounds, marinas, recreational area);
- other rural residential and commercial development, including farm structures;
- aggregate sites and designated aggregate removal areas;
- waste management sites;
- Mattawa River, Amable du Fond River, the lakes and watercourses draining into them, and associated fish habitat and spawning areas;
- significant wildlife habitat (fish spawning areas, ungulate wintering yards and significant bird nesting sites) and wildlife movement;
- Provincially Significant Wetlands;
- environmental protection area (Rutherglen Moraine Shoreline and Kame ANSI); and
- recreational crossings (snowmobiles, canoes, hiking trails, etc).

Existing environmental conditions information is provided in greater detail in the Summary of Existing Environmental Conditions and Constraints Report for this project.



## **6.2 Environmental Protection/Mitigation**

Environmental impacts will be identified and appropriate environmental protection/mitigation developed. To ensure effective environmental protection, the order of approach will be avoidance/prevention, control/mitigation, compensation, and then, if required, enhancement. Key to this program will be mitigation associated with environmental approvals that are required, balance between environmental protection and transportation, and mitigation in proportion to environmental significance and sensitivity.

## 7. Ongoing Stakeholder Consultation

One of the objectives of the Ontario *Environmental Assessment Act* is to ensure that, from the earliest stages of planning, decisions are made after considering environmental benefits and impacts. Consultation with affected parties is an essential part of this planning process and it provides a mechanism for MTO to define and respond to issues before decisions are made and environmental assessment documentation is released to the public for review.

Consultation will take place throughout the study, including formal opportunities at significant study milestones. The consultation program will comply with the requirements of the Freedom of Information and Protection of Privacy Act, and the obligations stipulated in the Ontarians with Disabilities Act and the French Language Services Act.

### 7.1 Consultation Plan

A consultation plan for this study has been prepared in recognition of the integral role the public and external agencies have played during previous studies recently completed by the Ministry of Transportation (Ministry) within and in proximity to the Highway 17 study area Corridor. Our Consultation Plan builds on the consultation efforts carried out to date by the Ministry and has been designed to fulfill the following objectives:

- ensure the general public, municipal councils, stakeholders, First Nation communities, external agencies (both federal and provincial) and special interest groups have an opportunity to participate in the study and associated processes, as well as contribute to decisions at an appropriate time;
- ensure that factual information is provided to all affected/interested stakeholders as soon as reasonably possible;
- make contact with external agencies to obtain legislative or regulatory approvals, or to collect pertinent technical information; and
- expedite decision-making.

The consultation plan for this Study is in keeping with the consultation requirements of the Ministry's *Class Environmental Assessment for Provincial Transportation Facilities* and with the MTO *Environmental Reference for Highway Design*.

The public and agency consultation program for this Study will include the following:

- public notices;
- external communications with stakeholders, including departments, ministries, agencies, Aboriginal Groups, municipalities and members of the public;
- public information centres (PICs); and
- project website to provide information to the public.

### 7.2 Key Stakeholders and Stakeholder Groups

Key Stakeholder Groups for this study are identified in **Exhibit 7-1**.



**Exhibit 7-1: Key Stakeholders and Stakeholder Groups**

<p><b>Regulatory Agencies</b></p> <ul style="list-style-type: none"> <li>• Department of Indian and Northern Affairs Canada</li> <li>• Department of Fisheries and Oceans</li> <li>• Transport Canada</li> <li>• Environment Canada</li> <li>• Ministry of Aboriginal Affairs</li> <li>• Ministry of Environment</li> <li>• Ministry of Natural Resources</li> <li>• Ministry of Tourism, Culture and Sport</li> <li>• Ministry of Community and Social Services</li> <li>• Ministry of Northern Development, Mines and Forestry</li> <li>• Ministry of Municipal Affairs and Housing</li> <li>• Ministry of Energy and Infrastructure</li> <li>• Ministry of Community Safety and Correctional Services</li> <li>• Ministry of Energy</li> <li>• Ontario Provincial Police</li> <li>• North Bay-Mattawa Conservation Authority</li> </ul> <p><b>Municipalities (staff and councils)</b></p> <ul style="list-style-type: none"> <li>• Township of Bonfield</li> <li>• Township of Bonfield Fire Department</li> <li>• Municipality of Calvin</li> <li>• Municipality of Calvin – Fire Department</li> <li>• Township of Papineau-Cameron</li> <li>• Municipality of East Ferris</li> <li>• City of North Bay</li> </ul> <p><b>First Nations</b></p> <ul style="list-style-type: none"> <li>• Aboriginal Affairs and Northern Development, Canada</li> <li>• Ontario Ministry of Aboriginal Affairs, Program Policy</li> <li>• Ontario Ministry of Aboriginal Affairs, Special Projects</li> <li>• Anishinabek Nation: Union of Ontario Indians</li> <li>• Algonquins of Ontario Consultation Office</li> <li>• Nipissing First Nation</li> <li>• Métis Nation of Ontario, North Bay Métis Council</li> <li>• Métis Nation of Ontario, Mattawa Interim Métis Council</li> <li>• Temagami First Nation</li> <li>• Temiskaming First Nation Council</li> <li>• Mattawa/ North Bay Algonquin First Nation</li> <li>• Antoine First Nation</li> <li>• Algonquins of Ontario</li> </ul>	<p><b>Utilities</b></p> <ul style="list-style-type: none"> <li>• Bell Canada</li> <li>• Union Gas</li> <li>• Hydro One Networks Inc.</li> <li>• North Bay Hydro Distribution Ltd.</li> <li>• Trans Canada Pipelines</li> <li>• Persona Communications</li> <li>• Canadian Pacific Rail</li> <li>• Ottawa Valley Rail</li> </ul> <p><b>Others</b></p> <ul style="list-style-type: none"> <li>• Ontario Parks</li> <li>• Samuel de Champlain Park</li> <li>• Canadian Ecology Centre</li> <li>• North Bay &amp; District Chamber of Commerce</li> <li>• Nipissing-Parry Sound Catholic District School Board</li> <li>• Near North District School Board</li> <li>• Conseil Scolaire Public du Nord Est de l'Ontario</li> <li>• Conseil Scolaire Catholique Franco-Nord</li> <li>• Ontario Trucking Association</li> <li>• Nipissing-Parry Sound Student Transportation Services</li> <li>• Discovery Routes Trails Organization</li> <li>• Ontario Federation of Snowmobile Clubs</li> <li>• North Bay Snowmobilers Club</li> <li>• Bonfield Snowmobile Club</li> <li>• Mattawa &amp; Area Snowmobile Club</li> <li>• North Bay and District Hospital</li> <li>• North Bay and District Health Unit</li> <li>• Mattawa Bonfield Economic Development Corporation (MBEDC)</li> <li>• Mattawa Voyageur Tourism Coalition</li> <li>• Ontario Cycling Association</li> <li>• Friends of Lavase Portages</li> <li>• Friends of Laurier Woods</li> <li>• Nipissing Naturalists</li> <li>• Shields Point Road Association</li> <li>• Business Owners</li> </ul>
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## 7.3 Public Notices

### 7.3.1 Notification of Study Commencement

A Notice of Study Commencement has been published in the North Bay Nugget and the Mattawa Recorder.

The purpose of the Notice is to announce the commencement of the Study, request input from interested and affected parties and invite them to participate in the Study. Both Ministry and AECOM contact information have been provided in the Notice in order to solicit comments from any interested public members (any correspondence received will be documented and the stakeholder added to the Study Mailing List).

### 7.3.2 Notice of Filing of Study Design Report

The purpose of the Notice of Filing of Study Design Report is to announce the commencement of the 30-day public review period for the Draft Study Design Report and to advise interested persons where the report may be reviewed.

### 7.3.3 Notice of Public Information Centre

Three Public Information Centres (PICs) will be held for this project at one venue each time. A Notice of PIC will be prepared for each PIC. The purpose of the Notice is to announce the date, time and location of the PIC, identify key information to be presented, and request input from interested and affected parties and invite them to attend the PIC.

### 7.3.4 Notice of Study Completion

The purpose of the Notice of Study Completion is to announce the Study's completion and the commencement of the TESR's minimum 30-day public review period.

## 7.4 External Consultation

### 7.4.1 Notice of Commencement Letter

A Notice of Study Commencement letter along with a response form for agencies to indicate their level of interest in the study has been distributed to the external agencies (listed in **Exhibit 7-1**) and property owners. The purpose of the initial letter is to announce the commencement of the Study, describe the proposed undertaking and Class EA process being followed and solicit feedback to the listed Project Team members.

AECOM's Environmental Planning personnel will follow-up with each agency by phone or email to establish a personal rapport and facilitate the collection of data and/or permit/approval information pertinent to the Study.

### 7.4.2 Notice of Public Information Centre Letter

Notice of Filing of Study Design Report letters will be distributed to all parties on the Study Mailing List to announce the commencement of the 30-day public review period for the Draft Study Design Report and to advise interested persons where the report may be reviewed. The letters will be distributed in the same manner as the Notice of Study Commencement letters.

### 7.4.3 Notice of Public Information Centre Letter

PIC notification letters will be distributed to all parties on the Study Mailing List at least two weeks in advance of the PIC (see Section 7.5) to invite them to attend and provide their input. The letters will be distributed in the same manner as the Notice of Study Commencement letters.

### 7.4.4 Notice of Study Completion Letter

Notice of Study Completion letters will be distributed to all parties on the Study Mailing List in the same manner as the Notice of Study Commencement and Notice of PIC letters.

### 7.4.5 Initial Study Mailing List

An initial study mailing list was identified based on experience on other projects in the study area, and updates were made and new contacts were added. The list will be maintained and augmented over the course of the Study to include agencies and individuals that request being added to or removed from the list.

### 7.4.6 Incorporation of Public/Regulatory Agency Feedback

The AECOM Project Team will maintain thorough records of all correspondence to/from the public and/or external agencies to ensure complete Study documentation. All feedback received and issues identified by the public, external agencies and other interested stakeholders throughout the Study will be documented within an accompanying Appendix to the Transportation Environmental Study Report.

It is noted that Project correspondence to/from the public will be collected in accordance with the *Freedom of Information and Protection of Privacy Act*. With the exception of personal contact information, all public comments will become part of the public record.

### 7.4.7 Agency/Approval Authority Meetings

Meetings in advance of key decision-making points will be arranged as may be necessary with the agencies/approval authorities for the Study to ensure that we are developing a progressive relationship that will lead to successfully securing the necessary permits/approvals and to discuss any issues/concerns they may have.

Each of the technical disciplines will work with their respective agency/approval authority from the outset of the Study and undertake such meetings as required.

### 7.4.8 Consultation with the General Public and Interest Groups

The general public and interest groups include the following:

- Property owners within the study area;
- People who live and/or work within the study area;
- Users of the area transportation system within the study area; and
- Groups that have a specific interest in the study area.

General public and interest groups will be requested to indicate their interest throughout the study. Attendees at PICs will be asked to sign in. Stakeholders are invited to place their name on the project mailing list through public notices, the project website, and when signing in at PICs.

The general public has a major role and responsibility in determining the success of a consultation and engagement program. The extent to which the general public participates, the issues they raise and how such issues are resolved all influence the effectiveness of the consultation process.

The consultation and engagement plan is designed so that the public will be provided reasonable timeframes for reviewing and providing comments on documentation and information made available during the EA. The consultation and engagement plan encourages proactive communication, which will allow comments and views of the general public and interest groups to assist MTO in the decision making process.

#### 7.4.9 Council Presentations

MTO and AECOM will convene meetings with local municipal councils, as appropriate. The meetings will typically be held a week in advance of the PICs to inform local councillors of the Project, present the recommended solutions and designs and solicit their respective input.

### 7.5 Public Information Centres (PICs)

Three PICs will be held for this project at one venue each time. The first and second PIC will be held during the Planning phase and the third PIC will be held during the Preliminary Design phase. The PICs will be arranged primarily as drop-in centres to allow the public to view project information and communicate directly with members of the Project Team. They will also serve as an opportunity for members of the Project Team to ask questions of the public to gain further understanding of specific conditions, issues and concerns regarding the study.

Technical specialists from other ministries and agencies will be invited to attend all PICs at External Agency Team meetings, held one hour prior to each PIC. This will enable external agencies to view the displays and ask questions of members of the Project Team on an individual basis. The purpose of the three PICs is to provide the public with the opportunity to review and comment on the following (based upon the study process presented in Section 3):

- **PIC No. 1** - will present the study purpose, need for Highway 17 improvements, a summary of the study process, alternatives to the undertaking and the preferred “alternative to”, the preferred corridor, study area existing environmental conditions, highway planning alternatives, and the evaluation criteria and process to be used to select preferred highway planning alternatives.
- **PIC No. 2** - will present the results of the evaluation of highway planning alternatives, the preferred highway planning alternative (including highway realignments, highway widenings, associated interchange and service road alternatives, preliminary design alternatives), and the evaluation criteria and process to be used to select preferred preliminary design alternatives.
- **PIC No. 3** - will present the preferred preliminary design.

### 7.6 Project Website

Three separate Highway 17 route planning projects between North Bay and the Nipissing District/ Renfrew County boundary are hosted on the project website [www.hwy17routeplanning.ca](http://www.hwy17routeplanning.ca):

- Highway 17 between North Bay and Bonfield;
- Highway 17 between Bonfield and east of Samuel de Champlain Park (this study); and

- Highway 17 between east of Samuel de Champlain park and the Nipissing District/ Renfrew County boundary.

The goal of the website is to keep stakeholders informed of key milestone events throughout the project by housing and disseminating project information in a prompt and efficient manner.

Project updates will be posted over the course of the study. The website pages will provide project status updates, dates and locations of Public Information Centres, and Notices of Report Filing.

## **7.7 Issues/Concerns and Approaches Toward Resolving Concerns**

Recognizing that the stakeholders who are expected to participate in this study process may have differing views, values, opinions and interests, and that consensus is not always possible, the MTO will consider various means of identifying and addressing/resolving issues in a balanced manner.

Where issues remain unresolved, they will be documented as such in the TESR. In the event of a “bump-up” request, the Minister of the Environment typically takes into account the TESR contents, how the study was carried out, the overall study recommendations, and the conditions surrounding any unresolved issues in making any decisions pertaining to a reclassification of this project.

## **8. Study Documentation – Transportation Environmental Study Report**

As indicated in Section 10.1.2, under the Class Environmental Assessment for Provincial Transportation Facilities, this Highway 17 study complies with the requirements for 'Group A' projects, and a Transportation Environmental Study Report (TESR) will be prepared at the completion of the study.

The TESR will document the work outlined in the foregoing Sections 2 through 7 above. It will be filed on the public record for government agency and public review and comment for 30 days. Copies will be made available at the MTO northeastern region office, the Clerk's office of the municipalities within the study area, and at other locally accessible public libraries.

Affected government agencies, municipalities, property owners and individuals on the project's mailing list will be notified of the filing of the TESR. A newspaper notice will also be published to advise interested persons where the report may be reviewed.

## **9. Project Environmental Clearance**

It is anticipated that stakeholder comments will be received in response to the release of the TESR on the public record for government agency and public review and comment. Provided such comments can be satisfactorily addressed, project environmental clearance will be issued to permit designation of the preferred highway right-of-way on title of the affected properties.

## 10. Statutory Context and Government Policies, including Formal Approvals Required

### 10.1 Statutory Context

#### 10.1.1 Environmental Assessment Act of Ontario

An Environmental Assessment, or EA, is a decision-making process used to promote good environmental planning by assessing the potential effects of certain activities on the environment. In Ontario, this process is defined and finds its authority in the Ontario Environmental Assessment Act (OEAA), RSO 1990. The purpose of the OEAA is to provide for the:

- protection;
- conservation; and
- wise management of Ontario's environment.

To achieve this, the OEAA ensures that environmental problems or opportunities are considered and their effects are planned for, before development or building takes place.

#### 10.1.2 Class Environmental Assessment for Provincial Transportation Facilities

The *Environmental Assessment Act* (EA Act) provides for the preparation of a Class Environmental Assessment (EA) for submission to the Minister of the Environment (MOE) for review and a decision by the provincial cabinet regarding approval through order-in-council. A Class EA is an approved planning document that defines groups of projects and activities and the environmental assessment (EA) processes which the proponent commits to following for each of these undertakings. The process provides a decision making framework allowing the requirements of the Environmental Assessment Act (EAA) to be met in an effective manner.

The Ontario Ministry of Transportation developed the *Class Environmental Assessment for Provincial Transportation Facilities* (Class EA), which provides, in part, the following:

- classification of projects and activities;
- study stages and phases;
- transportation engineering and environmental protection principles;
- consultation principles and processes;
- documentation and “bump-up” principles and processes; and
- environmental clearance process.

The approved Class EA process is extensive, with significant consultation and outreach to agencies and the public.

This Highway 17 study complies with the Class EA process for ‘Group A’ projects, which are undertakings that involve new facilities. Accordingly, it does not require formal review and approval under the *Ontario Environmental Assessment Act*. As indicated in Section 2, the study was initiated as Group B project, but because it was determined there are viable highway realignment alternatives that are not as closely tied to the existing highway as originally anticipated, the project has been reclassified to Group A under the ‘*Class Environmental Assessment for Provincial Transportation Facilities*’.

As required under the Class EA, a Transportation Environmental Study Report (TESR) will be prepared to document the work of this project.



### 10.1.3 Canadian Environmental Assessment Act Requirements

For highway undertakings, the *Canadian Environmental Assessment Act* (CEAA) 2012 requires an environmental assessment for “the construction and operation of an all-season public highway that will be more than 50 km in length and either will be located on a new right-of-way or will lead to a community that lacks all-season public highway access”.

Since the entire length of this project is approximately 24 km, and since the preferred highway corridor alternative includes segments of realignment as well as highway widening, an environmental assessment is not required under CEAA.

### 10.1.4 Other Provincial and Federal Statutes

The Highway 17 EA study will be carried out in a manner that ensures the recommendations comply with the requirements of provincial and federal statutes such as the *Environmental Protection Act* and the *Species at Risk Act*. In addition, the study itself will comply with requirements such as those stipulated under the *Freedom of Information and Protection of Privacy Act*, and the *Ontarians with Disabilities Act*.

## 10.2 Government Policies Potentially Affecting the Study

The following provincial and local policy documents establish the key policy framework which will be followed for this study:

- the *Provincial Policy Statement*;
- Official Plans applicable to area municipalities; and
- MTO *Environmental Standards and Practices Documents*.

Each of these is discussed below.

### 10.2.1 The Provincial Policy Statement

Ontario's Provincial Policy Statement (PPS) sets clear overall policy directions on matters of provincial interest related to land use planning and development, such as the wise use and protection of natural resources. Although the provincial government is not bound by the policies of the PPS, they provide guidance on the appropriate level of care to be taken in avoiding/mitigating environmental impacts. Policies of the PPS include the following:

- surface water quality and quantity;
- groundwater quality and quantity;
- fish habitat;
- wetlands;
- woodlands;
- environmentally significant features;
- areas of natural and scientific interest
- ecologically functional areas;

- special places;
- species at risk;
- significant wildlife habitat;
- aggregate resources;
- prime agricultural areas; and
- community features.

### 10.2.2 Official Plans Applicable to Area Municipalities

Although municipal transportation, development and planning policies as exemplified in the Official Plans of the affected municipalities are not binding on the provincial government, they will be considered in the development, analysis and evaluation of alternatives. Municipal staff and councils will be fully involved through the study process.

### 10.2.3 MTO Environmental Standards and Practices

Environmental conditions and potential environmental effects and associated studies will, for the most part, be determined/ conducted in accordance with the MTO *Environmental Standards and Practices* documents. These documents provide the Ministry's staff and its consultants with the requirements, guidance and tools to identify and assess environmental conditions and constraints, determine potential environmental effects, apply mitigation measures, determine net effects, and determine the advantages and disadvantages of alternatives based on net effects, as appropriate to transportation planning and highway design, construction, and operations and maintenance. They are also intended to support inter-agency protocols between the Ministry and specific regulatory agencies such as the MOE and the Department of Fisheries and Oceans Canada (DFO).

The *Environmental Standards and Practices* documents broadly include direction in the following areas:

- a synthesis and interpretation of the extensive list of applicable requirements from environmental legislation (e.g., *Source Water Protection Act*), regulation and government policy (e.g., moraine protection policy);
- the Ministry's EA processes and procedures applicable to a range of environmental factors; and
- the application of environmental protection, mitigation and compensation measures.

The *Environmental Standards and Practices* documents were developed through extensive consultation with provincial and federal regulatory agencies and internal stakeholders, as well as through public consultation using the Environmental Bill of Rights Registry. These documents will be updated over time, as regulatory requirements and ministry processes and procedures change.

The *Environmental Standards and Practices* documents are available on the MTO website at <http://www.ragsb.mto.gov.on.ca/techpubs/eps.nsf/epswv?openview>, and from Publications Ontario. A set of these documents will be available for viewing at each round of PICs.

The MTO *Environmental Standards and Practices* documents include the 'Environmental Protection Requirements for Highway Planning, and Highway Design, Construction, Operation and Maintenance'.

### 10.3 Formal Approvals Required

The potential permits and approvals that may be required for this undertaking fall under two categories:

- permits and approvals related to the plan and design; and
- permits and approvals related to the method of construction.

For the purposes of this Study Design Report, it is not possible to identify the specific permits and approvals that may be required. However, the legislation under which permits and approvals are most frequently required for provincial transportation undertakings are the following:

#### Provincial Legislation Under Which Permits and Approvals are Most Frequently Required for Provincial Transportation Facilities:

- *Aggregates Act* – for aggregate pits;
- *Ontario Energy Board Act* – to relocate/reconstruct natural gas pipelines and electrical transmission lines; and
- *Ontario Water Resources Act* – for watercourse diversions, or to take water for construction if more than 50,000 litres per day.

#### Federal Legislation Under Which Permits And Approvals Are Most Frequently Required for Provincial Transportation Facilities:

- *Fisheries Act* – for permanent or temporary destruction/alteration of fish habitat;
- *National Energy Board Act* – for relocation/reconstruction of oil or gas pipeline; regulated by the National Energy Board;
- *Navigable Waters Protection Act* – for changes to designated navigable waterways; and
- *Railway Safety Act* – for changes to rail track and associated bridges.

The need for the majority of the above permits and approvals will be determined during the study process.

In addition to the above a hearing of necessity may be required under the Ontario *Expropriations Act* to take land from an unwilling seller.

With respect to the *Canadian Environmental Assessment Act* (CEAA) 2012, an environmental assessment is not required for this project because it does not involve the “construction and operation of an all-season public highway that will be more than 50 km in length and either will be located on a new right-of-way or will lead to a community that lacks all-season public highway access”.

## **11. Work Required After Study Completion**

This study will recommend a staging and phasing plan for implementation of the recommended improvements. Based upon provincial priorities and the availability of funds, the recommended improvements may be placed on the capital construction program when the need for improvements is met.

Environmental clearance of the Transportation Environmental Study Report allows MTO to designate the required right-of-way lands on the title of the affected properties. Property acquisition typically commences 18 to 24 months in advance of construction.